

S. I. S.
LIBRARY
(POONA 4.)

Title *Report*
Madras Famine
Code *Revision*
Committee
1938
Vols. *I & II.*
Report & Appendices

Y:4353:(220-N38t
HO
17469
Acc. No. <u>S 3269</u>
(122)



**REPORT OF THE
MADRAS FAMINE CODE REVISION
COMMITTEE, 1938**

VOLUME I—REPORT

**MADRAS
PRINTED BY THE SUPERINTENDENT
GOVERNMENT PRESS**

1940

Y: 4353: (22).N38 t

110

17469

REPORT OF THE MADRAS FAMINE CODE REVISION COMMITTEE.

Section I.

Our Committee was appointed by the Government of Madras in G.O. Press No. 1137, Revenue, dated 2nd May 1938, in pursuance of the reply of the Hon'ble the Minister for Revenue to the debate on the famine demand in the Legislative Assembly on the 28th March 1938, indicating that the question of revising the Famine Code would be taken up by the Government. Our Committee consisted of eight non-officials and five officials under the chairmanship of the Famine Commissioner, Mr. C. A. Henderson, C.S.I., V.D., I.C.S. We were asked to visit the areas affected by famine this year in the districts of Bellary, Anantapur and Kurnool in order to take evidence on the spot and to obtain first-hand knowledge of famine conditions in practice.

A preliminary meeting of the Committee was held at Madras on 25th May 1938 to consider the procedure to be adopted in inviting evidence on the terms of reference and dealing with the representations received. As the Director of Public Health was then on leave and could not be present at this meeting, Dr. Adishesan, the Assistant Director, was deputed to attend the meeting. At our request the Government permitted him to sit on the Committee permanently and he has been taking part in our deliberations. At this meeting on the 25th May it was decided to send a questionnaire setting out the lines on which we desired to receive evidence in writing to all those persons whom the Collectors of the districts of Bellary, Kurnool, Anantapur, Cuddapah and Chittoor selected as likely to be able to give useful evidence and also to persons who either on account of their experience of famine administration or expert knowledge in one or other of the subjects referred to the Committee would be likely to give valuable opinions. It was also decided that the Committee should inspect the famine works in June in order to see them in operation before the breaking of the rains. In pursuance of the above decision we issued a questionnaire to all those whom the Collectors of Kurnool, Cuddapah, Anantapur, Bellary and Chittoor selected and to the other gentlemen mentioned above. In all, 71 persons tendered written replies to the questionnaire. The Committee met at Bellary on the 6th June and split up into groups. We were on tour from the 7th to 13th June 1938, and we visited a number of relief works and test works in the affected areas. We held meetings on the 10th and 13th June to pool the experience gained in the inspection of famine works in operation. We also visited the Hagari Agricultural Research Station to study the improved methods of dry farming under trial at the station and particularly the results obtained from the low bunding of dry fields. We reassembled at Madras from 15th to 20th August 1938 and orally examined ten official witnesses, and we met again in Bellary from 5th to 10th September 1938 to examine eighteen witnesses who could be examined there more conveniently than at Madras. On 8th September 1938, our Chairman, Mr. C. A. Henderson, was suddenly called away to other duty and we concluded our sittings at Bellary under the chairmanship of Mr. F. M. Dowley. Reassembling at Madras on the 15th October 1938, under the chairmanship of Mr. T. A. Ramalingam Chettiyar who had been appointed to act in the absence of Mr. Henderson, we proceeded to consider the recommendations to be made on the terms of reference and also on other points remitted to us for consideration by the Government. Our final meetings were on the 11th and 12th November when the draft report was passed.

2. We have been asked to investigate and suggest measures designed to prevent and mitigate famine and to protect the population in those parts of the Presidency which are at present liable to frequent failures of the monsoon. In order to localize our enquiries it was first of all necessary to determine the areas in the Province liable to famine and for that purpose we furnish a brief account of the operations under the Famine Code conducted in the Province during the present century.

After the widespread and disastrous famine of 1896-97 the next famine occurred in 1900. But it did not assume the severity of the famine of 1896-97. The tracts affected were the southern portion of the Narasaraopet and Vinukonda taluks of the present Guntur district, parts of the Tadpatri and Kadiri taluks of Anantapur district, part of

the Adoni taluk of Bellary district, parts of Cumbum, Markapur, Nandyal, Koilkuntla and Pattikonda taluks of the Kurnool district, parts of Badvel, Proddatur, Jammalamadugu and Pulivendla taluks of the Cuddapah district and the Ongole, Kanigiri and Udayagiri taluks and the zamindari divisions of Darsi and Podili in the Nellore district. In the year 1899, the season was extremely unfavourable and the local shortage of crops coupled with an active demand for grain for export forced up prices to the level that was reached in 1896-97. Employment for labourers was curtailed and it became a question whether the poorer classes would be able to face "the dead season." It was therefore decided to test the existence of distress by opening test works. The first test works were opened in February 1900 in Pulivendla, Proddatur, Adoni, Ongole and Kanigiri taluks to be followed later by the opening of similar works in the other affected parts of the Cuddapah, Anantapur, Kurnool, Guntur and Nellore districts mentioned above. These test works were kept open till the end of August but the total number attending the works in the six districts never amounted to any considerable figure, the largest number reported in one week amounting to only 14,416. The lesson of experience on this occasion was that, when test works were so sparsely attended, it would be well to close them at an earlier date and revert to ordinary works and methods, if such works were available within the test area. Owing to the limited extent and intensity of the actual distress, the effect on the people in general had been slight and even in the affected areas actual distress in its technical sense was in general limited to some of the labouring classes. The cost to the State on account of the works opened was Rs. 1,36,630.

There was another visitation of distress during the next year, 1901; the tracts affected being Badvel, Rayachoti, Jammalamadugu, Pulivendla and Proddatur taluks of the Cuddapah district, parts of the Gooty and Tadpatri taluks of the Anantapur district, Chittoor, Chandragiri, Madanapalle, Palmaner and Vayalpad taluks of the Chittoor district, Wallajah, Gudiyattam, Vellore and Arcot taluks, the Punganur and Karvetinagar zamindaris of the North Arcot district and the taluks of Conjeeveram, Chingleput, Saidapet and Tiruvallur in Chingleput district. In all these areas the distress was due to the series of bad years that preceded it, the deficient and untimely rainfall during the year, the consequent failure of the harvest and slackness in the demand for labour and the high level of prices during the past few years. The area affected was smallest in Chingleput and largest in the North Arcot district. Test works as well as ordinary works were opened in all the areas and kitchens to relieve the old, destitute and disabled were opened simultaneously with the works, except in Chingleput where only ordinary works were opened in addition to kitchens. In Anantapur and Chingleput districts the works were open for a short period only, while the works in the Cuddapah district were in operation from February 1901 to January 1902, and those in North Arcot functioned from April to October 1901. The total cost to the State on works and kitchens on account of the distress was Rs. 40,557.

The next famine occurred in 1905 and affected parts of Saidapet, Tiruvallur and Ponneri taluks. The operations never advanced beyond the stage of observation and the opening of test works and poor houses. The distress was caused by a deficient south-west monsoon followed by a serious falling off in the north-east monsoon. The test works were open from August to November. The total cost of the operations was Rs. 24,437.

Next in the year 1919, a part of the Nandigama taluk of the Kistna, viz., the Munagala paragana, a zamindari enclave in His Exalted Highness the Nizam's dominions was affected. The distress was due to the excessive rains of 1917 followed by scanty rainfall next year. Relief was given by the opening of works and grant of gratuitous relief. The works did not progress beyond the test stage. They were open from April to September. The total cost of the operations was Rs. 28,411.

This was followed in the year 1921-22 by famine operations on a comparatively large scale and over an extensive tract of country. The areas affected were Adoni, Alur, Siruguppa and Bellary taluks of Bellary district, the Gooty taluk of Anantapur district, and the Pattikonda, Dhone, Kurnool and Nandikotkur taluks of the Kurnool district. The causes of the famine were that in 1920, the rainfall in the affected areas was only half of the average and the next south-west monsoon was a failure while the north-east monsoon was neither sufficient nor well distributed. The irrigation sources failed and there was a general loss of crops. The first test work was opened in Bellary taluk in December 1920 to be followed by others later. Famine was declared in the affected tracts of Bellary and Anantapur in March 1921. Famine works were in progress from December 1920 to March 1922 in Bellary district, from January 1921 to February 1922 in Anantapur district, and from March to December 1921 in the Kurnool district. Except in the Kurnool taluk the famine works in the other taluks of Kurnool did not go beyond the test stage. The total cost of the operation in the three districts was Rs. 11,06,295.

Bellary and Anantapur districts were again the scene of famine operations in 1924 and also parts of Ganjam which are now in the Orissa Province. The tracts affected were half of Bellary taluk, and parts of the Gooty, Madakasira, Penukonda, Dharmavaram and Hindupur taluks of the Anantapur district. The distress was again due to the failure of rains. A test work was first started in Bellary in January 1924 which in view of the numbers attending it, was converted into a relief work in February. The work was closed in September 1924. The first test work in Anantapur was opened in January 1924, and more later on. As the existence of distress was established the test works were converted into relief works which remained open until October 1924. The total cost of the famine operations in the two districts was Rs. 2,21,545.

In 1926, there was scarcity on a small scale in the Dharapuram taluk of the Coimbatore district where three test works were short-lived affairs; when they had been in operation only for about a fortnight good rains dispersed the labourers. A sum of Rs. 414 was spent on the works.

The Bellary and Alur taluks of the Bellary district were affected by famine in 1931-32 owing to scanty rainfall. District board works were first started in December 1931 and the district boards were given grants amounting in all to Rs. 1,60,000. In May 1932, however, the Government decided that the expenditure of further sums on these works could not be justified without the test prescribed in the Code and the Commissioner of Land Revenue and Settlement was directed to select suitable works as test works. The district board works were accordingly stopped and test works were opened in June 1932. These were continued as test works, the proposal of the Collector to convert them into relief works not having been approved by the Famine Commissioner. Owing to the good rainfall the works were closed one by one, the last test work being closed on 30th September 1932. The total cost of the operation was Rs. 1,14,955.

Famine on a larger scale again occurred in Bellary and Anantapur districts in 1934-35. Six taluks in Anantapur (Gooty, Tadpatri, Anantapur, Dharmavaram, Penukonda and Hindupur) and four in Bellary (Bellary, Siruguppa, Alur and Rayadrug), were affected. The cause of the famine was the poor rainfall in 1933 to 1935 and the consequent loss of crops, inadequate reserve of food stock, lack of employment and contraction of credit and private charity. Test works were first opened in these districts in December 1934, and were converted into relief works in January 1935. More works were subsequently opened, as necessity arose. Ultimately there were 14 works in Bellary district and 68 in Anantapur district (both departmental and non-departmental). All the works were closed one by one by the end of September 1935. The total cost on famine-relief operations was Rs. 17,23,452.

The present famine of 1937-38 is of greater magnitude than that of 1934-35, the area affected being the entire eastern half of the district of Bellary, the Gooty and Tadpatri taluks of the Anantapur district and the Kurnool and Patikonda taluks of the Kurnool district. The cost of the relief operations has already exceeded 17 lakhs.

3. It thus seems right to proceed on the assumption that though there are other tracts in the Province where the rainfall is deficient which are liable to frequent failures of the monsoon and which are not fully protected by irrigation works, the likelihood of abnormal seasonal variations on a scale sufficient to require special measures to deal with it exists only in the Deccan districts. This area naturally does not coincide exactly with administrative boundaries. The western taluks of Bellary district, enjoying as they do a slightly higher average rainfall than the rest of the district and benefiting by their proximity to the Sandur hills are rarely affected. In Kurnool district, Cumbum and Markapur taluks have geographically little in common with the rest of the district. They possess some fine tanks and numerous wells and though their soils are generally poor they react well to irrigation. The entire ayacut of the Kurnool-Cuddapah Canal in Kurnool, Nandikotkur, Nandyal, Koilkuntla, Sirvel, Proddatur and Cuddapah taluks is protected and strictly speaking is outside the famine zone. Most of Cuddapah district lies more within the orbit of the north-east monsoon than do the other Ceded districts and is therefore much less likely to be seriously affected than tracts that may possibly miss both monsoons. The district is also comparatively well off for irrigation sources and a very much higher proportion of the crops grown in Cuddapah have been irrigated than in the other districts with which we are concerned. The greater part of Anantapur district particularly Hindupur and Penukonda taluks in the south and Tadpatri, Gooty and Kalyandrug in the north, is never long free from the possibility of distress and a similar remark applies to the five eastern taluks of Bellary district. While, therefore, our recommendations apply to the Ceded districts as a whole (including the Vayalpad and Madanapalle taluks of Chittoor district) we have been particularly concerned to find a solution for the economic difficulties caused by insufficient rainfall in the eastern part of Bellary, the western part of Kurnool and the greater part of the Anantapur district. The northern part of this area

is a tree-less plain of black clay stretching for over 4,000 square miles from the Tungabhadra river which divides it from His Exalted Highness the Nizam's Dominions through the taluks of Siruguppa, Bellary, Alur and parts of Rayadrug, Adoni, Pattikonda, Gooty and Tadpatri. A population of nearly one million is housed mostly in villages, the only towns of any importance being Bellary on the extreme western edge of the plain, Adoni, Gooty and Tadpatri. The pure regar soil being very fertile and highly retentive of moisture requires little rain. It has been estimated that if rainfall is well distributed, an average of about 19 or 20 inches a year would suffice. But the tract depends to a great extent on steady rain in August and September towards the tail-end of the south-west monsoon when the sowing is done, and on the north-east monsoon in October and November to ripen the crops.

There are practically no tanks and few wells except on the banks of the Hagari river which flows north through the centre of the tract to join the Tungabhadra. There are however some river channels from the Tungabhadra near Siruguppa which are used for irrigation and produce annually excellent wet and garden crops. The dry crops grown are white cholam, korra and cotton. Eighty per cent of the area under cultivation is under one or other of these three crops.

Guntakal railway junction from which lines radiate in all directions is at the heart of the tract which is thus exceptionally well provided with railway communications. Roads, many of them products of famine labour, are numerous if not particularly well maintained, and in the dry weather the black soil caked hard forms an excellent surface for bandy traffic though in the rains the sticky clay makes it difficult for men and beasts to move except on metal roads.

Small cotton-ginning and pressing factories which frequently carry on groundnut decorticating as well, provide seasonal employment for labourers. Apart from this, the only employment available in the slack season for agriculturists is hand-spinning and hand-weaving and cumbly manufacture which are carried on in some centres as cottage industries. As one travels south or east from Guntakal, the black cotton plain gradually gives place to a country of mixed or red soils broken up by small steep rocky hills occasionally covered with sparse vegetation. There are a number of tanks depending for their supply on small catchments and well irrigation is also common. Channels are led from the Hagari river in Rayadrug taluk and from the Penner in Anantapur to irrigate paddy and other crops. Dry crops depend almost entirely on the south-west monsoon and are harvested in September and October. Cholam and korra are still the main food-crops grown but on these red soils groundnut takes the place of cotton as the main cash-crop from which the assessment is paid.

The extent to which the Ceded districts as a whole have to depend upon the vagaries of the monsoon will be understood when it is realized that in Bellary district only 2.7 per cent of the crops grown have been irrigated, in Anantapur 11.6 per cent, in Kurnool including the ayacut of the Kurnool-Cuddapah canal only 5.9 per cent and in Cuddapah 22.4 per cent. The districts of Bellary and Anantapur pay a land revenue (1936-37) of Rs. 31,85,264 but of this amount an average amount of Rs. 3,60,147 has had to be remitted mainly owing to unfavourable seasonal conditions. The average remissions in Anantapur alone came to over one-sixth of the demand. In addition to these remissions, large amounts have had to be disbursed by way of famine relief with very little return the total amount spent under this head in the two districts from the beginning of the century being Rs. 31,13,359. This amount excludes the amount spent on the present famine which has already exceeded 17 lakhs.

As a result of the uncertainty of the seasons the value of dry land is not high even when very fertile as much of the regar soil is. We estimate it at about Rs. 110 per acre for black soils and Rs. 60 for red soils on the average. A small holder possessing a pair of bulls and stock sufficient to cultivate his holding has few reserves capable of tiding him over a bad season and may perforce have to part first with his stock and then with his land to enable him to buy the necessities of life. In this way the land has tended to pass into the hands of big landholders who cultivate it through tenants on a rack-rent or through farm labourers.

State intervention has up to the present been largely confined to measures designed to save life and mitigate suffering; in our opinion a bolder policy is now called for which we trust will not only be of incalculable benefit to the people by creating much-needed wealth and fostering powers of resistance, but will in the long run save the resources of the State from the steady drain caused by the recurring needs and continued poverty of these districts. We now propose to indicate the lines along which Government's activities should be directed.

4. We append to this report a note prepared by Mr. Green on the economic resources and cottage industries of the Ceded districts. It will be observed that while we have an exact knowledge of above ground products there is still a certain amount of speculation as to mineral potentialities. We extract here for easy reference the statement of the output of minerals during the last five years.

Mineral.	District.		1933.	1934.	1935.	1936.	1937.
			TONS.	TONS.	TONS.	TONS.	TONS.
Manganese	..	Bellary	..	..	200	1,000	450
					to 300		
Do.	..	Kurnool	300	..	..	..	200
Barytes	..	Do.	334	417	595	252	130
Do.	..	Anantapur	110	180	597	346	1,465
Do.	..	Cuddapah	1,886	2,302	2,155	1,777	7,461
Steatite	..	Anantapur	..	2	225	40	150
Asbestos	..	Cuddapah	..	58.2	7.67	..	..
Aluminium silicate	..	Do.	80	..	..	..	..

We recommend a thorough survey of the mining possibilities of the Ceded districts with special reference to manganese, iron, barytes, steatite, gold and asbestos and we consider that special facilities should be given for the formation of companies and the establishment of industries to utilize the products wherever possible.

5. With reference to the exploitation of the raw materials now being produced we recommend that this should be carried out along two distinct lines. There is a large surplus of labour now available for employment and we have no hesitation in recommending industrialization both as a general policy for India and as the only way of securing steady employment for those who now have little or none. In addition to this, the requisite labour force for agriculture, whether it consists of small land-owners working their own land, or landless labourers cultivating the land of others, is unemployed for many months in the year. It is therefore in our opinion a matter of even greater necessity to organize seasonal occupations than full-time occupations wherever the nature of the industry will allow seasonal employment. Special attention should be given to the needs of the unemployed members of the families of agriculturists. We think that the organization of village and cottage industries in Japan is likely to serve as a useful model and recommend that full information should be obtained by deputing an officer for study in Japan and any Japanese methods that seem feasible should be adopted in the Ceded districts. It is our considered opinion that small-scale industries both as regards production and marketing should, as far as possible, be organized under the auspices of the Co-operative movement.

6. The main commercial crops now grown are cotton, which covered over 1,000,000 acres in 1936-37, and groundnut which covered over 1,200,000 acres in the same year. They now provide a certain amount of part-time employment in addition to their cultivation as 236 out of the 248 factories coming under the Factories Act in the four districts are engaged either wholly or partly in pressing or ginning cotton or in decorticating groundnut and extracting oil. We note however that 155,000 tons of groundnut and 29,000 tons of raw cotton were exported by rail from the four districts in 1936-37. It seems clear therefore, considering the abundance of raw material at hand, that the manufacture of textiles and of oils and oil products is the most hopeful line of development. We are strongly of opinion that three or four spinning mills should be started in the Ceded districts at centres such as Bellary, Tadpatri and Nandyal where cotton is available. This step would not only provide whole-time employment for about 1,440 men per mill and directly help the handloom-weaving industry in the neighbourhood but would indirectly stimulate industry and trade all over the surrounding country. There are over 14,000 handlooms in Bellary and Anantapur districts alone depending on yarn imported from outside which would readily consume locally-made yarn. The cotton now grown in the area will spin up to 20s which is what is now generally required by handloom weavers. For spinning finer counts up to 40s imported Karunganni or Cambodia would at first have to be used but we have every reason to hope that these varieties will eventually be produced locally under irrigation from the Tungabhadra project and that the mills will find their entire supplies within the Ceded districts themselves. The capital required to establish a mill with a productive capacity of 300,000 lb. is estimated at 22 lakhs. It would be necessary for the Government to assist in raising the necessary capital through the State Aid to Industries Act and otherwise to secure efficient management and working. Now that there is a proposal to combine the generation of electric power with the Tungabhadra irrigation project, the mills could profitably utilize the power generated and thus provide a load which might otherwise be difficult to secure.

7. For the same reason that we regard the establishment of spinning mills as the most hopeful way of developing large-scale industry we look upon hand-spinning and hand-weaving as worthy of every encouragement as cottage industries for both whole-time and part-time workers. The material is there and the industries are long established; what is wanted is guidance and control. We suggest that the All-India Spinners' Association may be requested to open a branch in the Ceded districts to organize and encourage hand-spinning and hand-weaving. If they are unable to agree the Government should do so through other agencies. We consider that as handloom-weaving is, next to agriculture, the most important occupation of the country, all possible steps should be taken to stabilize the industry and secure for the weaver continuous employment and not leave him to the tender mercies of a middleman to finance him and purchase the finished products. The weaver should be in touch with the market and know the class of goods for which there is a market. The Government should arrange to supply the agency which will keep him in close touch with the market and direct production in accordance with demand. It is also necessary that the weaver should be assisted both by finance and organization to get supplies of raw-materials and improved appliances and in the disposal of his products. The Provincial Handloom Weavers' Co-operative Society is doing what it can with the resources at its disposal, but it has not been able to do all that is necessary to put the occupation on a thoroughly satisfactory basis and secure the weaver continuous employment and a steady wage. We think it is absolutely necessary for the Government to advance money at a cheap rate of interest to co-operative societies formed for the benefit of weavers, and to provide the assistance of special officers who will put the weaver in touch with the market, forecast the nature of the demand, help him in marketing cloths and give him the necessary technical advice in the adoption of improved appliances. There are now three weaving centres open in the Ceded districts run by the Government as famine-relief works and they will in the ordinary course close down shortly. We urge on the Government the need for organizing these weavers immediately and giving them facilities to secure continuous work without delay so that they may not be left to their own resources when the relief centres are closed down.

8. Other raw products of the Ceded districts which with suitable organization might be the basis of industries either on a small or large scale are sugarcane, fruit, castor, avaram and aloe fibre. Sugarcane is now grown mainly under the Tungabhadra channels in Bellary district in which district there were 9,544 acres under this crop in 1936-37. We think it would be worth while investigating the possibility of extending cultivation and promoting the manufacture of sugar, by starting one or more additional factories, and at the same time the development of both the production and refining of palmyra and date jaggery in the Ceded districts as a whole should be seriously considered.

9. The fruit research station at Anantarajpet, in Cuddapah district, has given an impetus to fruit production. Fruit growers in and around Kodur are responsible for a large supply of oranges to Madras market, mainly through the Madras Provincial Marketing Society. There is already a proposal to establish a fruit preservation and canning factory at Panyam, an important fruit-producing centre in Kurnool district with assistance through the State Aid to Industries Act. We commend also for consideration the suggestion for the development of fruit preservation and canning as a cottage industry under the auspices of the co-operative movement put forward by Mr. Green in his note appended to the report. Both in Cuddapah and Kurnool districts there is said to be a wide field for the extension of fruit production. The extension of fruit cultivation should form a prominent feature in the programme of the Agricultural department in those districts by supplying fruit seedlings from Government farms and carrying on an intensive propaganda to encourage the planting of orchards in villages where conditions are favourable. The Government may also for a period of years forego assessment on fruit-growing lands brought under fresh cultivation.

10. If sericulture, the culture of silk-worms that feed on castor leaves, is to have any future in this province, the Ceded districts are well adapted to the establishment of the industry as a cottage industry. In 1936-37 there were 125,000 acres under castor in the four districts, representing 48 per cent of the output of the province. As the apparatus is simple and inexpensive and the recurring expenditure low, sericulture is pre-eminently suitable for development as a cottage industry. Two difficulties will, however, have to be overcome: (1) Experience has shown that the rearers prefer the quick return obtained by selling the cocoons even though it is by no means easy to find a market for them. (2) It has proved difficult to find a market for the finished product owing to the general preference for mulberry silk. As in the long run it will obviously benefit the rearers if they are encouraged to spin the silk in their own homes we consider that before taking up the question of establishing a plant for the manufacture of spun silk in Madras,

every effort should be made to find a market for the finished product of the cottage industry. It may be noted that the castor plants do not suffer in any way as only the leaves are used as food for the cocoons and no damage is done to the plants.

11. On our first visit to Bellary district in the month of June we were struck by the flourishing appearance of the avaram or tangedu shrubs (*Cassia auriculata*) along the road margins in a countryside otherwise entirely devoid of vegetation. This plant thrives on any kind of soil and can survive severe drought and grow to a height of four or five feet in two years. It is thus almost the only plant which is ideally adapted to conditions in the unirrigated portions of the Ceded districts, so that the possibilities of its exploitation for industrial purposes should obviously be carefully explored. Avaram bark is now extensively used for the tanning of good quality skins and for tanning hides for local consumption. We are surprised to learn that about two-thirds of the avaram bark now used in this province comes from Mysore and Hyderabad and we consider that the reason for this curious state of affairs should be carefully examined, and immediate steps taken to remedy whatever the defects in the local product may be. It has been suggested that as avaram now grows wild, the cost of collection is probably unduly high. We consider that the possibility of organizing plantations in Kurnool, Bellary, Anantapur and Cuddapah merits close examination both as a means of improving the quality and reducing the cost of the bark. Ryots should also be encouraged to grow avaram in waste lands adjoining their holdings and on the margins of fields and the co-operation of the Agricultural and Forest departments should be enlisted to determine the best conditions for the profitable development of the crop and if necessary to import and distribute better varieties. Tanning is one of the oldest indigenous industries. Considering the large number of goats and sheep maintained in the Ceded districts, the advantages of conducting tanning processes near the place where the skins and hides are available and the obvious possibility of putting locally produced avaram on a competitive footing with outside products or with wattle, we are strongly of opinion that tanning factories could easily be established and that special facilities should be granted for this purpose. Indigenous tanners may be encouraged to grow avaram by giving lands on cowle where available.

12. Attempts have been made in the past to promote the sisal fibre industry and a large plantation conducted on a commercial scale exists in Penukonda taluk in Anantapur district. It is worth while examining the possibilities of developing this industry. As a hedge crop preventing soil erosion, sisal is very valuable and the introduction or extension of cultivation of this crop in other areas in the Ceded districts would also provide valuable fibre for a cottage industry.

13. There are one or two small-scale village industries which should be encouraged or revived. The glass-bangle industry once flourished in many villages of the Ceded districts. It would probably do so again if block glass could be supplied at a sufficiently low price. The possibility of reviving the industry through a glass block supply from the Jamal Glass Factory at Madras or some other factory may be considered and demonstrations of improved methods in manufacture of glass bangles as a cottage industry may be arranged. It might also be possible to establish a glass factory in Anantapur district making use of silica from the Penner river.

14. At Markapur in Kurnool district the manufacture of school slates of a cheap quality has been carried on from about 1921 as a cottage industry. The wood for the frames has until recently been supplied from Kallai in Malabar but lately frames have been obtained from Hyderabad which has an obvious freight advantage over Malabar. Unfortunately the Nallamalai forests cannot supply a sufficient quantity of the kind of wood required for the slates. In order to establish this industry on a firm footing we suggest that the Forest department should for a number of years at least supply suitable wood at special rates.

15. It ought not to be difficult to increase the production of wool in the Ceded districts. Large herds of goats and sheep manage to survive on the scanty pasture obtainable on wastes, the margins of streams, and in the scrub jungle on hill slopes. There are over 2,800 looms engaged in the weaving of cumblies in the districts of Anantapur, Bellary and Kurnool. The crying need of the industry is for improvement in the quality of the wool, and this in its turn depends on the provision of better grazing facilities. We understand that this question is engaging the attention of the Government and we recommend that special attention should be paid to the needs of the Ceded districts. For the same reason we recommend the re-establishment in connexion with the Hagari farm or elsewhere of the sheep-breeding station which was removed to Hosur some years ago.

16. Centres may also be established in the Ceded districts for training in the manufacture of hand-made paper from botha grass and other suitable material which may be supplied by the Forest department and to teach oil-pressing. Centres should be opened

at which demonstrations of improved tanning, soap manufacture and jaggery manufacture will be given. Peripatetic parties for demonstrating the advantages of these and other cottage industries may be organized.

17. We have so far been mainly concerned with the discovery and exploitation for industrial purposes of the existing resources in raw materials; we now turn to a subject of at least equal importance, viz., the best methods to be adopted to increase the quantity and quality of the raw material produced. The agricultural research station at Hagari in the centre of the famine zone has for years been trying to discover the strains of cotton and cholam best suited to the soil and climate of the tract surrounding it. We visited the farm and were much struck by the success that had attended the use of various kinds of bunding instruments. The bunds formed have nothing in common with the big contour bunds frequently constructed in the black-soil country to facilitate drainage and prevent erosion. The bunds at the farm are small bunds only a few inches high and a foot or two apart, dividing the field up into a large number of minute plots. The result seems to be greatly to assist the retention of moisture and increase the yield. The instruments employed in bunding the field are neither very elaborate nor expensive but in order to popularize the new method we recommend that a stock of them should be maintained at taluk headquarters or wherever the Superintendent, Hagari Station, thinks they could usefully be employed. At first their use should be demonstrated and given free of cost for the purposes of propaganda; later if the idea catches on and proves successful they may be sold at cost price or a little above it. Though the water retained by these bunds would in the ordinary course probably evaporate, the method ought not to be adopted in the immediate vicinity of the foreshore of a tank for obvious reasons.

18. We are unable definitely to recommend any other method of dry farming likely to improve outturns, though we have read with interest the report of the officer deputed by the Government to study electro-culture and kindred methods in North India. We are unable to offer an opinion on the matter that would be of any value.

19. We have been specially asked to consider the desirability of using the Famine Relief Fund to open seed granaries at selected centres in the famine area. In our opinion there is no need for seed granaries generally though in order to propagate improved strains the Government may arrange through the Agricultural department for the supply of good seeds required by the ryots.

Even though in several matters the recommendations made would apply equally well to other areas, in view of the special conditions in the Ceded districts, we recommend that special consideration should be shown to the needs of the Ceded districts.

20. This brings us to the subject of irrigation which is considered by most of those who gave evidence before us, the panacea for all the ills to which the Ceded districts are subject. The striking contrast between the splendid crops that can be reaped when the monsoons are favourable, especially on the deep black-soils, and the wilderness which even a partial failure of rain can create, makes the belief of the ryots in the value of irrigation and their impatience at the delay in supplying it, very understandable. The only way of obtaining an assured supply of water is by the construction of storage reservoirs supplied by perennial rivers or by impounding flood water in them which would otherwise run to waste. The only attempt so far made to provide the Ceded districts with an assured supply of this kind is the Kurnool-Cuddapah canal which protects from all possibility of famine about 100,000 acres in the districts of Kurnool and Cuddapah. There is a united demand by the people of the parts now regularly subject to famine for the Tungabhadra project, which will directly protect a great deal of the tract which we have indicated as being most frequently affected, and indirectly benefit a much wider area in a number of ways. We have been greatly impressed by the complete unanimity on the part of the people in the affected area. Their demand is that the Tungabhadra project should be taken up without delay and they are prepared to give precedence to its construction over every other consideration, political or economic, including the formation of linguistic provinces. They are positive that in any case the whole area coming under the scheme should not be divided.

The Tungabhadra project is planned to irrigate an area of one million acres in parts of the taluks of Bellary, Hospet, Siruguppa, Alur, Adoni, Rayadurg, Gooty, Kurnool and Pattikonda and the ultimate cost is said to be estimated at 13 crores. Mr. Dowley has put before us a plan for taking up the project in stages which can ultimately be developed into the full scheme as now planned. The first of these stages is to be designed as a combined hydro-electric and irrigation scheme and will cost about 5 crores, including

the cost of the dam designed to impound enough water for the full scheme when it eventually can be taken up. This stage will command an area of about 400,000 acres in the centre of the famine zone and generate 6,800 K.W. of electric power of which 3,400 K.W. will be available for Madras. The generation of power in the area will lead to the rapid industrialization of the Ceded districts, and help considerably in starting big factories and village and cottage industries.

The problems connected with the project are of two kinds—those that centre round the reaction of deep black soil to Tungabhadra water, and those that demand an answer to the question “ Will the ryot be able to turn these unaccustomed advantages to the best use and will he be able to pay a suitable water-rate from his additional income? ” So far as we are able to judge, the danger of alkalinity setting in, has, given proper precautions, been exaggerated. We note that irrigation under direct channels from the Tungabhadra carried on for centuries has produced no deleterious effects on the soil. The Government Agricultural Chemist has given Tungabhadra water a first-class certificate. The Director of Agriculture from his long experience of the Ceded districts has stated in evidence before us that he would have no hesitation in recommending the sanction of the scheme immediately. One of the purposes for which the station at Siruguppa was established was to test the reaction of deep black soils to Tungabhadra water and if it is deleterious at all how to overcome it. We consider that it should not be difficult to come to a rapid conclusion on this point, and would very strongly deprecate postponement.

With the Bhavani Reservoir Irrigation Cess Act (XVI of 1933) in mind we made a point of sounding opinion, particularly non-official opinion, on the desirability of introducing legislation which would define the commanded area, and insist on a water-cess from that area whether or not water was used. There was general willingness to agree that legislation on these lines would be necessary and that the ryots would accept it. We consider that even more drastic provisions will probably be necessary. The Kurnool-Cuddapah canal is a useful warning of what is likely to happen if canal water is supplied to a large tract accustomed only to dry farming, in the hope that the ryots will use all the water available and make the maximum profit out of it. We understand that one of the main reasons for the failure of this canal to show a return, is that the holdings were too large for extensive irrigated cultivation and that the ryots preferred to keep all the lands in their possession and pay for canal water only when it was necessary to supplement rainfall. We have no doubt that much the same would happen in the ayacut of the Tungabhadra project if proper precautions are not taken. We recommend therefore not only a compulsory water-cess to be paid on the entire commanded ayacut but a provision for the acquisition of any land which has not been brought under regular irrigation within ten years of water being first supplied (at a valuation to be fixed at the time of the passing of the Act). The lands thus acquired should be sold to bona fide cultivators who can be trusted to develop them to the best advantage. Legislation of this kind can only be passed if every opportunity and assistance is given to cultivators to make the best of their lands. Experiments are now being conducted at Siruguppa to determine the rotation of crops likely to produce the maximum profit to the cultivators. These experiments ought to be intensified and when conclusive results have been reached, the compulsory cultivation of those crops that will give the best result in a rotation should be strictly prescribed. Power should be taken in the proposed legislation to enforce the adoption of the rotation of crops prescribed. To accommodate ryots who have to bring large holdings under irrigation at a cost of about Rs. 30 to Rs. 100 an acre we recommend the grant of loans to be recovered on easy terms along with land revenue and water-cess. We are emphatic that all the resources of the State must be thrown into this project on the lines which we have suggested, and we recommend that the first stage of the Tungabhadra project should then be sanctioned and completed as early as possible. From the season and crop report for Bellary, for fasli 1346, it is seen that cholam irrigated gives 1,500 lb. per acre while the unirrigated land yields only 450 lb. and for cumbu the yield on irrigated land is 1,300 lb. per acre whereas the yield from unirrigated land is 450 lb. The yield of an irrigated crop is thus nearly three times the yield of an unirrigated crop. There is also the certainty of yield even when the rains fail. As regards cotton, the figures relating to Coimbatore show that the yield from irrigated land is more than three times the yield from unirrigated land. There will thus be sufficient additional income out of which the ryot can easily pay the water-rate that will be levied. The experiments conducted in the Hagari farm also support the above conclusions.

21. *The Kurnool-Cuddapah canal.*—As we have already indicated we consider that a contributory, if not the main, cause for the failure of this canal is the policy of *laissez faire* which the Government have adopted towards it. In the first place, they allowed

it to be constructed by a private company which proceeded to charge exorbitant rates of water-cess if water was used. When the Government were compelled to take it over they reduced the cess but continued the option, with the result that no pressure was put upon the ryots to make full use of the irrigation resources at their disposal. The ryots became accustomed to the canal as a useful supplement to rainfall in bad seasons, but saw no reason to pay for water when they could raise excellent crops of cholam, chillies and latterly groundnut without it. At the first resettlement of the Kurnool district an attempt was made to retrieve the situation. Recalling the fact that the canal had originally been intended for the irrigation of wet crops the Government proceeded to carve out a wet ayacut by transferring to "wet" all lands which had raised paddy or mundlavari and levying compulsory wet assessment on them during the preceding five years. The wet ayacut thus formed amounted to 13,263 acres but it had to be drastically remodelled at resettlement again on the basis of five years continuous cultivation of paddy, excluding mundlavari this time, as it was found that the compulsory levy of wet assessment had by no means invariably resulted in the cultivation of a wet crop. At neither resettlement was any attempt made to interfere with the option which the holders of dry lands outside the ayacut have of taking water as and when they please and paying the very moderate rates imposed under the water-cess rules when they take it. We do not yet consider it too late to retrieve the situation and put a stop to this colossal waste of the resources provided by the Government. We consider that legislation similar to what has been proposed for the Tungabhadra project should be applied to the Kurnool-Cuddapah canal. The policy of definitely encouraging the development of paddy should be abandoned, land such as that under the Nandyal tank on which paddy properly transplanted yields a good return may continue to be registered as wet and pay wet assessment. Wet land on which paddy is drilled in by the gorru and yields a poor return may be compulsorily transferred to "dry" and pay in future the compulsory cess that may be fixed for the entire commandable area. Compulsory acquisition after ten years may be resorted to as in the case of the Tungabhadra project and all the facilities that the State can offer to ryots to bring their land under irrigation and grow the crops prescribed may be extended.

22. The Tungabhadra project protects only a small corner of Anantapur district. The red-soil taluks of Hindupur and Penukonda which are frequently subject to famine can hope to benefit only very indirectly from the project and from the industrial development which it will stimulate. The most hopeful scheme for this area is what is known as the Penner-Kumudavati project. It consists of the construction of an anicut across the Penner immediately below the point where the Kumudavati river falls into it. A channel will take off on either bank to supplement the supply to six tanks and an existing river channel. Even though the project is to some extent dependent on the vagaries of the monsoon, we consider that the statement of rainfall in the catchment area shows that there will be some floods in the river which if impounded in the already existing tanks should secure for the ryots one crop at least. We recommend that this project should be taken up as early as possible as a protective scheme.

23. The Indian Irrigation Commission in its report of 1903 drew attention to the fact that the central districts of Coimbatore, Salem and North Arcot, which suffer equally with the Deccan from deficient and uncertain rainfall are able to withstand the failure of a single monsoon owing to the large number of private wells supplying water for irrigation. They ascribed the failure to sink wells on a large scale in the Deccan to difficulty and expense. In Coimbatore and Salem the wells are 30 to 50 feet deep on an average but in the black-cotton soil area no water suitable for irrigation is available at a depth of even 100 feet. Borings made by the Department of Industries in the effort to get a drinking water-supply for the villages within 100 feet of the ground have been a failure in the black-soil tracts. We have been specially asked to get into touch with an Engineer in His Exalted Highness the Nizam's service who is reported to have made successful borings in similar country on the other side of the Tungabhadra, but repeated requests for information elicited no reply. Deeper borings, as the recent experiments near Cuddapah have shown, are far too expensive both as regards initial outlay and upkeep, to be a practical proposition. So far as most of the black-soil tract is concerned there seems to be little to be hoped for from well-sinking. There are, however, tracts in the Ceded districts where it is possible to get water for irrigation at reasonable depths. The banks of rivers and water-courses and the red soil areas generally should in our opinion be surveyed without delay for this purpose, and the ryots encouraged to dig wells wherever a sufficient quantity of water is likely to be available. We think that a special loans scheme should be started in the area, the loans being recovered in very easy instalments and at least in the early years of the scheme the amount written off if the well proves a failure for causes beyond the ryots' control.

We understand there are also wells in some parts of the Ceded districts which have been abandoned and some of which are almost in ruins as the owners cannot afford to incur the expenditure required to deepen them and maintain them in order. We recommend that the special loans scheme may also be extended for renovating abandoned wells. Where the owners are not in a position to avail themselves of the facilities offered, the Government may in suitable cases, acquire such abandoned wells, carry out the necessary repairs, and maintain them charging a compulsory water-rate for the ayacut under such wells. In tracts where the ryots whose lands can be improved by irrigation are too poor to offer the necessary security to obtain Government loans, we would suggest for the serious consideration of Government sinking wells, supplying water for irrigation and charging a compulsory water-rate.

24. Sir Thomas Munro, commenting on the absence of tanks in the Bellary district and the failure to build more, pointed out that the best sites have already been seized upon and that in a country of such light rainfall a large catchment area is necessary to secure a valuable supply. In the Anantapur district, however, and in the red-soil tracts generally there is a large number of small tanks many of which stand in need of repairs both as regards the bund and the supply channel. The objection usually raised to the devotion of much attention to these sources is that as they receive their supply from the neighbouring area, which, equally with the ayacut suffers from the vagaries of the monsoon, they are apt to fail when they are most needed. We consider that though small tanks cannot give complete protection, they are nevertheless of great importance as a supplement to rainfall as the supply in the tank may keep the crops from withering if a shower or two is delayed by a few weeks. They are also of importance as sources of drinking water for cattle in the hot weather. Old breached tanks should, we consider, be repaired wherever feasible and the possibility of making new tanks should be examined. To expedite the investigation necessary we recommend that the Tank Restoration Scheme investigation in the districts should be completed and the old memoirs of irrigation projects should be brought up to date. We consider that as part of the scheme for intensive development, the return now considered the minimum for protective works in all the taluks now liable to famine should be further reduced, and that a thorough investigation of all projects which have been rejected on the ground of insufficient return should be taken up in the light of this recommendation. In order to have an agency for continuous investigation and construction of both major and minor schemes we consider that for five years the minor irrigation establishment should be combined with the Public Works Department in a special division. Wherever a new scheme is taken up we recommend legislation of the kind which we have proposed for the Kurnool-Cuddapah canal and the Tungabhadra project.

25. We are also of opinion that the irrigation law or rather the absence of it, in this province leads directly to the waste of the small supplies that are now being received in Government sources. We invite attention to paragraphs 278-282 of the Irrigation Commission's Report, Part II, on this subject and need hardly point out that the situation has in no way changed for the better in the 35 years that have elapsed since this was written. The particular difficulty in the Ceded districts to which our attention has been drawn is that in a year of short supply the Collector is not, except in very exceptional cases, in a position to specify the survey numbers in the registered wet ayacut of an irrigation source which alone may take water. All he can do is to specify the proportion of the ayacut which should be brought under cultivation and warn the ryots that remission will be refused if this proportion is exceeded. It seems to us that it is asking a great deal too much of human nature to expect the ryots to come to an amicable arrangement among themselves about the distribution of a supply insufficient for all. As a result it is not surprising that there are instances where, owing to the difficulty of reaching an understanding, the entire ayacut has been left waste. We suggest that the Government should take early steps to arm their officers with plenary powers in the matter of water distribution.

26. There is abundant evidence to show that there has been a steady process of denudation of forests in the Ceded districts. We think that the time has undoubtedly come to reverse this process in order to conserve the rain water falling in the tract and to prevent erosion. We are in favour of a plan of afforestation and recommend a survey of the area to decide where afforestation can best be carried on. If any of the places selected are now reserves under the control of forest panchayats we recommend that they should be removed from their control and handed over to the Forest department. An additional method of preventing erosion and conserving moisture is by sowing grass on waste lands. Further research should be undertaken to determine the best quality of grass for the area and for the different kinds of soil within the area.

27. In the foregoing paragraphs we have furnished the outline of a programme for the rapid and intensive development of this distressed area, which, if it is to be implemented, will require the co-operation of all departments of the Government as well as disinterested and efficient non-official help. An immense amount of propaganda by way of demonstration and through the agency of cinema shows, lectures and pamphlets will have to be undertaken, in order to stimulate the spirit of self-help among people who have for generations been accustomed to accept famine conditions as their inevitable lot. We consider that for five years at least a special agency should be created. It should conduct an investigation into the existing resources of the tract agricultural, animal, forest and mineral and consider their industrial possibilities. It should promote the formation of big-scale industries and organize cottage industries, place them in touch with the markets and generally assist them to find their feet. It should make a special study of all the problems connected with the Tungabhadra project in its development stage so that there should be no avoidable delay in its completion. The development of other projects and minor irrigation schemes should be watched. It will co-ordinate the work of all departments, be responsible for demonstration and propaganda and in general act both as the adviser and agent of the Government in the task of planning the prosperity of these districts. We consider that the best agency for the purpose will be a Board consisting of the heads of departments contributing to development and of representative agriculturists and business men. The constitution of the Board called the Ceded Districts Economic Development Board may be as follows:—

- (1) The Member of the Board of Revenue in charge of Famine (*Chairman*).
- (2) The Chief Engineer for Irrigation.
- (3) The Chief Conservator of Forests.
- (4) The Registrar of Co-operative Societies.
- (5) The Director of Industries.
- (6) The Director of Agriculture.
- (7) to (10) Four non-official members—one from each of the districts of Bellary, Anantapur, Kurnool and Cuddapah.
- (11) and (12) Two other members to advise on the financial and business aspects of matters coming before the Board.

In order to give continuity to the work of the Board and to push through the programme with vigour and enthusiasm we consider it necessary that it should have a full time secretary stationed possibly at Bellary. If the right man is selected, we have no doubt that the task of promoting and co-ordinating departmental activity will give him plenty to do.

28. We have given our reasons for dealing exclusively with the Ceded districts and for treating these districts as a distressed area. The middle part of Coimbatore, Kollegal and the southern part of Salem are also subject to frequent failures of the monsoon and are without adequate protection. Except the Pollachi taluk which is served by the south-west monsoon and the northern and southern borders of the district which are served by the Bhavani and Amaravati rivers, the rest of the Coimbatore district is subject to frequent failure of the monsoon or insufficient rainfall. The monsoon is not always timely and is ill-distributed. Conditions therein are similar to those in the Ceded districts. But for the fact that there is a very large number of wells dug at heavy cost by the ryots and the incessant labour of the ryot and his family for drawing water, this area would have been subject to famine in the same way as the Ceded districts. Even the wells dry up if the monsoon fails more than one season. The water table is getting permanently lowered. The major parts of the Avanashi, Coimbatore, Palladam, Erode and Dharapuram taluks are subject to scarcity of this sort. Even while we write the report, the Erode District Board has passed a resolution asking for relief works to be opened in the Kangayam division of the Dharapuram taluk. In many parts of this area, there is scarcity of drinking water. The Upper Bhavani project as planned would serve most of the area that is subject to frequent failure of monsoon and consequent scarcity. The Committee, therefore, recommends that the Upper Bhavani project may be re-examined as a protective scheme and taken up as early as possible. If this project is not found feasible, the Committee recommends that the Lower Bhavani project may be sanctioned and it may be so modified as to serve as much of the area subject to scarcity as possible.

29. Parts of the Salem district, especially the Tiruchengode and Namakkal taluks, are in the same position and are subject to frequent failure of monsoon. Kollegal is another tract which is subject also to scarcity. Expansion of ordinary works had to be resorted to more than once in the Kollegal taluk.

The rainfall recorded at the stations in the area during the last 8 years is as follows :—

Stations.	1930.	1931.	1932.	1933.	1934.	1935.	1936.	1937.	1938 (up to end of Octo- ber 1938).
Coimbatore ..	41.19	22.76	26.04	27.00	20.16	14.08	21.52	24.97	11.13
Tirupur	43.25	19.01	33.73	33.18	21.77	20.68	20.51	31.12	18.76
Avanashi	41.67	21.60	33.56	40.42	26.58	26.25	24.17	29.09	20.38
Palladam	39.91	21.05	31.29	28.67	16.60	14.92	19.28	22.50	11.13
Erode	50.75	16.57	39.15	25.59	23.11	20.49	29.24	36.90	27.36
Perundurai ..	42.68	25.11	32.21	30.66	23.75	25.88	25.86	32.09	27.53
Dharapuram ..	42.78	26.01	26.35	33.00	16.37	24.30	23.33	19.60	11.35
Kangayam .. .	41.81	23.50	37.29	29.37	22.87	21.57	12.50	22.57	12.65
Kollegal .. .	34.16	26.19	36.37	39.06	24.22	24.16	24.77	35.06	31.42
Tiruchengode ..	44.03	18.20	36.43	31.36	25.49	21.24	27.09	35.57	26.96
Namakkal .. .	36.63	21.31	36.35	33.03	25.87	28.92	28.22	31.83	23.34

We recommend that the same treatment should be given to the possible minor irrigation projects in these areas as in the Ceded districts, by way of treating them as protective works with the minimum yield expected reduced as in the case of the Ceded districts, and by the formation of a tank restoration scheme to examine the minor irrigation projects and other sources of supply.

Section II.

30. Our second task has been to examine and make recommendations for revision of the Famine Code with special reference to

- (a) the purpose of famine operations and the principles of famine relief;
- (b) the scale of wages and allowances and the diet scale;
- (c) the size and nature of the task in famine works;
- (d) the possibility of providing famine-relief works of more appreciable benefit to the community than stone-breaking, e.g., irrigation works of suitable size;
- (e) the provisions which require the expansion of the ordinary programme as a normal preliminary to the period of test and observation; and
- (f) the possibility of reducing expenditure on famine establishments.

All these questions specially referred to us except the first have been dealt with below with reference to the sections of the Code in which they are treated. Our recommendations are to a large extent governed by the opinion which we hold regarding the purpose of famine operations and the principles of famine relief. We propose accordingly to state our views on this subject in some detail.

31. The introduction to the Madras Code printed in the edition of 1905 and retained in subsequent editions lays down in succinct terms the principles which govern the detailed rules contained in the Code. It is based on the Government of India Circular No. 447, dated 9th June 1883, and this in its turn closely follows the language employed by the Commission of 1880 presided over by General Strachey. When the Strachey Commission was appointed, a clear and unambiguous statement of the duties of the State towards its citizens in times of famine was urgently required. In Orissa, in 1865, there had been "a very large mortality before the tardy action of the Government afforded any material assistance." When therefore in 1873 the famine attacked Bihar it was resolved that "so far as money, zeal or skill would avail no such effects as in Orissa should be produced by the similar visitation in Bihar." As a result life was preserved but "money was spent profusely and a famine of unusual brevity and of no exceptional severity was found to have involved an expenditure of about £6½ millions." Incidentally it is worth noting that a large part of this colossal bill was incurred by importing nearly 500,000 tons of rice from Burma. Much of the criticism of the Strachey Commission was directed against wholesale interference with private trade, a course which a modern Government is unlikely to have to pursue as a famine-relief measure.

In these circumstances when famine attacked South India in 1876 there was an inevitable tendency for the pendulum to swing in the opposite direction. The Government of India declared that while on the one hand every effort should be made consistently with the resources of the State to prevent deaths from famine, on the other it would not undertake to prevent all suffering and to give general relief to the poorer classes of the community. From this declaration the Strachey Commission did not

materially differ. It declared that it was a paramount duty of the State to give all practicable assistance to the people in time of famine and to devote all its available resources to this end and pointed out that this duty was emphasized by the fact that the Government stands in the place of landlord to the agriculturists who form the great mass of the population. The State's intervention must, however, be likely to produce a practically beneficial result and to achieve this object it was necessary that the administration of famine-relief should not check thrift and self-reliance and should not impair family and other ties, such as those that exist between landlord and tenant, master and servant, employer of agricultural labourer and employed, alms-giver and alms-receiver.

In these observations will be recognized the genesis of the introduction to the Code and particularly of the last sentence of the third paragraph. It soon became abundantly clear that they were capable of widely varying interpretations.

The Commission of 1898 over which Sir James Lyall presided was appointed "to formulate for future guidance the lessons which the famine experience of 1897 has to teach." The famines of 1896-97 for the first time put the Provincial Codes based on the model of the Strachey report seriously to the test, and it was mainly to enquire whether or not they had stood the test successfully, that the Lyall Commission was appointed. Its conclusion was that "the existing Codes have been framed in almost all respects on suitable lines and the experience gained has confirmed the principles on which they were based." It was only on matters of detail that proposals were made and these were more of the nature of an expansion of the principles laid down in 1880 than of divergencies from them.

Such is the modest account given by the Lyall Commission of its recommendations, but others viewed them in a very different light. The proposals of the Lyall Commission were still under consideration when the severe famine of 1898 occurred. Most of the Provincial Governments were caught with their Codes unrevised and the uncertainty and dislocation which resulted led to the appointment of a third Commission with Sir A. P. Macdonnell as Chairman.

This Commission roundly asserted that the Lyall Commission, while paying lip service to the principles of famine-relief adumbrated by the Strachey Commission and accepted by the Government of India, had in practice departed from them in recommending a more liberal wage and a freer extension of gratuitous relief. In particular it was pointed out that the wage of 20 chhataks (100 tolas) given to diggers and 15 chhataks (75 tolas) given to carriers by the Lyall Commission had generally in practice been found to be excessive and been reduced. The Macdonnell Commission therefore recommended the reduction of the digger's wage to 18 chhataks and the carrier's wage to 14 chhataks and these figures were adopted and incorporated in the Codes of 1905.

In G.O. No. 1902, Revenue, dated 31st August 1921, the Madras Government appointed a committee under the chairmanship of Mr. Neil MacMichael to revise the Madras Famine Code. This committee made a number of recommendations, not all of which were accepted by the Government, reducing the stringency of the test, reducing the task and raising the wage. Finally, as a result of experience gained in the famine in the Ceded districts in 1935, the Government raised the grain equivalent of the wage for both workers and dependants to allow for a larger quantity of vegetables being given to all classes on famine-relief works.

32. Our reading of this chapter of history is as follows: The Macdonnell Commission justified what were definitely more stringent conditions of relief than those proposed by the Lyall Commission, by appealing to the principles of famine relief as stated in the introduction to the Code. The experience of the last thirty years has proved the necessity for liberalizing the conditions of relief, and we are of opinion as we shall later explain that some further amendment in this direction is necessary. If, therefore, the interpretation sought to be placed by the Macdonnell Commission on the principles of famine relief accepted by the Government of India is correct, we consider that the introduction to the Code requires amendment. It has been pointed out to us that the language of the introduction to the Code has not in fact since 1905 appeared to place any ban on liberalization, in that amendments to the Code have been made strictly with reference to the evidence available and the necessities of the case. Some of us however apprehend that as the principles of the introduction have been used once to justify what in our opinion was unjustifiable stringency they may be so used again. We are also of opinion that the now generally accepted doctrine of the duties of the State towards its citizens goes further than the mere statement that it is bound to protect the people from starvation in times of distress. We consider that the following sentences more aptly describe the object of

relief measures as at present understood than the last sentence in paragraph 3. We therefore recommend that the last sentence of paragraph 3 should be deleted and the following substituted :—

“ It must also be remembered that while the main object of State intervention is to save life, it is none the less essential to maintain people in good health and prevent physical deterioration and dispiritedness among them so that they may be in a position to resume their ordinary pursuits with advantage to themselves and the State on the advent of better times. But the relief measures should as far as possible be designed so as not to check the growth of self-reliance or interfere with such moral obligations of mutual assistance as are prevalent and followed.”

As section 127 of the Code is a corollary to the sentence which we recommend for deletion, we recommend that this section should also be deleted and we see no necessity to substitute anything for it.

We also recommend another slight change in paragraph 3 of the introduction. In the second sentence of this paragraph we wish to insert the words “ sickness and ” before the word “ mortality.” We consider that the rapid opening up of the country in the last sixty years has practically eliminated the possibility of death from starvation as the result of famine. We are also, as we have stated, opposed to the suggestion that the duty of the State ends with the saving of life, and we consider that the true criterion of the success of relief measures must be the maintenance of the general health of the persons relieved.

CHAPTER I.

33. (i) *Section 3 (c).*—We consider that this section should be amplified by adding the words “ and dearth of fodder ” after the word “ disease.” It is essential that any considerable dearth of fodder should be brought quickly to the Collector’s notice.

(ii) *Sections 9 to 22.*—It should be possible to prepare estimates in greater detail and with more accuracy for the areas in the province which experience shows are particularly liable to famine. During the present famine it was found necessary to take up works for which no sanctioned estimates were ready and in all cases it was found that the estimates bore little relation to the actual expenditure incurred. The records of previous famines provide statistical information which should be used as a guide for the future as to the probable intensity of distress in different areas. In this connexion we invite the attention of the Government to the Scarcity Manual published by the Government of the Central Provinces. We consider that the method of preparing programmes adopted in the Central Provinces should be examined and adopted with such modifications in detail as may be necessary for this Province.

CHAPTER II.

34. (i) *Section 33-A.*—There was considerable difference of opinion among the witnesses whom we examined as to the place of the ordinary public works programme in the scheme of famine relief. It was pointed out that the expansion of the public works programme might simply obscure the situation, as in the slack season for agriculture, there will always be a fair number of field labourers who will attend public works for the departmental wage. On the other hand, particularly in those tracts only occasionally visited by drought and with a comparatively high capacity for resistance, the immediate opening of test works on the first sign of abnormal unemployment would frequently mean a quite unnecessary expense and dislocation of the ordinary district administration. The Government of Bombay referring to relief operations in that Presidency in 1918 remarked that the mobility of the people had generally increased and experience shows that an expansion of ordinary works is both economic and adequate as the principal measure of famine relief. We are therefore of opinion that the decision whether to expand the programme of public works or to start test works should continue to rest with the Collector. There are however some expressions in the section especially when read with section 50 which have given rise to uncertainty. We consider that in November or December when the seasonal conditions usually cause anxiety in the Ceded districts, neither the Collector nor the Government can be expected to prophesy whether or not test works will be necessary if the next monsoon is normal. The suggestion in the section as it now stands undoubtedly is that once it has been decided to expand the programme of public works, it has also been decided that test and relief works will not be necessary if the next monsoon is normal. We consider it necessary to remove this impression. We therefore recommend that in the second sentence of the section the words “ and thus to obviate the necessity of instituting test works unless the next monsoon fails or is unduly late or to postpone the

stage at which they are called for as long as possible " should be deleted. For the same reason we recommend the omission of condition 2 (a) and the last sentence of the note to the section. It will then be made clear that the practice adopted in Anantapur district this year with the approval of the Government of first expanding ordinary works and later opening test and relief works when it was quite clear that the season was definitely unfavourable, has the sanction of the Code.

(ii) *Section 35 (b) (3)*.—The words " sickness or " may be inserted before the word " mortality." We make this recommendation for the same reasons as we have given for a similar addition to the introduction.

(iii) *Section 42*.—We think it is necessary to draw pointed attention to the provisions of Board's Standing Order No. 14 (3) which empowers Collectors to postpone the collection of kist if the orders of the Board of Revenue or of the Government cannot be obtained before the date of collection. We consider that collection should be stopped, pending the result of the enquiry contemplated in the section as to the extent to which suspension and remission of land revenue will be necessary. We therefore recommend the insertion of the words " stop collection of land revenue and " between the words " shall " and " institute " in this section.

CHAPTER III.

35. (i) *Section 48*.—The last two sentences of this section are—

" The only practical and trustworthy means of deciding whether distress requiring relief exists among those who are able to work is a test work properly put into operation. For this purpose the Collector may select one or more ordinary works in progress or required under either the Public Works Department, the Revenue Department or the district board according to convenience and shall regulate them strictly according to the following provisions."

We propose that they should read as follows :—

" Though the practical and most trustworthy means of deciding whether distress requiring relief exists among those who are able to work may be a test work, the Collector may with the previous sanction of the Board of Revenue dispense with the test stage if works started under section 33-A prove sufficiently attractive. If however test works are started the Collector may select one or more ordinary works in progress or required under either the Public Works Department, the Revenue Department or the district board according to convenience and shall regulate them strictly according to the following provisions."

We consider that this is a necessary corollary to our proposal to give the Collector under section 33-A complete freedom to decide whether he should expand ordinary works or open test works. If the Collector decides after expanding the programme of ordinary works that the situation has worsened to such an extent that relief works are called for, he should not be compelled to go through a completely superfluous stage of test. The amendment makes this clear.

(ii) *Section 49 (a)*.—This section lays down the conditions to be observed on test works, a subject to which we have devoted very careful consideration.

The Macdonnell Commission, differing from the Lyall Commission, considered that the task on test works should be somewhat above the Code tasks for earthwork (i.e., 75 per cent of the task commonly performed by labourers in ordinary times), the full ordinary tasks for village works and the Code task for metal-breaking as special practice is required. The MacMichael Committee, apparently considering that the phrase " somewhat above the standard task " left too wide a discretion to the officers setting the task, recommended that on departmental works the task should in no case exceed 85 per cent of the ordinary task or in other words should not be more than 10 per cent above the Code task. The Government did not accept this recommendation except as regards stone-breaking, in respect of which they went further than the Committee and stated they would have no objection to an enhanced task equivalent to 80 per cent of the ordinary task. The present position therefore is that on departmental works the task for earthwork is somewhat above the Code task, but the enhancement of the Code task may be limited to 5 per cent in the case of stone-breaking. On village works the full ordinary task (25 per cent above the Code task) is imposed.

Our enquiries have shown that while there is rarely any difficulty in completing the task of stone-breaking, the hardness of the soil in the early part of the year when test works are usually open makes the earthwork task difficult to complete unless it is fixed very little above the Code task. We have obtained the definite impression that until the rains break, the earthwork task is universally regarded as harder than stone-breaking.

We therefore suggest that section 49 (a) should be amended as follows :—

“ In the case of departmental works where the workers are employed in breaking stone or in earthwork where the earth has hardened by drying, the task imposed shall be 80 per cent of the ordinary task; where the test work is a village work, the full ordinary task shall be imposed—see section 103 and paragraph 39 of Appendix D.”

(iii) As regards the other conditions on test works imposed under section 49 (b) and (c) we have received a number of suggestions for their relaxation. We consider however that if test works are to answer the purpose for which they are intended it will be impossible to relax these provisions in their entirety. We are therefore not in favour of allowances for dependents and we do not recommend any reduction of the task or enhancement of rate for new comers.

On two points however we think that the conditions of test are unnecessarily stringent. We consider that a compulsory rest day without allowances may be unfair to workers who are at the end of their resources. As we recommend a definite limit to the period of test we do not think that our proposal imposes too great hardship on the staff over a short period. We also consider that the prohibition against the formation of weakly gangs on test works may have the effect of raising the task of the gang very considerably if weakly persons form any considerable proportion of the whole.

We therefore propose that section 49 (b) and (c) should be amended as follows :—

“ Section 49 (b).—There shall be no rest day and no allowance need be paid to the dependents.

Section 49 (c).—There shall be no reduction of task or enhancement of rate for new comers, who shall be distributed among the other workers. As regards weakly persons the provisions of section 102 will apply.”

(iv) Section 50.—We propose to redraft the first three sentences of the section as follows :—

“ The Collector may deal with the earlier stages of distress either through the expansion of ordinary works or test works (sections 33-A and 48), non-official relief agency and organized private charity (section 40) and the grant of takavi loans (section 41). As the test works provide an admittedly inadequate wage for the workers, with a higher task and no rest day, the object being to test whether the labouring classes are in such a state of distress that relief works must be opened to save them from starvation, the period of test should not be unnecessarily prolonged. In no case should the test period exceed four weeks. If test works are opened distribution of gratuitous relief should be commenced soon after the test works are opened as the persons eligible for official gratuitous relief are the destitute who are incapable of work (see section 137) and who are in danger of starvation. If for this purpose additional establishment is required, the Collector shall apply in good time to the Board of Revenue for the same.”

This alteration is mainly consequential on the amendments which we have proposed to sections 33-A, 48 and 49 (b). We consider however that a definite limit should be put to the period during which a test work should remain open and that four weeks as a maximum is quite long enough. One of the official witnesses explained to us that the arrangement for providing work proceeds much more rapidly than the arrangements for providing gratuitous relief in villages and that these arrangements for providing gratuitous relief are usually incomplete during the earlier part of the test works stage. He considered that it was necessary to emphasize the need for early preparations for gratuitous relief. The last two sentences of our amendment are intended to cover these points.

(v) Section 53.—Experience has shown that a fortnight is rather too short a period in which to gauge the necessity or otherwise for opening relief works. We therefore suggest the substitution of “ four weeks ” for a “ fortnight ” in the first sentence of the section.

CHAPTER V.

36. Section 67 (d) (iv).—We propose to prefix the words “ sanitary arrangements are provided and ” to the sub-section. This seems to us to be an essential precaution.

CHAPTER VII.

37. (i) Section 77.—The section as it now stands is based on the recommendation of the Lyall Commission that “ ordinarily village works should be reserved until the advent of the hot weather or as a reserve in case of epidemic disease.” The Macdonnell Commission however noticed the existence of a large and influential body of opinion in favour of village

works and observed that it was in favour of village works as the back bone of the relief system in a district where a sufficient number of them can be found but considered that it will always be necessary to have some suitable large public works in addition not only as an alternative but also as a safeguard. We think it desirable to give fuller expression to the view of the Macdonnell Commission on this matter and accordingly recommend that for the words " non-departmental village works shall as far as possible be kept as a reserve " the following should be substituted :—

" Some non-departmental village works including village improvement works may be kept as a reserve."

(ii) *Section 82.*—We do not consider ten miles a reasonable distance for a man to find employment on a relief work. Section 78 provides that ordinarily a relief work should serve the villages within a radius of five miles. We accordingly recommend the substitution of " five miles " for ten miles in this section.

(iii) *Section 90 (b).*—As an additional and necessary precaution we suggest the addition of the words " and the segregation if necessary of contacts " after the word " disease " in this sub-section.

(iv) *Section 92.*—For the same reason we suggest the addition of the words " small-pox or other communicable disease " after " cholera " in this section and at the end of sub-section (a) we propose to add the following words :—" inoculation or vaccination of the people in the camps shall, if necessary, be carried out forthwith."

(v) *Section 97.*—This section deals with the classification of workers a subject on which famine literature reveals more difference of opinion than on any other. The Strachey Commission on the assumption that a female requires a little less than a male introduced the principle of sex distinction within the same class, and this principle was accepted in the provisional Code issued by the Government of India in 1883. The Lyall Commission however introduced the digger-carrier principle in these words :—

" Class I, or the *digger* class, will include all able-bodied persons who are capable of performing a full task as diggers, a full task being defined as 75 per cent of the digging task usually performed by able-bodied labourers on ordinary works. Class II, or the *carrier* class, will include all other adult labourers who are given a fair or moderate task as carriers, or on other work requiring no special skill or aptitude, and also all juvenile adults, i.e., boys and girls between the ages of 12 and 16. Class I will, therefore, consist almost entirely of men, though women who are capable diggers may be admitted into it. Class II will usually comprise all the females on the work over 12 years of age, all boys between the ages of 12 and 16, and all old or feeble men who are unable to do anything more than carry."

The Macdonnell Commission, while relaxing the digger-carrier classification, recommended a lower wage for women-diggers than for men-diggers and for women-carriers than for men-carriers. The recommendation was not however accepted and the Code as it stands recognizes no sex distinction. Women can work as diggers and earn a class I wage though their digging task is only two-thirds of the Code task for diggers (paragraphs 31 and 39 of Appendix D). There is naturally some difference of opinion both on the ability of women to turn out the same work as men, and on the need to provide women with the same wage as men. We find it impossible to make any definite pronouncement on these vexed questions but we desire to draw attention to the fact that the Code does recognize the possibility of women doing the same kind of work and drawing the same wage as men. We note that women are very rarely employed as diggers and we recommend that the attention of Collectors should be drawn to the provisions of the Code and that women capable of doing the same class of work as men should be placed in class I.

With this observation we recommend that the classification of workers should remain unchanged.

(vi) *Section 99 (b).*—As an alternative criterion for the establishment of additional subdivisions we suggest the addition of the words " or when the number of charges during the period is likely to exceed 8 " after " three months " in this sub-section.

(vii) *Section 105.*—The decision as to the class of soil or other local condition of the task and the consequential adjustment of the task lay with the charge officer until a recent amendment to the code delegated these duties to the work agent. The change was apparently made because it was considered that the duties of the work agent as defined in paragraph 95 of Appendix D included the adjustment of the task. In our opinion,

however, the section as amended is clearly in conflict with section 88 (10) which definitely lays the duty of adjusting the task on the Charge Officer. We therefore recommend * the removal of the correction slip to this section.

(viii) *Section 107.*—We consider that the duty of classing workers as weakly persons ought properly to rest on the Medical Officer. This is already recognized in paragraph 97 (v) (b) of Appendix D. But the position will be made quite clear if the words "Persons certified to be weak by the Medical Officer" are substituted for "weakly persons" in this section.

(ix) *Section 109.*—The circumstances contemplated in this section, viz., delay in the inception of relief measures, a sudden and unexpected influx of workers or insufficiency of staff are all of a very temporary nature. The remedy, however, to be effective ought to be quickly applied. It seems therefore most inappropriate to withdraw from the Collector the power to take action under this section. We consider that the "Collector" should be substituted for the "Famine Commissioner" and the "Famine Commissioner" should replace "the Local Government" in this section.

(x) *Section 111.*—Paragraphs 83 (a) and (b) of Appendix D do not prescribe any choice of the person to whom payment should be made. On the contrary they state that payment should ordinarily be made to the headman. We, therefore, recommend the substitution of the words "the headman of the gang" for the words "a person chosen by themselves from their own number" in this section.

(xi) *Section 114.*—The second sentence of this section which states that dependents should not be relieved on village works is clearly in conflict with sub-clause (a) to section 122 which provides for dependents being brought to the gratuitous relief lists of the respective villages. It should therefore be deleted.

(xii) *Sections 116 and 128.*—As a classification of dependents is made for the sole purpose of determining the allowance which they should receive, we find it necessary to deal with these two sections together. In the course of our inspection of famine-relief works in the Ceded districts we noticed that while the Code prescribes an exact quantity of the various foodstuffs to be given to members of each class, in practice this is observed only in the case of the grain item which is served out in moulds of the correct size. The other items are invariably made into a kind of soup and only the roughest attempt is made to apportion this soup quantitatively among the various classes of dependents. As a result, the elaborate arrangement of dependents in seven separate classes is to a great extent stultified. From the very beginning of our enquiries therefore we have been searching for a method of classification which would be of some practical use and a scale of allowances which it would be possible for those in charge of a relief work to observe.

Class IV consists of adult dependents including hospital patients and persons attending them. A distinction is, however, made between males and females for which we can find little justification. The principle of sex distinction recommended by the Macdonnell Commission was adopted neither for workers nor for non-adult dependents. It might we think easily have been abandoned altogether. We therefore suggest as a first step towards simplification of classification that classes IV (a) and IV (b) should be amalgamated in a single class IV.

Class V consists of children of both sexes and is subdivided as follows:—

- (a) between the ages of 12 and 14 who are unable to work;
- (b) over 8 years and under 12 years of age;
- (c) between the ages of 5 and 8 years;
- (d) over 1 year and under 5 years of age; and
- (e) up to 1 year.

We notice that this classification has been arrived at through a steady process of elaboration. The framers of the provisional and draft Codes of 1896 made no attempt to classify children but simply noted that the wages of children were to be determined with reference to age, capacity for work and requirements. Wages and allowance were not to be less than one quarter or more than three quarters of the wages for adult males. The Lyall Commission made the first attempt to introduce a system of age-grouping, by dividing non-working children into two classes, those above 8 years and those under

* Mr. Dogra dissents from this view. In his opinion the decision as to the class of soil is one that should properly be made by a professional man.

8 years. The first class was to be given a grain wage of 7 chhataks (35 tolas) and the second 5 chhataks (25 tolas). The Macdonnell Commission increased the number of classes to four:—

							Grain wage.
14 to 10	..	..	..	..	..	..	40 tolas.
10 to 7	..	..	..	..	..	..	30 „
Under 7 but not in arms			..	..	..	..	20 „
Children in arms	..	..	..	..	..	..	One pice extra to the mother or 15 tolas.

and this scale was incorporated in the Code of 1905 and retained in the revised edition of 1914.

The final change to the present classification was made on the recommendation of the MacMichael Committee, who pointed out that the age-limit of a child in arms had not been fixed. They were also of opinion that the dietary requirements of children at various ages was not sufficiently provided for by the comparatively simple classification of the Code and therefore recommended a further subdivision into four classes of children above 1 year—the limit which they sought to introduce for children in arms. The Government accepted these views in full and incorporated them in the revised edition of 1927.

For the reasons which we have already given we consider that this elaborate classification fails in its purpose, especially as has been so often pointed out the age-grouping can only be a rough guide to the officers-in-charge of works who in practice classify on appearance. We therefore propose to reduce the number of classes by one and recommend for acceptance, the following classification:—

Class V (a).—Non-working children between the ages of 9 and 14.

Class V (b).—Over 5 years and under 9 years of age.

Class V (c).—Over 1 year and under 5 years of age.

Class V (d).—Up to 1 year.

Dr. Aykroyd, the Director, Nutrition Research, whom we have consulted informally, approves of the grouping together of children between 5 and 9 years and between 1 and 5 years, but he would retain a distinction between children of 9 to 12 on the one hand and those over 12 and under 14 on the other.

(xiii) We are of opinion that with the simplified grouping of dependents which we recommend charge officers ought to find it possible to give each group the scale of rations prescribed for it under section 128. In the hope of facilitating their task still further we have worked out a standard ration of the items other than grain which we propose to give to class V (a). The ration for class IV will be $1\frac{1}{2}$ times the standard ration, that for class V (b) $\frac{2}{3}$ of the standard ration and for class V (c) $\frac{1}{2}$ the standard ration. We have extended this idea to the wages of workers, but in order fully to explain our proposals we must first deal with what is known as the grain-equivalent system.

The origin of this system will be found in a sentence in paragraph 184 of the Strachey Commission's report. "On relief works where a money wage is given the rate of pay should be such as to leave a slight margin above the actual cost of the flour, so as to allow for the purchase of salt, pepper and other condiments and firewood and to avoid the risk of the wage being insufficient to purchase the full ration of food." The Government of India resolution of 1893 expanded this idea and recommended the practice of stating the wage in terms of a grain equivalent, which was defined as "the amount of grain of which the value is in ordinary times equivalent to the total value of the various items of the ration." It was added that the cost of the other items would seldom if ever be found to be more than three-fourths of the grain item. The grain equivalent of a given ration would therefore be equal to $1\frac{3}{4}$ times the weight of the grain item. Provision was, however, made for calculation from time to time of all the component items of the ration at current prices when the $1\frac{3}{4}$ ratio was proved incorrect either way. The Lyall Commission was of opinion that the system was convenient and while recommending it for universal adoption went into the question of the necessary margin between the grain item and the grain equivalent in great detail. The items of food besides grain taken into consideration were pulse, salt, ghee or oil and condiments and vegetables. The actual cost of these articles was worked out and added to the cost of the grain item. A further 5 per cent was added to be on the safe side and the final cost thus arrived at was reconverted into terms of grain. It was stated that during the 1896-97 famine the price of pulse fluctuated with that of grain while the price of oil, ghee, salt, condiments and vegetables remained steady. It was on the assumption that these conditions would normally be maintained that the Lyall Commission recommended the system for adoption

throughout India though as an additional safeguard against exceptional fluctuations they were in favour of granting the Local Government or the Famine Commissioner power to vary the wage 25 per cent either way, a provision now incorporated in section 130 of the Madras Code.

The non-official members of the MacMichael Committee by implication subjected the grain-equivalent system to severe criticism by producing figures which proved that the margin between the grain equivalent and the grain item in two camps in Kurnool district was insufficient to pay for the cost of other items. They, however, sought to remedy matters by recommending a considerable increase in wages and allowances. As a result of our inspections of famine camps in Bellary and Anantapur districts, we have come definitely to the conclusion that the amount of the grain equivalent is not ordinarily sufficient to purchase the grain and other items. This remark applies particularly to the lower classes of dependents. After the famine of 1935 a separate allowance was given for vegetables and condiments involving a considerable increase in the wages and allowances of all classes except V (e). The grain equivalent ought therefore to have been raised for all classes except V (e) in order to retain a sufficient margin from which the extra allowances could be met. Actually, however the grain equivalent was not raised for classes V (c) and V (d) with the result that it was found impossible to buy the rations prescribed in the Code for these classes. The net result was that the soup supplied in the kitchens, of which all classes partook, was less nutritious than it ought to have been. The defect was remedied in the month of July by raising the grain equivalent for classes V (c) and V (d) by 5 tolas.

Even for the classes for which the grain equivalent was raised in 1937, it is in our opinion extremely doubtful whether sufficient margin was allowed. The price of the various items in the diet on 31st May of this year at the Nandavaram-Nagaladinne camp was as follows:—

Grain—960 tolas per rupee.
Pulse—616 tolas per rupee.
Oil or ghee—120 tolas for 10 annas.
Salt—74 tolas for As. 1-2.
Vegetables—20 tolas for 2 pies.
Condiments—240 tolas for Rs. 2.

The cost of feeding a dependent in class IV (a) on this basis works out to As. 1-2 whereas the cash value of the grain equivalent (65 tolas) is As. 1-1.

It will be observed from the figures on which the Lyall Commission based its calculations that the price of pulse was the same as the price of grain. This did not hold good in the Ceded districts during this famine as pulse was in fact nearly one and a half times as costly as grain.

We are therefore led to the conclusion that the grain-equivalent system, useful for administrative purposes as it undoubtedly is, may result in the payment of lower wages and allowances than those prescribed in the Code. Nor do we apprehend any great difficulty in calculating the wage and allowances to be paid to workers and dependents with reference to the actual prices in the nearest market from time to time, especially in view of the fact that the standard-ration system which we recommend will lend itself to easy calculation. Such a calculation ought to be done in any case even now by the Collector from time to time in order to see whether it is not necessary to recommend an alteration in the wage with reference to section 130 (a) (iii) of the Code.

The actual wages and allowances which we propose for the various classes of workers and dependents as we have suggested they should be revised are shown in the table below which we propose to substitute for the existing table in section 128:—

Workers.	Items in tolas.					
	Grain.	Pulse.	Oil or ghee.	Salt.	Vegetables.	Condiments, tamarind, etc.
Special class to be paid the wage of class I and one pie (quarter anna extra)—						
Class I	55	10	2	2	16	2½
.. II	50	7½	1½	1½	12	1-7/8
.. III	40	6½	1½	1½	10	1-9/16
Dependents—						
Class IV	40	6½	1½	1½	10	1-9/16
.. V (a)	30	5	1	1	8	1½
.. V (b)	25	3½	½	½	6	15/16
.. V (c)	15	2½	½	½	4	5/8
.. V (d) Under one year. One pie to be paid to the mother.						

As we have pointed out, we consider that the main defect in the existing scale is the impossibility of ensuring that recipients of relief actually get what they are supposed to get and we trust that our proposals (1) to simplify classification, (2) to abolish the grain equivalent, and (3) to provide a standard ration for items other than grain will have the desired effect. It will be observed that by a very slight adjustment of the present scale under other items we have made the assumed ration for class I twice the ration for class V (a), for class II, one and a half times the ration for class V (a) and for classes III and IV, one and a quarter times the ration for class V (a).

The other important defects brought to our notice in the present scale are (1) the wage for adult women workers gives a low calorific value, (2) children under present classes V (c) and V (d) are not given any fat at all, (3) the allowance for vegetables is still very low compared with the jail diet. Such alterations as we have made are intended to remedy these defects. We have provided an extra 5 tolas of grain for class II, the class in which most adult women workers are found. We have increased the vegetable ration for workers under classes I and II and while reducing the oil item for class I we have increased it for the lower classes of dependents. The net result will be a slight increase in the wage for classes II and III, while the wage of class I will remain about the same.

For class IV we have proposed the allowances at present obtained by class IV (a) with slight additions under pulse and condiments. Our class V (a) will contain some who are at present classed under V (a) and some who are at present under V (b). We have therefore provided the average of the grain items now received by these two classes for our new class, but under other items we have in some cases adopted slightly higher figures than those now allowed for class V (a). Our class V (b) will consist mainly of members of the present class V (c) with some additions from the present class V (b). We have in this case taken the lower figure 25 tolas for the grain item but under other items we have provided amounts that are somewhat in excess of the present allowances for class V (b). Our class V (c) is present class V (d). Here again the grain item has been slightly reduced and a compensating increase given under the other items. For infants in arms we recommend that 1 pice extra should invariably be paid to the mother from the date of birth. At present prices this will bring 15 tolas of grain which is the grain equivalent for the class. We believe that the alterations which we have suggested will result in a more nutritious diet without greatly increasing the cost.

The view has been expressed in evidence before us that the Code wage does not allow for other necessities of life besides food and that some further addition ought to be made for this purpose. We are not prepared to make the addition to the burden of the State's obligations that the acceptance of this view in its entirety would entail, especially as we consider that the family wage will generally be sufficient to provide all the necessities of life. There are however two items either unprovided for or imperfectly provided for in the present Code which we consider essential to the health and comfort of the workers and their families. These are buttermilk and firewood, and we recommend that an extra pice should be given to all classes of workers to cover the cost of these items.

We also recommend that the grain provided should be of good quality and suggest the following amendment to section 128. For the sentence immediately below the table substitute—

“The amount of grain specified in column 2 of the above table should be reckoned in terms of grain of good quality cleaned for consumption.”

If our proposal to dispense with the grain equivalent is accepted the second sentence in the note should be deleted. The last clause in the first sentence of the same note is even now inappropriate as separate rations of vegetables and condiments are provided under the section as it now stands.

(xiv) Section 129.—This section will require re-drafting if our proposals for the amendment of section 128 are accepted. The following is suggested:—

“The basis of conversion of the allowances into cash shall be the prices of the various items in the scale prevailing in the nearest market. As the grain and pulse ordinarily sold in markets require cleaning before they are fit for consumption, the Collector shall determine the price basis after deducting a suitable allowance for wastage due to cleaning. Any alteration in the wages and allowances shall be brought into effect only on the first day of the working week.”

We also desire to add a sentence to note 2 under this section as follows:—

“The pulse, dholl and vegetables shall be in a condition suitable for cooking.”

(xv) *Section 132.*—The revised rule relating to the treatment of pregnant women inserted after the 1935 famine, which was intended to clarify and explain the existing rule, has unfortunately merely led to increased confusion. Pregnant women are now allowed to absent themselves for three weeks before delivery and during this period they continue to receive the wage of the class to which they belong. If however they have not delivered at the end of this period, the Code does not state definitely what further treatment they should receive. We consider that it is an unnecessary hardship to ask them to return to the work for re-examination by the Medical officer. On the other hand if they are allowed to remain in the village and continue to receive a worker's wage on the mere certificate of the village officer that the child has not yet been born, we fear that there will be a strong temptation for these women to ante-date the probable time of delivery when they make their original application to the Medical officer, who will rarely be able to conduct a proper examination. We consider that no undue hardship is likely to be caused, if we prescribe that if the village officer certifies on the completion of the three weeks allowed by the Medical officer that the child has not yet been born, a further period of a fortnight should be allowed to elapse during which they will continue to receive the wage of the class to which they belong. If however at the end of this additional fortnight delivery has not taken place it may be fairly assumed that the woman has deliberately ante-dated the probable time of delivery. Her name should then be added to the village gratuitous relief list, and she should again become eligible for a worker's wage only from the date of delivery. To give expression to these views we suggest that the first sentence of section 132 should be re-drafted as follows:—

“ A pregnant woman whether on public or village works shall be permitted to absent herself for three weeks before delivery and one month after delivery on the certificate of the Medical officer. If delivery does not take place at the end of three weeks she may be permitted to absent herself for a further period of two weeks on a certificate from the village officer that delivery has not yet taken place. If at the end of this extended period of two weeks the child has not yet been born, the woman should be brought to the village gratuitous relief list until the child is born. After delivery she should be replaced on the charge list for a period of four weeks. In an exceptional case the Medical officer in charge of the camp shall permit a pregnant woman to absent herself for such period as he considers necessary.”

We also consider that in addition to the allowance of Rs. 2 for medical comforts a pregnant woman should be given a sari costing not more than Rs. 2. The second sentence of the section will therefore read: “ During such period of absence (except for the period if any, for which she is brought to the village gratuitous relief list) she should be paid the wages of the class to which she belongs. An allowance of Rs. 2 for medical comforts and a sari at a maximum cost of Rs. 2 should also be given to all such pregnant women including those on the village gratuitous relief list.”

(xvi) *Section 133.*—To make it clear that an emaciated person unable to work should be brought to the village gratuitous relief list we suggest the addition of the words “ under section 137 ” to the last sentence of this section.

(xvii) *Section 134 (b).*—There is no reason why workers should be severely penalized if the failure to complete the full task is due to unfavourable weather. We think that only if work is stopped before the midday interval should the day be treated as equivalent to a rest day and that if rain stops work after 3 p.m. it ought to be assumed that the task would have been completed. We therefore suggest after “ weather ” the addition of the words “ if it is before the midday interval ” and we desire to add the following note to the section:—

“ If work is unavoidably stopped after 3 p.m. the workers shall be entitled to full wages irrespective of the task performed.”

For the last two sentences of this section we recommend that the following should be substituted:—

“ Such allowances shall be paid to all persons whom the Medical officer in charge of the camp considers are not (a) in good health when they come on the works and (b) fall ill during the period of their employment on the works or (c) whose attendance on the sick or on infant children in their own houses is absolutely necessary. The Medical officer drawing the bill for the allowances should certify that he is satisfied that the absence of the worker was unavoidable and was due to one of the causes mentioned already.”

It is not clear how persons whom we have specified should be treated under the Code as it stands. The amendment is suggested in order to clarify the position.

(xviii) *Section 135.*—There has been a good deal of difference of opinion as to the nature of the three days attendance prescribed in this section as a condition prior to the receipt of rest-day allowance. It should be made clear that attendance on the day before the rest-day is ordinarily compulsory both for workers and dependents and for this purpose sub-paragraph 3 of the section should be amended as follows:—

“ The allowance shall not be given to workers or dependents who have been less than three days on the works in the week including the day previous to the rest-day unless they are ill on that day and are exempted from attendance by the Medical officer or are members of a weakly gang or are weakly persons in the able-bodied gang individually tasked under section 102 *supra*.”

CHAPTER IX.

38. (i) *Section 137.*—We wish to make it clear that no conditions are attached to the grant of relief to the dependents of workers on relief works. We propose therefore to add a note to this section in the following terms:—

“ This section does not apply to the relief of dependents of workers on relief works who are provided for under sections 114 to 116 of the Code. But if any such dependents fall within the class of persons mentioned in this section they shall be brought on to the gratuitous relief list.”

The instructions for the preparation of gratuitous relief lists are in our opinion unobjectionable, but we apprehend the possibility that the provisos relating to persons who have relatives able and by the custom of the country bound to support them, may deprive persons of relief who are really in need of it. We have in mind the case of persons whose relatives may be in another part of the country and those who are not being actually supported by their relatives even though the relatives may be morally bound to support them. To guard against the possibility of such deserving persons being refused relief, we suggest a slight verbal alteration in section 137 and in sub-paragraphs (iv) and (vii) of section 140. In section 137 the words “ are not living with ” may be substituted for the words “ have no.” In section 140, sub-paragraph (iv), the words “ not living with ” may be substituted for “ to have no ” and in sub-paragraph (vii) the words “ not living with ” for “ to have no.”

(ii) *Section 144.*—We have been informed that the village headman is entirely unable to make any arrangements for the relief of persons not in the list as he has no permanent advance for the purpose. To make the section operative we propose to insert the words “ section 144 and ” before “ section 147 (b) ” in paragraph 6 of Appendix F.

(iii) *Section 145.*—It is very desirable that recipients of gratuitous relief who are fit for work should be given a light task. In order properly to implement the provisions of this section we recommend that the Government should arrange for the preparation of a task table for hand-spinning which could be employed both for the purposes of this section and as a form of task on village works.

CHAPTER X.

39. (i) Our attention has been drawn to the fact that the provisions of sections 161 to 163 cannot be strictly applied to the closure of relief works in the tracts of the Madras-Deccan which are liable to periodic visitations of famine. These tracts are of two kinds, red-soil taluks such as Penukonda and Hindupur of Anantapur district which depend entirely on the south-west monsoon, and black-soil taluks such as Alur and Siruguppa taluks of Bellary district in which the crops are not generally sown until September and which depend mainly on the north-east monsoon for a successful harvest. Though it has generally been found necessary to keep relief works in black-soil areas open for a month or so after the works in red-soil areas are closed it will generally be neither necessary nor desirable to wait until the earliest principal autumn crop (white cholam) is ripe in the black soils. This year, for example, it has not been found necessary to continue relief works beyond the middle of October in any of the tracts affected, while in 1935 all the works were closed down by the end of September. We therefore suggest the addition of a note to section 162 in the following terms:—

“ Even though the south-west monsoon is well established it will ordinarily not be possible to close down works which serve tracts in which black soil predominates until late September or early October. On the other hand if sufficient

employment is available it is unnecessary to keep works in such tracts open until the crop is ready for harvest. If the north-east monsoon is a failure it may become necessary to reopen works that have been closed down, but it is better to do so than to keep works open unnecessarily until the north-east monsoon has completely declared itself."

(ii) *Section 163 (c).*—We wish to lay great stress on the desirability of the State giving every possible assistance to those who have been on relief works in taking up their ordinary agricultural duties again. For this purpose we recommend that the final dole now given to recipients of gratuitous relief should also be given to workers.

CHAPTER XI.

40. In accordance with our instructions we have carefully examined the possibility of providing famine relief by works of more appreciable benefit to the community than stone-breaking, e.g., irrigation works of suitable size, and we included a question on the point in the questionnaire which we issued. One suggestion that has been specially referred to us is that paddy-pounding might be considered as a suitable work on which to employ famine labour. We must report that we consider it quite unsuitable. If paddy pounding is proposed as a method for employing more than a minute fraction of those who seek relief, paddy would have to be imported in large quantities and re-exported, as the tracts usually affected neither grow paddy nor consume rice. This is obviously a most uneconomic proposition involving the State in all kinds of commitments both in buying and marketing the product. We are of opinion that the suggestion deserves no further consideration.

41. Any work such as spinning or weaving which is not a work of public utility and the finished products of which have to compete in the open market is open to similar objections. While we are in favour of the provisions of such work in special cases, e.g., for the relief of the weaving community and for giving employment to persons in receipt of gratuitous relief who are able to work, we do not consider this class of work suitable for relief on a big scale.

42. Apart from road works the only works of public utility which seem at all suitable for the employment of famine labour are (1) village improvement works; and (2) works connected with the maintenance and improvement of irrigation sources. The objection to both is the difficulty of concentrating a large body of labour on one spot for a considerable time and necessity for employing a certain amount of skilled labour. Clearance of silt from channels is less open to these objections than any other form of work except road work, but unless a channel requiring clearance happens to be near the place where relief is required it is obviously of no value as a relief work. The work involved would also not last long enough to make it worthwhile holding out any inducement to labourers to come from any distance and settle on the spot.

43. This leads us to a very important consideration. In another part of the report we have expressed the hope that the Tungabhadra and other minor projects will very shortly be under construction and we have sketched out a programme of rural development which ought to absorb for a time at least all the labour, skilled and unskilled, which the Ceded districts can supply. When the programme is completed we trust that operations under the Famine Code will be things of the past. The question however arises whether if famine breaks out during the construction stage the Government will depart from the policy which they have pursued for many years and draft labourers in large numbers from the area affected to the construction site providing them with accommodation at the site. The main question for decision will be whether the existence of large-scale construction works capable of absorbing all the unskilled labour that may apply, at some distance from the area that may be affected by famine, will justify the Government in refusing to incur the additional expense of providing works on the charge system as an alternative.

The Macdonnell Commission, influenced no doubt by the unfortunate consequences of drafting 11,000 labourers from Hissar district to work on the Jhelum canal, was of opinion that the risks involved in drafting large bodies of men great distances away from their homes do not justify the attempts to draft them. We think however that as the construction works which we have in mind will be at no great distance from the famine area, the risks involved will not be great and we are of the opinion that it should be possible to deal with famine in the immediate future by employing (either as a task work or limited piecework system) most, if not all of those able to work on the irrigation and other works which elsewhere in the report we recommend for construction.

44. (i) *Section 172.*—Under the provisions of this section distressed weavers are “if possible” to be given special relief at their own craft. This form of relief has been successfully employed at three centres this year and we can imagine no circumstances in which it would be impossible to form such centres. We therefore recommend the deletion of the words “if possible.”

(ii) At the end of this chapter we desire to introduce three new sections which may be numbered as 192-C, 192-D and 192-E.

Proposed section 192-C.—“As soon as relief works are started or the test works are converted into relief works all liquor shops situated within ten miles from the work spot shall remain closed during the period of famine.”

Enquiries were instituted into the extent to which famine workers have been in the habit of visiting liquor shops in the famine area during the present famine, and it was found that very few did so. All the witnesses whom we examined on the point were however of the opinion that this source of temptation should be removed from the vicinity of relief works so that a wage which is given for maintenance should be used for that purpose alone. We share their opinion and recommend accordingly. We assume that famine workers will normally come from villages within five miles of the work-spot. The provision as it has been drafted will therefore mean that there will normally be no liquor shop open within five miles of a village which sends workers to a relief work.

Proposed section 192-D.—“As soon as relief works are started the Collector shall, in consultation with the District Educational Officer, arrange to have the local board schools, labour schools and aided schools in the locality shifted to the work-spots and provide necessary facilities for the education of the children fed in the kitchens. If no such schools are within the locality the Collector may make necessary arrangements to open temporary schools in the camps for the benefit of the children of the workers.”

The section is self-explanatory. It is in our opinion very necessary that the education of non-working children should not suffer. Some schools were successfully opened on works in Bellary district this year.

Proposed section 192-E.—“When accidents occur on test or relief works in the course of employment involving loss of life or serious injury causing disablement the workers involved in such accidents or their dependents if the workers do not survive shall be paid compensation as if they were workers or dependents entitled to compensation in accordance with the provisions of the Workmen's Compensation Act.”

There has been a number of accidents on relief works this year mostly due to workers unauthorisedly working pits in such a way that the sides slipped and engulfed them. The survivors of deceased workers have in most cases, we understand, received *ex gratia* payments from the Government. We understand also that the Government would have been liable as an employer under the Workmen's Compensation Act if these workers had been employed “on the construction of a road” and not on work “for the construction of a road.” A majority of the Committee desire to impose a legal obligation on the Government in the terms mentioned above. The minority is in favour of merely making a recommendation to the Government that they may treat such cases sympathetically and grant a liberal gratuity at their discretion.

We have considered the suggestions which the Government have put before us for the prevention of accidents. These are that a special gang should be employed to go round the area and find out dangerous quarries and fill them up and that a set of instructions should be issued and embodied in the Code for the guidance of officers. We consider that no special gang is necessary except for the work of blasting, which requires special training. For filling up pits, etc., the work can be done by the ordinary gang under the supervision of a maistri.

We are in favour of issuing instructions as proposed and would add that maistris should be given training in first aid and supplied with first aid equipment.

CHAPTER XIII.

45. (i) *Section 199 (a).*—The last sentence of this sub-section allowing for the enlistment of pensioned officers of the warrant and L.M.P. classes is out of date. It should be deleted and the following inserted instead “Pensioned Medical officers and rural medical practitioners may be enlisted and should this supply prove inadequate private registered medical practitioners may be employed part-time.” We prefer to leave the question of the duties on which private registered medical practitioners may be employed open. For this reason we have removed the reference to attendance on the sick at night.

(ii) *Section 201 (c)*.—We understand that there is sometimes delay in distributing medicines, etc., to famine camp hospitals as there is no permanent reserve stock for the purpose at district headquarters. If the District Medical Officer indents on the Surgeon-General as soon as test works are opened he ought not to find any difficulty in equipping camp hospitals. This clause may be redrafted as follows:—

“He shall keep his subordinates supplied with medicines, instruments and appliances for the treatment of the sick in the famine hospitals by indenting for them as soon as the test works are opened.”

(iii) *Section 203 (c)*.—After “weakly persons” in this sub-section the words “and pregnant women” may be added and the word “and” before weakly persons may be deleted.

(iv) *Section 203 (d)*.—The word “communicable” instead of “infectious and contagious” is, we understand, generally employed to cover a slightly wider field. We recommend the substitution.

(v) *Section 203 (f)*.—Cases of scurvy are now extremely rare. Reference to the distribution of anti-scorbutics is therefore unnecessary. The words “and anti-scorbutics on the appearance of scurvy” may therefore be deleted from the sub-section.

CHAPTER XV.

46. *Sections 250 and 257*.—The words “salaries and allowances of gazetted officers and” are inappropriate in these sections and may be deleted.

APPENDICES.

47. (i) *Appendix C-XXII (1)*.—The duties of the Director of Public Health do not seem to be defined in sufficiently wide terms. At the end of sub-paragraph (i) the following may be added:—“(3) such other features as may affect the health of the workers.”

(ii) *Appendix D, paragraph 18*.—There was some difficulty in carrying out the tests on water prescribed in the section owing to the lack of apparatus. It is therefore necessary to add at the end of the paragraph “Each camp will be supplied with a set of the Horrocks Water Testing Apparatus for the purpose of carrying out the test.”

(iii) *Appendix D-VI, paragraph 22*.—After the word “case” we suggest the addition of the sentence “two stretchers should be provided for each hospital.”

(iv) *Appendix D, paragraph 34*.—Some of the witnesses who appeared before us thought that the hours of work in the middle of the hot weather were rather too long. We would give the Collector discretion to extend the rest hour by one hour and reduce the task accordingly.

(v) Another complaint prominently brought to our notice is the absence of a distance allowance for workers who come to the task after walking a long distance. Though in section 78 it is clearly stated that no public work shall be expected to serve people living beyond a radius of five miles from the work-spot we found that in many of the camps there were workers coming from a much greater distance and returning to their villages at night. This might have been avoided if it had been possible to open village works, but we fear that in the black-soil tracts especially, village works are difficult to find and the public work must continue to be “the backbone of the relief system.” It is also clear that it will not always be possible to have a public work to serve the villages within a radius of five miles, and we cannot prevent people near the end of their resources walking much greater distances to obtain employment. The question of a reduction in the task for workers who come from a distance has been considered more than once. The Lyall Commission observed that it would hardly be practical to introduce different scales of wages varying with the distance from which people might come to the works. The Macdonnell Commission recorded the failure of an attempt in one district in Behar to adjust tasks on large works according to the distance travelled by the individual. The Macmichael Committee considered that “distance allowances are liable to abuse and difficult to work in practice.” We revive the proposal now owing to the failure which we have recorded to approach the Code standard of a public work for villages within a radius of five miles. While we make no definite recommendation as to the method of calculating the allowance we do not think that any insuperable difficulty will be found in reducing the standard tasks by a certain number of cubic feet for every mile walked beyond five.

(vi) We think that work should be stopped at a fixed hour somewhat before sunset to allow workers who come from a distance to return to their villages in daylight. The following addition to paragraph 34 is suggested :—

“ The Collector may during the summer months extend the rest period by not more than one hour making corresponding reduction in the task allotted. To enable workers coming from a distance exceeding five miles to complete the task and earn full wages, a distant allowance in the shape of reduction in the task shall be granted. As far as possible workers coming from a distance exceeding five miles shall be constituted into separate gangs and given work nearer their villages and thereby the distance allowance reduced. In calculating the distance the work-spot shall be the starting point.

Work shall be ordinarily stopped at 5-30 p.m. Stoppage of work earlier even if the task has been completed shall not be permitted.”

(vii) *Appendix D, paragraph 68, table XI.*—We have carefully examined the important question of the ability of workers on relief works to complete the task in normal conditions and are satisfied that generally no difficulty should arise if the provisions of the Code are strictly followed. We wish, however, to draw the attention of the Government to the fact that on the Moka-Gulyam and Hebbatam relief works this year exceptionally long leads were provided involving a walk of 15 miles for carriers if the full task was to be completed. While we realize that if a rigid rule limiting the length of leads were to be made this might lead to difficulty in opening a work in a place where a work is necessary, we think it desirable that Collectors should be instructed to take great care in selecting the site for works and to avoid long leads wherever possible.

(viii) *Appendix D-XV.*—The present system of wage distribution is admittedly defective in that it depends entirely on the proper maintenance of muster rolls. In spite of the duty laid on the charge officer and all inspecting officers to check these rolls we have been informed that the practice of adding the names of fictitious persons is not uncommon as the result of connivance between the maistri and the headman who of course share in the profits of the transaction. We recommend the investigation of a ticket system, the tickets to be distributed to the actual workers and to be cashed daily at the work-spot by sub-cashiers.

(ix) *Appendix D, paragraph 95.*—Our attention has been drawn to the existence of a certain amount of frictions between charge officers and work agents on subjects which the latter choose to consider strictly professional. In order to prevent the work agent going behind the back of the charge officers and to allow him to express his point of view we consider that all communications from the work agent to superior officers should pass through the charge officer. We suggest the insertion of a note to this effect at the end of paragraph 95.

(x) *Appendix D, paragraph 97 (v).*—Some additions are required to the summary of the duties of the medical officer attached to a work in order to give effect to our proposals under various sections of the report.

We suggest that the words “ or who should be allowed to absent themselves from work owing to illness ” should be added to sub-clause V (a) and that the following new sub-clauses are necessary :—

“ (f) for removing women in advanced stage of pregnancy for action under section 132; ”

“ (g) for removing all persons who from age or physical infirmity are incapable of working; ”

“ (h) for permitting absence from work of all persons whose attendance on the sick or on infant children in their homes is absolutely necessary; ”

“ (i) for removing children from the work who should not have been admitted.”

(xi) *Appendix G, paragraph 7.*—There is at present no one specially deputed to look after children on relief works. We suggest that a maistri may be specially appointed to bring children to the kitchens, mark their attendance and attend to their admission to the dining sheds.

(xii) *Appendix M.*—Our attention has been drawn to a scheme outlined by the Famine Commissioner to retain a stock of one hundred tons of hill grass at Bellary which would be sold annually or biennially in the open market and replaced. The idea is to have a stock which would be quickly available for distribution in the first week or two of a fodder famine before the officer placed on special duty is able to organize supplies. We approve of this suggestion and recommend it for the acceptance of the Government.

48. One of the questions on which we have been specially asked to report is the possibility of reducing expenditure on famine establishments. We accordingly raised this point in the questionnaire which we issued and we have given it and the representations which we received our careful consideration. The majority of those who replied were of opinion that no reduction in the cost of establishment was possible.

The suggestions of the others may be summarized as follows:—

- (1) Much more use should be made of the provisions of the Code relating to village works which could be run by managers or work agents under the control of the Revenue Department. Resort should be had to the Public Works Department only in exceptional circumstances.
- (2) The dual control by officers of the Revenue and Public Works Departments is unnecessarily costly. The entire management of famine relief works should be with the Public Works Department.
- (3) The control of relief works should in general be entrusted to a class of official drawing lower pay.
- (4) The adoption of the piecework system would be less costly.
- (5) The use of non-official agencies such as village panchayats to take over part of the duties now performed by paid officials should be tried.

We have examined these suggestions on their merits but do not see our way to recommend that any of them should be followed up. As indicated elsewhere in this report we are far from being opposed to the use of famine labour on village works but when as in the present year about 100,000 workers and dependents sought relief over an area of over 3,000 square miles it is obvious that they must be grouped and relieved in larger and less scattered units than can be organized for village works. When distress is at all severe and a large area is affected we see no alternative to the charge system unless it is possible to draft workers to some large work of public utility in or near the affected area, a subject on which we have already given our views.

We agree that the system of dual control has its disadvantages both as regards the cost involved and the friction that inevitably occurs when members of one department are put wholly or partially under the control of another. But we find it impossible to recommend that either the Revenue or the Public Works Department should be wholly divorced from the management of famine relief. The Collector as administrative head of the district must continue to carry the main responsibility for the working of a system on the efficiency of which the welfare of a very large number of persons depends. For the smooth running of this system he must rely mainly on his own subordinates whom he can control and if necessary punish. The Public Works Department, on the other hand, furnishes the essential technical knowledge without which it would be impossible to fix tasks or turn out work that will be of some value to the State. We are therefore of the same opinion as the Lyall Commission that "famine relief is an emergency of varying intensity but in every case it absolutely requires the co-operation of the officers of the Revenue and Public Works Departments, departments which are accustomed to work separately."

We are entirely opposed to any reduction in the grade of officers in immediate control of famine works. The work is difficult, arduous, and in many ways unattractive, and it requires qualities of initiative and tact such as officers who have been selected for executive as opposed to purely clerical duties may be presumed to possess. We invite attention to the remarks of the Macdonnell Commission in paragraph 71 of that report with which we entirely concur. In this connexion we note with regret that the statutory rules do not permit an officer who has started probation either as Deputy Tahsildar or as Tahsildar to count his service as charge officer towards his probation in these posts. We are strongly of opinion that the rules should be amended in the interests of famine administration. Successful service as a charge officer will be an indication that the officer possesses administrative capacity above the ordinary, and the knowledge that such service is being counted towards the probation will naturally be a spur to an ambitious man to give his best.

We do not understand in what way the limited piecework system as described in section 113 and Appendix D-XIII of the Code is expected to reduce expenditure on establishment, but in any case we see no reason to differ from the statement in paragraph 71 of Appendix D that it is not suited to the relief of severe distress. We consider that a non-official agency is entirely unsuitable for the management of famine relief works as it would not itself be subject to adequate control by the Famine Commissioner or the Government. We have no figures to enable us to compare cost of the staff with the total

cost of relief given during the present famine but we observe that during the famine of 1935 the cost of the staff in Anantapur district worked out to 6·9 per cent of the total cost and in Bellary district where the total cost was much less to 8·2 per cent of the total cost.

These overhead charges cannot be considered very high. Our final conclusion is that no reduction in the cost of establishment is desirable.

49. The task entrusted to the Committee to suggest ways and means to prevent or mitigate distress caused in a tract subject to frequent failure of rains was by no means an easy one. Within the time at its disposal, the Committee has spared no efforts to collect material on and deal with all subjects likely to rehabilitate the people in the famine zone. During the greater part of its deliberations, it enjoyed the advantage of having as its Chairman, Mr. C. A. Henderson, C.S.I., V.D., I.C.S., whose intimate knowledge of the tract, his active and sympathetic interest in the various problems relating to it and above all his genial presence were of great assistance. The Committee places on record its deep appreciation of his work both as the Famine Commissioner and the Chairman of the Committee.

50. Mr. D. I. R. Muir, I.C.S., Joint Secretary to the Board of Revenue, was also the Secretary of the Committee. In addition to his normal official duties, he had to work at very high pressure at every stage of our enquiry. He has unreservedly placed at our disposal his intimate knowledge of the tract, where he served as a Settlement Officer and his thorough grasp of the details of famine administration. The task of gathering material of varied kinds and from various departments of Government, of arranging matter and drafting, mainly devolved on him. He has done all this work with great promptitude and has always answered demands for information with every consideration. The Committee is therefore glad to place on record their appreciation of his services and those of his staff.

51. The Committee desires to express its thanks to the large number of officials and non-officials who sent their written evidence and to those who offered themselves for oral examination.

52. Before concluding, the Members of the Committee wish to impress on the Government the need for taking early action on the various recommendations of the Committee. Fortunately the seasonal conditions this year are normal. But there is no knowing when the calamity of the kind through which the tract passed last year may recur again. To be fore-warned is fore-armed. Procrastination will spell disaster bringing untold misery to a large population. The Committee feels its labours will have been amply repaid if its recommendations receive the prompt and favourable consideration of Government.

(Signed) T. A. RAMALINGAM CHETTIAR.

(„) F. M. DOWLEY.

(„) N. SWAMINATHA IYER.

(„) R. ADISESHAN.

(„) L. B. GREEN.

(„) D. ABDUL RAWOOF.

(„) H. SITARAMA REDDY.

(„) N. SANKARA REDDY.

(„) KALLUR SUBBA RAO.

(„) H. R. DOGRA.

(„) R. SURYANARAYANA RAO.

(„) K. KOTTI REDDI. *

53. When owing to exigencies of public service the Committee was suddenly deprived of Mr. Henderson's assistance, the Committee was fortunate enough to secure as its Chairman, Sri T. A. Ramalingam Chettiyar, M.L.C., whose long and varied experience in public life especially as a legislator, his wide knowledge of the problems confronting the Committee and his assiduous labours were largely responsible for the quick deliberations

* A note by this member is attached.

and the drafting of the report in such a short time. Sri Chettiyar is mainly responsible for suggesting ways and means for arriving at the largest measure of common agreement. The Committee feels greatly indebted to him.

(Signed) F. M. DOWLEY.
 (") R. ADISESHAN.
 (") N. SWAMINATHA IYER.
 (") L. B. GREEN.
 (") D. ABDUL RAWOOF.
 (") H. SITARAMA REDDY.
 (") N. SANKARA REDDY.
 (") KALLUR SUBBA RAO.
 (") H. R. DOGRA.
 (") R. SURYANARAYANA RAO.
 (") K. KOTI REDDI.

NOTE.

As I could not attend the meeting of the Committee when the final report was approved, though I agree with the recommendations made therein, I am adding a note in order to give expression to my views with regard to some recommendations made.

There is very little doubt, about the suitability of the black-cotton soils for irrigation wet or dry and I hope that any doubts, if any, will not prevent the Government from undertaking the construction of the Tungabhadra project at the earliest possible time. Even, if any genuine doubts are entertained by any one with regard to the reaction of Tungabhadra water on black-cotton soils, there are some considerations which show that the Government is not taking any risk in undertaking this project: (1) The area commanded by the original Tungabhadra scheme is vast consisting of both black and red soils. It is only on account of the limited quantity of water now available, that the scope of the present scheme has been confined to a smaller area, almost black-cotton soil, mainly in Bellary and Kurnool districts and if, at any moment, it is found that that area is not suitable for irrigation, the waters could be diverted to other areas which are admittedly suitable for irrigation, viz., red soils in Anantapur and Cuddapah districts. The dam and the main canal for about 130 miles (and it is the upper portion of this canal which is very costly) can be used for the above purpose and cannot therefore be considered a waste. (2) In any case, the construction of the dam at Mallapuram can never be a waste as the waters impounded therein, if can't be used or not used for black-cotton soils, can be taken up into the Kurnool-Cuddapah canal which can be widened and let into Kunderu and Penner and used for red soils commanded by those rivers and the Kurnool-Cuddapah canal. (3) If ever black-cotton soils prove to be unsuitable for irrigation, it will, I believe, be due to the defective method of irrigation now in use, viz., flow irrigation. If some method of applying water to the crops from above the ground is devised and is practicable, the difficulty involved, if any, in irrigating black-cotton soils is solved. I learn that in England and America, a system of supplying water to the growing crops in the fields by means of revolving sprinklers in portable pipes laid in the fields through which water is led or pumped, is now being gradually used. It is known as "rain maker" or "overhead" irrigation. I have no idea as to the cost of this method of irrigation and provided it is financially feasible, I have no doubt that it is the ideal method of dry irrigation specially suitable for black-cotton soils which yield excellent crops provided there is neither too much nor too little water used. As many of the fields in the black-cotton area of the Bellary district are very undulating and require a lot of levelling involving great cost before flow irrigation can be applied to them; it is of great importance to find out the cost of applying water by this method, as apart from other advantages such as economic use of water, no loss of soil fertility, keeping foliage fresh and clean, etc., no levelling of the fields is necessary, if this method is used and I have no hesitation in impressing on the Government the urgent necessity for investigating into the feasibility of this method of irrigation.

In view of the fact that from the scope of the present Tungabhadra project, large areas in the Rayalaseema, which were originally intended to be benefited by that project are excluded, Government should make fresh and vigorous efforts to take up the great Sangameswaram project to utilize the waters of the Kistna river. The scheme not only affords protection to areas liable to famine but would bring under irrigation large tracts of country in the Ceded districts and Nellore, affording employment to many and affording

ample scope for colonization for people from areas in the Ceded districts, which are not and cannot be served by any irrigation scheme big or small. By adverting to Sangameswaram project, it ought not to be understood that I am in any way belittling either the importance or urgency of the Tungabhadra project. Tungabhadra project serves an area most liable to famine and must be completed without any delay and, if preference is necessary, preference must be given to it over all others. But I see no conflict. Most, if not all the irrigation projects big and small which are either kept pending for further investigation or given up as unremunerative, are remunerative from my point of view involving no loss to the country because I believe that all irrigation projects are remunerative where the annual value of *increased* produce resulting from such projects, is at least equal to the interest on the capital spent on them and the maintenance charges. The Sangameswaram project satisfies this test easily and at a time when the credit of the Province stands high and money can be obtained in plenty and at a low rate of interest, every effort should be made for constructing great works of public utility, especially irrigation works which create wealth and I therefore recommend that the Government should spare no effort in concentrating on the construction of Sangameswaram project also without any avoidable delay, along with Tungabhadra and other irrigation projects, big and small.

It is not enough that the Forest department is entrusted with the task of regenerating forest areas now denuded. The ryots also must be encouraged to grow trees in their fields. There are in the Ceded districts vast areas consisting of gravelly red soils where very little crop is grown in the best of seasons and nothing when rains fail. Such areas could be made to yield some income if trees are planted. Margosa tree grows anywhere and requires little water. It is a very useful tree. So also tamarind trees. "Ragi" or "Aswatham" trees whose tender leaves can be used as fodder for cattle, can also be grown. Babul tree, either black or white, is another useful tree, which grows anywhere. There must be some immediate inducement to the ryots to grow them in their fields. A partial, if not, a full remission or at least suspension of revenue on the fields where the ryots plant trees, till at least the plantation begins to yield some income will go a long way to induce them to take to tree planting. Extensive growth of trees by the ryots, will not only supply, at least partially, them with the agricultural implements and building material they need but will also add considerably to their manurial resources and thus relieve, at least partially, the pressure on the Government forest reserves which they cannot at present bear. In view of the possibility of utilizing charcoal (and even wood) fuel for motor transport, tree planting by the ryots should be encouraged by the State in all possible ways in order to supplement their poor income.

A word with regard to hand-spinning. I see no difficulty why hand-spinning cannot be adopted for famine-relief work on a big scale, at least amongst women. In the tract usually affected by famine, hand-spinning was very common and even now it is in use to some extent. Elderly ladies know the art and there won't be any difficulty in their taking to it if need arises. Those who are not used to it can, in a fortnight, learn to spin rough yarn that can be used for weaving towels and duppatis and after an experience of about two months, they can learn to spin yarn of such quality as is useful for shirting cloth and dhotis. For old women and nursing mothers, no better form of famine-relief work can be thought of. There may be some difficulty in finding a market for the hand-spun and hand-woven goods at the present rates. This difficulty can be overcome either by supplying it to Government servants to whom dress is now supplied free or utilized in hospitals or by selling it in the open market at prices that can compete with the mill-made cloth. As admittedly, the other forms of famine-relief work are also costly, the State will not be the worse for it by reducing the cost of the cloth so produced. I believe that this form of relief work will be less costly to the State. No highly technical knowledge is necessary to organize and supervise this form of work and I am sure non-official help could be secured for this work, thus reducing the cost of administering relief. One obvious advantage in providing this form of relief work will be that the habit of spinning acquired during the famine operations is very likely to be kept up afterwards with the result that the poor agriculturist will have an additional income, which will go some way to mitigate famine.

I am of opinion that workers should be paid for the rest day not the dependants' allowance as provided in section 135 of the Famine Code but the wages that the worker received during the last day he worked previous to the rest day.

I am also of opinion that provision should be made to supply buttermilk to children fed at kitchens.

K. KOTI REDDI.



**REPORT OF THE
MADRAS FAMINE CODE REVISION
COMMITTEE, 1938**

VOLUME II—APPENDICES

**MADRAS
PRINTED BY THE SUPERINTENDENT
GOVERNMENT PRESS
1940**

Price, Rs. 2-8-0

CONTENTS

Appendix number.	Subject.	PAGE
I	G.O. No. 1137, Revenue, dated 2nd May 1938	1
II	Note for the use of the members of the Committee (without appendices) ..	3
III	Minutes of the meeting held on 25th May 1938	9
IV	Questions on which the opinion of witnesses is invited	11
V	Agenda for the meeting on 6th June 1938	13
VI	Minutes of the meeting held on 6th June 1938	14
VII	Do. 10th June 1938	15
VIII	Do. 13th June 1938	16
IX	Precis of the written replies to the questionnaire	19
X	The written and oral evidence of the witnesses examined.—	
	(1) Mr. E. C. Wood, Collector of Malabar	91
	(2) Sri Diwan Bahadur V. N. Viswanatha Rao, Collector of Tanjore ..	96
	(3) Mr. T. Bhaskara Rao, Collector of Kistna	109
	(4) Mr. A. A. Smyth, Executive Engineer, Salem	116
	(5) Dr. R. Passmore, Nutrition Expert	127
	(6) Mr. C. C. Wilson, Chief Conservator of Forests	131
	(7) Sri K. R. Rajagopalan, Assistant Engineer, Borewells	139
	(8) Mr. F. W. Stewart, Member, Board of Revenue	141
	(9) Javad Hussain Sahib Bahadur, Collector of Madras	147
	(10) Mr. V. N. Kudva, Collector of Ramnad	152
	(11) Sri C. Vijayaraghavan, Superintendent, Dry Farming Station, Hagari.	165
	(12) Mr. J. W. Pritchard, Collector of Bellary	178
	(13) Sri B. Bhima Rao, B.A., B.L., M.L.C., Advocate, Bellary	186
	(14) Sri V. M. Giri, Secretary, District Congress Committee, Bellary ..	194
	(15) Mr. S. J. Balraj, Executive Engineer, Famine Division, Bellary ..	204
	(16) Sri N. Mrityanjaya Sastri, Secretary, District Famine Relief Com- mittee, Bellary	220
	(17) Sri C. H. Ranga Rao, Supervisor of Industries, Bellary	230
	(18) Janab M. Amanuddin Sahib Bahadur, Charge Officer, Hebbatam ..	233
	(19) Sri Y. S. Anantarajayya, Tahsildar, Bellary	238
	(20) Mr. K. M. Unnithan, Collector of Anantapur	246
	(21) Sri S. Rajagopala Ayyangar, Revenue Divisional Officer, Gooty ..	255
	(22) Sri C. Gopalam, Senior Work Agent, Dhanapuram	264
	(23) Major E. M. Sewell, I.M.S., District Medical Officer, Bellary ..	269
	(24) Sri P. H. Rama Reddi, Director of Agriculture	271
	(25) Sri M. Bhimasena Rao, President, Bellary Andhra District Congress Committee, Adoni	281
	(26) Sri K. Alagiri Rao, Subdivisional Officer, Famine Subdivision, Anantapur	294
	(27) Sri K. S. Raghavacharlu, B.A., L.L.B., Government Pleader and Treasurer, Rayalaseema Famine Relief Central Committee, Anantapur.	304
	(28) Sri M. Narayana Rao, B.A., B.L., M.L.C., Pleader, Anantapur ..	305
XI	A note on the economic resources and cottage industries of the Ceded districts and their possibilities of development by Mr. L. B. Green, Director of Industries	313
XII	Minutes of the meetings held from 15th to 19th October 1938	342
XIII	Do. on 11th and 12th November 1938	352

REPORT OF THE MADRAS FAMINE CODE REVISION COMMITTEE, 1938.

VOLUME II—APPENDICES

APPENDIX I

G.O. No. 1137, REVENUE, DATED 2ND MAY 1938.

FAMINE CODE REVISION COMMITTEE—APPOINTMENT.

In the course of his reply to the debate on the famine demand in the Legislative Assembly on the 28th March 1938, the Hon'ble the Minister for Revenue indicated that the question of revising the Famine Code would be taken up by the Government. The Government have since considered the matter carefully and have decided that a Committee of officials and non-officials should be appointed to examine the question.

2. The Committee will consist of the following gentlemen :—

- (1) Mr. C. A. Henderson, O.S.I., V.D., I.C.S., Famine Commissioner (*Chairman*).
- (2) „ F. M. Dowley, M.I.C.E., Chief Engineer, Public Works Department (Irrigation).
- (3) „ H. R. Dogra, B.Sc., Chief Engineer, Public Works Department (General, Buildings and Roads).
- (4) The Director of Public Health.
- (5) Mr. L. B. Green, M.B.E., Director of Industries.
- (6) M.R.Ry. T. A. Ramalinga Chettiyar Avargal, M.L.C., Coimbatore.
- (7) „ N. Sankara Reddi Garu, M.L.C., President, District Board, Kurnool.
- (8) Abdul Rawoof Sahib Bahadur, M.L.A., Bellary.
- (9) M.R.Ry. K. Koti Reddi Garu, M.L.A., Cuddapah.
- (10) „ H. Sitarama Reddi Garu, M.L.A., Bellary.
- (11) „ Kallur Subba Rao Garu, M.L.A., Anantapur.
- (12) „ R. Suryanarayana Rao Avargal, Servants of India Society.
- (13) „ Diwan Bahadur N. Swaminatha Ayyar Avargal, retired Chief Engineer, Public Works Department, Tanjore.

The Joint Secretary, Board of Revenue, will be the Secretary to the Committee.

3. The terms of reference will be as follows :—

- (1) To investigate and suggest measures designed to prevent and mitigate famines and to protect the population of those areas of the Presidency which are at present liable to frequent failures of monsoons ;
- (2) to examine and make recommendations for revision of the Famine Code, with special reference to—
 - (a) the purposes of famine operations and the principle of famine relief ;
 - (b) the scale of wages and allowances and the diet scale ;
 - (c) the size and nature of the task in famine works ;
 - (d) the possibility of providing famine relief by works of more appreciable benefit to the community than stone-breaking, e.g., irrigation works of suitable size ;
 - (e) the provisions which require the expansion of the ordinary programme as a normal preliminary to the period of test and observation ; and
 - (f) the possibility of reducing expenditure on famine establishments.

4. The Government desire that the Committee should start its work as soon as possible and that it should visit the areas at present affected by famine in the districts of Bellary, Anantapur and Kurnool in order to take evidence on the spot and to obtain first-hand knowledge of famine conditions in practice. The Government trust that the Committee will be able to submit its report within three months.

5. A copy of the Hon'ble the Minister's reply to the debate on the Famine demand is forwarded to the members of the Committee for information.

6. The official members of the Committee will draw the travelling allowance admissible to them under the rules. Non-official members of the Committee will draw allowances as follows while travelling for the purpose of attending the meetings of the Committee :—

- | | |
|--|--|
| (1) Those who are members of the Madras Legislature and who have relinquished the whole of their salary as such. | Travelling and daily allowances at the rates prescribed in rule 7 (2) of the Madras Legislature Travelling Allowance Rules. |
| (2) Those who have not relinquished the whole of their salary as members of the Madras Legislature. | One second-class and one third-class fare for journeys by railway, mileage at four annas a mile for journeys by road and daily allowance for halts at Rs. 2-8-0. |
| (3) Those who are not members of the Madras Legislature. | One first-class and one third-class fare for journeys by railway, mileage at eight annas a mile for journeys by road and daily allowance at Rs. 6. |

7. The charge will be debited to "25. General Administration—Heads of Provinces, Ministers, etc.—Secretariat and Headquarters Establishment—J. Civil Secretariats—C. Revenue Department." The Board of Revenue is requested to report what the probable cost will be and to state whether the expenditure can be met by reappropriation.

(By order of His Excellency the Governor)

B. G. HOLDSWORTH,
Secretary to Government.

To the Board of Revenue.
 „ Accountant-General (through Finance Department).
 „ Finance Department.
 „ Public Works Department.
 „ Local Administration Department.
 „ Education and Public Health Department.
 „ Development Department.
 „ Members of the Committee (with copy of Hon'ble Minister's reply to Famine debate).

Press (paragraphs 1 to 4 only).

APPENDIX II

NOTE FOR THE USE OF THE MEMBERS OF THE COMMITTEE
(WITHOUT APPENDICES).

The following note on the points raised in the terms of reference to the Committee constituted by the Government is circulated for the use of the members.

An attempt is being made to obtain for Members' use as many copies of the three Famine Commission's reports (the Strachey, Lyall and Macdonnell Commissions) as are available in Madras. Members will probably have to arrange to read these and pass them on. A similar arrangement will be made in respect of other papers of which a free supply cannot be obtained.

2. The Committee has been asked to examine and make recommendations for the revision of the Famine Code. The Code as it stands to-day is the result of experience gained in dealing with several disastrous famines affecting the greater part of India during the second half of last century, notably the famines of 1876-77, 1896-97 and 1899-1900. Each of these famines was followed by a Commission which toured the area that had been affected, heard evidence and went minutely into every detail of famine administration. Almost all the important provisions of the Code are thus based upon the recommendation of one or other of these Commissions. The history of the evolution of the Code (including the Madras Edition) up to 1896 is traced in paragraph 74 on page 43 of the Report of the Famine Commission of 1898. The orders of the Government of India on the recommendations of this Commission were passed in March 1900 and arrangements for the revision of the Code in accordance with these orders were ordered to be made in May 1900. Meanwhile the Famine Commission of 1901 was appointed and the orders on the recommendation of this Commission were received in March 1903. The final revision of the Code was entrusted to Messrs. Elwin and Morin and the revised Code was issued in 1905. There was a reprint of the Code in 1914 embodying the corrections issued up to date. The present edition issued in 1927 is also a reprint embodying the correction slips issued till then. It may be as well to point out that though the Famine Codes were publications of the Local Governments they differed only in detail as all the important provisions were based on orders passed by the Government of India on the recommendations of the three Famine Commissions. The Lyall Commission considered but rejected a suggestion that it was impossible to lay down principles of famine administration that would be equally applicable to all the Provinces of British India. It was partly in order to meet this criticism that the Lyall Commission recommended that the Local Government or the Famine Commissioner should be empowered to vary the wages in the Code 25 per cent either way.

The Government of India accepted the principle of an All-India Code or rather of Provincial Codes with a core of common principle differing only with reference to the administrative machinery of each Province. Consequently the Madras Code was revised in accordance with the recommendations of the Macdonnell Commission even though this Commission did not visit Madras and though its recommendations were based on its study of famine relief administration in other Provinces. The 1899-1900 famine barely touched Madras and the Commission relied on Sir Frederick Nicholson who was one of its members for their knowledge of Madras conditions. This point is stressed in paragraph 5 of the Report of the MacMichael Committee.

Up to 1919 therefore it would not have been open to a Provincial Government to amend its Famine Code on a matter of principle without reference to the Government of India. As a result of the Government of India Act of that year Provincial Governments have now complete freedom in that respect.

3. The first of the terms of reference to the Committee is to investigate and suggest measures designed to prevent and mitigate famines and to protect the population of those areas in the Presidency which are at present liable to frequent failures of the monsoon. It is therefore first of all necessary to specify the area to which the Commission's recommendations will relate. A statement showing the parts of the Presidency affected by famine from the earliest years for which information is available up to date is appended (Appendix I). This statement indicates that the famines of the last century were more widespread than those of the present and that the tracts now liable to famines lie in the districts of Bellary, Anantapur, Kurnool and Chittoor. Although it is of course possible for the monsoons to fail anywhere in the Province and in consequence a total or partial loss of crop to occur, it seems clear that this is likely to happen so rarely in tracts outside the districts named that the Committee need not consider the possibility in any great detail. Outside the Ceded districts there is far greater resisting capacity and greater reserves.

So long as a failure of the crops does not result in a sharp rise in the prices of food-grains, there seems no reason to apprehend serious famine conditions outside the Ceded districts. Famine has not been attended by a rise in prices in this Province for many years. Whether a failure of the monsoon all over India such as occurred in 1896-97 would seriously shorten stocks and raise prices and in consequence produce famine conditions over a wider area is a point with which the Committee need perhaps hardly concern itself.

It will be observed that there have been no operations under the Code in Cuddapah district since 1900-01. During the 37 years that have elapsed since 1901, 17 taluks in the Ceded districts have been the scene of famine relief works, Bellary five times, Alur, Siruguppa and Gooty four times, Penukonda, Hindupur and Rayadrug three times, Adoni, Pattikonda, Dharmavaram and Tadpatri twice and Kurnool, Nandikotkur, Dhone, Madakasira, Anantapur and Hospet once. This suggests that the black-soil tracts of Bellary, Alur and Gooty is the storm centre.

Paragraphs 32 and 103 of the Report of the Famine Commission of 1880 summarize the causes of famines in India. Measures that will prevent or mitigate famine will obviously be either—

- (1) measures that will render the whole or part of the tract affected independent of the vagaries of the monsoon, save crops and provide employment for agricultural labourers, or
- (2) measures that will provide agricultural labourers and small agriculturists with alternative or supplementary sources of employment.

If it is considered, agreeing with the Strachey Commission, that the root of the problem is the existence of an agricultural population so large that it devours all the surplus of agriculture, the object should be to suggest alternative means of employment. If this is considered undesirable or impracticable sufficiently attractive and remunerative supplementary sources of income will have to be suggested.

Under (1) the possible lines of preventing or mitigating famine may be classified as follows:—

(a) Irrigation—

- (i) Major.
- (ii) Minor.
- (iii) Wells.

(b) Agricultural practice—

- (i) Contour-bund forming.
- (ii) Any other dry farming device.

(c) Afforestation.

(a) (i) *Irrigation—Major.*—The Tungabhadra Project is the largest project under investigation and has yet to materialize. As at present designed it will not command some of the parts badly affected by the present famine, viz., the middle of Alur taluk of Bellary district and the Gooty main and Tadpatri taluks of the Anantapur district. A map showing the location of all the test and relief works now open will be before the Committee at its preliminary meeting. This may be compared with the ayacut of the project as at present designed which will also be available for Members' study. Attention is in this connexion invited to pages 58-70 of Mr. Clerk's report of 1902 about the irrigation history and possibilities of the districts in question, to the Report of the Ceded Districts Irrigation Committee and the orders of the Government detailing the action taken thereon.

(a) (ii) and (iii) *Minor irrigation works and wells.*—A statement showing the number of minor irrigation tanks and wells in the five districts (Bellary, Anantapur, Kurnool, Cuddapah and Chittoor) as given in the several statistical atlases and another showing the area irrigated under the minor irrigation sources in charge of the Revenue and Public Works Department are enclosed (Appendices II and III). There is a general indication that the extent under irrigation tends to decrease. The minor irrigation sources as well as the supplies in the wells and other private sources depend on rainfall and if the monsoon fails they fail with it.

Perusal is in this connexion invited of the report of Mr. Clerk on well irrigation at the end of his report and Chapter VII of the Report of the Indian Irrigation Commission dealing with artesian wells.

The Press Communiqués recently issued by the Government on the results of the boring operations are appended (Appendix IV). Mr. Bellefontaine, water diviner, sank six bore wells in six villages in Bellary district, five of which were in black-cotton soil. The water was fair in one case, drinkable though brackish in another and too brackish to be of any use in the rest. The report of the Department of Industries on the boring operations is appended (Appendix V). Water that may be found underlying the

black cotton soil is usually brackish, non-potable and probably deleterious to crops. In Cuddapah, however, there has been a successful boring recently.

(b) (i) *Contour-bund forming*.—The Villagers' Calendar for 1938 issued by the Agricultural department contains a report of the results of bund formation. The Director of Agriculture reported favourably on it though he considered it unsuitable for famine labour. A copy of his report is appended (Appendix VI). The material objection is the effect which the extensive bunding of the country will have on the supplies to the irrigation sources.

(b) (ii) *Any other dry farming device*.—The Agricultural department has an experimental farm at Hagari and another at Nandyal. A report on these farms will be found in the Villagers' Calendar referred to (pages 29–31).

(c) *Afforestation*.—It is understood that the Chief Conservator of Forests is quite optimistic about the possibility of (1) afforestation with *Cassia siamea* which provides good green leaf manure especially on stream margins (supply channels of minor irrigation sources) and (2) extension of cultivation of *auriculata* (tangedu or avaram) provided that in the latter case its use for green manure is prohibited. He is also in favour of cashew for dry leaf manure and tamarind which will stand black cotton soil.

(2) *Alternative or subsidiary sources of employment*—(1) *Large scale industry*.—No large scale industry has been established in the Ceded districts. The reasons presumably are: (1) the absence of power, and (2) the absence of sufficiently extensive or steady supply of raw materials. There are small mineral deposits scattered throughout the districts but it seems obvious that if they had been worth exploiting on a commercial scale that could have been done long ago. The Director of Industries will, if the Committee so desire, be asked to circulate a note on the possibilities.

(2) *Cottage industries*.—Attention is invited to the relevant passages in the report of Special Officer. The Committee will have to explore all the possibilities. The main difficulty would appear to be the question of marketing the unwanted products, and the extent to which the Government can legitimately stimulate the demand by means of a subsidy.

A suggestion has been made that sparked water has immense potentialities and it is understood that an officer of the Agricultural department has been deputed by the Government to study the subject in Mainpuri district (the United Provinces). The Committee will keep in touch with the Director of Agriculture.

4. The points referred to in the second of the terms of reference are dealt with below.

(a) *Purpose of famine operations and principles of famine relief*.—These have been indicated in clear and unambiguous terms in the reports of the three Famine Commissions. Perhaps the earliest pronouncement on the subject is to be found in the instructions to Sir R. Temple, referred to in paragraph 61 of the Report of the Famine Commission, 1880. Government would spare no effort to save the population from starvation or extremity of suffering but they could not undertake the task of preventing all suffering. Everyone it was said admitted the evils of indiscriminate private charity; but the indiscriminate charity of a Government was far worse. The Commission observed that the lesson of experience was that it was vain to attempt to deal successfully with these calamities which so frequently deprive a large proportion of the people of their food-supply without a liberal expenditure of money and that in order to be effectual the expenditure must be applied with careful attention to the exact conditions under which these visitations arise. They recognized to the full the obligation of the State to offer to the necessitous the means of relief in times of famine but they made it the cardinal principle of their policy that this relief should be so administered as not to check the growth of thrift and self-reliance among the people or to impair the structure of society. "The great object," they said, "of saving life and giving protection from extreme suffering may not only be as well secured but in fact will be far better secured if proper care be taken to prevent the abuse and demoralization which all experiences showed to be the consequences of ill-directed and excessive distribution of charitable relief."

The Commission of 1898 while confirming the principles enunciated by the Commission of 1880 which had stood the test of experience departed from them in recommending a more liberal wage and a free extension of gratuitous relief.

The Commission of 1901 laid out the main lines of operations on the indication of scarcity and in the relief of distress in Section IV of their report.

The Commission emphasized the necessity for test works, the object of which was "not to relieve famine but to test the presence of it, not to appease hunger but to find out whether the people are hungry." "We have no hesitation," they said, "in recommending that the omission to open test works should not be repeated in any future famine." They advocated that the test should be stringent though not repellent that payment should be made by results, there should be no rest-day allowance or wages to

dependents. They concluded that though these conditions may appear hard "it is of the essence of test works that the lessons which they are intended to teach should be quickly learned and unhesitatingly applied."

The principle of famine relief which the Committee is invited to criticize is succinctly stated in the introduction to the Famine Code. If it is to be deleted the Committee will have to propound an alternative. It is generally recognized that most of those who resort to relief works are landless labourers who have been unable to obtain wages as harvesters and who have therefore nothing to see them through, till normal agricultural operations start again with the June rains. Unless the Committee is prepared to recommend a general measure of unemployment relief applicable throughout the Province, there may be some difficulty in arriving at a definition which will exclude persons normally subject to seasonal unemployment in most districts and invariably subject to seasonal unemployment in the Ceded districts.

(b) *The scale of wages and allowances and the diet scale.*—The history of the question is traced in Section XII of the Report of the Famine Commission of 1901. Starting from the 'Temple ration' controversy which has been dealt with in detail in the section headed "1 lb. ration" of Digby's Famine campaign in Southern India (Volume II) and a note about which will be found appended to the Report of the Famine Commission, 1880, the wages question has continued to be in the forefront of famine literature to this day. As the scale of wages depends on the classification of workers this question will be examined first. The principles adopted in the classification of relief workers and the changes made from time to time up to 1897 are explained in paragraphs 74 and 429 to 435 of the Report of the Famine Commission of 1898. The recommendations made by this Commission and by the Commission of 1901 on the point are contained in paragraphs 439, 445 and 105 to 109 of their respective reports. The different methods of classifications adopted are exhibited in one view in Appendix VII.

The main features are: Up to 1898 relief workers were divided into four classes including professional labourers, males and females were separately classed for purposes of wages and children were classed according to age. According to the proposals of the Famine Commission, 1898, the class of professional labourers was abolished as a separate class except the few put into the special class. Sex distinction was done away with and the age-limits of the children of the several classes were specified. Dependents who had hitherto been classed along with weakly persons for purposes of relief were separately classed. The Commission of 1901 in paragraphs 106 and 107 of its report recommended the reintroduction of the sex distinction and reclassification of the age-limits of children. The Government of India accepted the latter recommendation but as regards the former they accepted the recognition of sex distinction only in the case of adult dependents and retorted it in other cases. As a result of the recommendation of the MacMichael Committee of 1921-22 the minimum age of working children which was 10 was raised to 12.

As regards wages a statement showing the wage scales ordered to be adopted is appended (Appendix VIII).

The fundamental principle laid down by the Government of India and accepted by the Commission of 1901 in framing the scale of wages was in the words of the Government of India "that the wage should be the lowest amount sufficient to maintain health under given circumstances. While the duty of Government is to save life it is not bound to maintain the labouring community at its normal level of comfort. To do so would be unjust to other sections of the community besides prolonging the period for which the labouring population would cling to the relief works."

The Commission of 1901 considered it necessary to insist on this principle because false benevolence was at all times ready to drift into laxity and extravagance. No saving should be allowed to be accumulated from famine wages. Later views to the contrary were in their opinion not only erroneous but inconsistent with the first principles of famine relief. They observed that in every Province one or other item in the scale of wages prescribed was reduced in practice during the 1899-1900 famine and that there was a mass of opinion that even after this reduction the scale was still excessive.

As a reference to Appendix VIII will show the Commission of 1901 reduced the scale of wages but the reduced scale the Commission observed included a margin to cover the difference which often exists between bazaar rates and the price which the relief worker has actually to pay. To prevent adjustment of prices on which grain equivalents were based they laid down that the basis of conversion should be the price prevailing in the nearest bazaar of the cheapest grain in common use (not flour) but grain cleaned for sale. It was later made clear that the Collector should deduct a suitable allowance for wastage due to cleaning.

The question of the sufficiency of the wages was gone into in detail by the MacMichael Committee (1921-22). The view generally held by the non-official members was that it was inadequate especially the provision made for condiments and vegetables. The official view was otherwise and no change was made. The question of making some

additional provision for vegetables was again considered as a result of the experience gained in 1934-35 famine. In this famine an additional pice was sanctioned by the Government for vegetables as a temporary measure but this according to Mr. A. A. Smyth, the then Famine Executive Engineer, had the effect of attracting workers and making them disinclined to leave the works. As stated above, the question of making additional provision for vegetables was considered and the Surgeon-General forwarded a revised diet scale for dependants in consultation with the Nutrition Research Laboratory, Coonoor. The scale in the Famine Code was in pursuance of these suggestions revised in 1937. The revised scale allows for 10 tolas of vegetables up to class IV (b) and proportionately reduced rates for classes V (a) to (d).

The great advantage of a grain equivalent is that it sets an easily reckoned maximum standard beyond which the famine wage cannot go. Provided that it allows sufficient margin for any unusual variation in the price of other items, no exception can be taken to it. It gives a quick method of reckoning the cash wage sufficient to keep workers in health. The alternative procedure of reckoning every item in cash involves continuous book work with which the staff employed may not be able to cope.

The most recent amendments to the Code have substantially increased the allowance for vegetables. Some doubt has been expressed as to the adequacy of the difference between the grain equivalent and the sum of the items listed in columns 3 to 8 of section 128 (a). It has been suggested that the cash value of the vegetable allowance was recognized and the cash value of the pulse, ghee or oil, etc., is in fact in excess of the difference between the grain equivalent and the grain item. Collectors have been asked to report on this point.

It has to be recognized that from 1877 onwards there has been a conflict of opinion between nutritional experts and the Government of the day on the adequacy of the famine wages. The experts have pointed to the fact that judged by nutritional standards the diet even if received is inadequate; the Government have relied on the absence of any proved deterioration in the condition of those in receipt of relief. The difference of opinion has been largely localized on the question of the adequacy of the vegetable ration. In deference to the opinion of nutritional experts this was very largely increased after the 1934-35 famine (G.O. No. 1954, Revenue, dated 4th September 1936). But there has been some doubt as to the adequacy of the consequential increased margin between the grain equivalent and the grain item. On the other hand the view has been expressed that the standard of nutritional experts is largely irrelevant and that the ordinary vegetable diet of labourers and small holders in the Ceded districts in a non-famine year has to be determined. It has been asserted that the only vegetables on the market in any year between February and June in these parts are onions and brinjals and that the normal diet of a labourer and of a labourer's children is far from conforming to the standard set by the nutritional experts. If this is accepted the question arises whether the Government are justified in importing vegetables and adding them to the famine ration to conform to the standard advocated by nutritional experts.

Collectors have been asked to report what vegetables are ordinarily available in markets in the affected area and at what price.

(c) *The size and nature of the task in famine works.*—Sections 100 and 107 of the Provisional Famine Code, 1896, contain the provisions on the matter in the earlier years. The task for A class labourers was fixed at 100 per cent of the task usually performed by able bodied labourers on ordinary works. A comparative statement of the tasks prescribed in the several Provincial Codes of the time is given in paragraph 180 of the Famine Commission's Report, 1898. Paragraphs 189 and 190 explain that the Code task was found too exacting and had to be reduced. The Commission recommended a reclassification of the labourers into the digger and carrier basis now in use. The task for class I labourers was fixed at 75 per cent of the task usually performed by able bodied labourers on ordinary works. The reasons for the reduction were that a large proportion of the labourers were doing unaccustomed work and that many might be physically and morally depressed and that the disruption of their ordinary life and the novelty of their position on relief works might probably act injuriously on their bodily powers. The Commission of 1901 was of opinion that these conditions did not fully apply to test works because these works ought to be opened at a very early date before depression has appeared and also because the first to come on relief are the labouring classes. They considered that in the case of earthwork a task somewhat above the Code task should be imposed and that if it was a village work the full ordinary task should be imposed. In the case of metal breaking for which special practice was required they thought the Code task was ordinarily sufficient.

They also laid down the rule that the tasks should be low for new comers and should be raised as they improved in dexterity, that tasks should be reduced on the appearance of any general signs of deterioration particularly in the hot weather and that they should be raised if people are in good condition and cling to the works.

The MacMichael Committee of 1921-22 recommended a reduction of task on test works. The Government partially accepted the recommendation by fixing 80 per cent of the standard task on test works for breaking stones.

(d) *The possibility of providing famine relief by works of more appreciable benefit to the community than stone breaking, e.g., irrigation works of suitable size.*—The existing provisions of the Famine Code require that preference should be given to irrigation works as well as works which tend to the local improvement of agriculture—vide sections 13, 17 and 49 of the Code (1927 edition). In selecting and sanctioning relief works the Famine Commissioner should look to the prospective utility of the works and the possibility of their completion within or soon after the period of famine (section 78). Road works are presumably selected owing to the absence of any other works of public utility which can engage the mass of labourers who resort to the works. Further the view of the Commission of 1898 in which the Commission of 1901 concurred and which is embodied in section 77 of the Code, was that as a general rule public works should first be opened and that ordinarily village works should be reserved until the advent of the hot weather or as a reserve in the case of epidemic diseases. Public Works of utility in the Ceded districts are admittedly hard to come by. Useful irrigation works independent of the monsoon are practically confined to tapping the waters of the Tungabhadra.

(e) *The provisions which require the expansion of the ordinary programme as a normal preliminary to the period of test and observation.*—Section 16 of the Provisional Famine Code of 1896 expressly provided for increasing the ordinary works so as to give employment to greater numbers than usual. The Commission of 1898 said that they did not under-rate the immense importance and value of large public works conducted on the ordinary contract system in the period between the first warnings and the recognition of a State of distress requiring State relief. The previous Commission of 1880 was also of the view that while there was only severe scarcity the Government would commonly find it sufficient to enlarge its ordinary works so as to offer employment to greater numbers than usual but without any change of system. This with the addition of some help in the villages would, they considered, probably enable the people to tide over the season of distress. This provision appears to have been embodied in the Code of 1882 but to have been omitted in later editions of 1905 and 1914. In 1928, the Government asked the Board to submit a draft section setting out the position as indicated above and the best way in which the expansion of ordinary works could be provided. Section 33-A was the result. It was amended in 1933 imposing conditions under which grants could be made by the Government. The question arises whether in a modern famine which raises almost exclusively the problem of the unemployment of classes habituated to agricultural labour it is necessary to make the elaborate arrangements contemplated in Chapter II of the Famine Code. The opinion of the Bombay Government on the famine of 1918 on this point is perhaps worth quoting: "The only general criticism (of the Famine Code) which suggests itself is that relief works as such with all their elaborations and artificial conditions are generally unnecessary. The mobility of the people has generally increased, and experience here as in the Central Provinces shows that an expansion of ordinary work is both economical and adequate as the principal measure of famine relief." There would seem to be little difficulty in insisting on contractors paying an ordinary wage and controlling expanded works to this extent. An arrangement of this kind was worked in Anantapur district this year. Details will be furnished if required.

(f) *The possibility of reducing expenditure on famine relief.*—The figures of expenditure in 1934-35 famine on works and establishment are shown below separately with the percentage of the latter to the total cost:—

Statement showing the total cost of famine relief operations in the Bellary and Anantapur districts in 1934-35.

Districts.	Cost of work, gratuitous relief, etc.	Cost of staff.	Total cost.	Percentage of column (3) to (4).
(1)	(2)	(3)	(4)	(5)
	RS.	RS.	RS.	PER CENT.
Bellary	5,31,487	47,759	5,79,246	8.2
Anantapur	10,35,138	79,068	11,44,206	6.9

In paragraph 378 of their report the Commission of 1898 computed that the cost of special establishments in Madras per 1,000 units relieved was Rs. 4. The figure for the 1934-35 famine works out to Rs. 6-2-0 per 1,000 units relieved which is not an excessive increase considering the rise in the scale of pay. The works are now conducted on the charge system recommended in paragraphs 71 and 72 of the Report of the Famine Commission of 1901. It may be difficult to suggest a system involving cheaper supervision and equal efficiency.

D. I. R. MUIR,
Secretary.

APPENDIX III

MINUTES OF THE MEETING HELD IN THE OFFICE OF THE
BOARD OF REVENUE, MADRAS, ON THE 25TH MAY 1938.

The following members were present :—

- 1 Mr. C. A. Henderson (*Chairman*).
- 2 „ F. M. Dowley.
- 3 „ H. R. Dogra.
- 4 „ L. B. Green.
- 5 Dr. R. Adishesan (on behalf of the Director of Public Health).
- 6 Sri N. Sankara Reddi.
- 7 „ K. Koti Reddi.
- 8 „ H. Sitarama Reddi.
- 9 Abdul Rawoof Sahib Bahadur.
- 10 Sri Kallur Subba Rao.
- 11 „ R. Suryanarayana Rao.
- 12 „ Diwan Bahadur N. Swaminatha Ayyar.

It was resolved to address Government to allow Dr. R. Adishesan, or some other officer of the Public Health Department, in the absence of the Director of Public Health, to be on the Committee permanently to preserve continuity.

It was agreed that it would be necessary to give to all who give evidence before the Committee some indication of the lines on which the Committee desires to receive information. For this purpose the headings and subdivisions in the note prepared for the Committee on the first of the terms of reference were considered suitable. It was agreed that in making proposals for the revision of the Code, the chapter headings of the Code should ordinarily be a sufficient guide to those who submit evidence. The Secretary was requested to frame a questionnaire on these lines and to distribute it to the Collectors, who should send it to intending witnesses. It was also agreed that this questionnaire should be sent to expert witnesses. It was decided to invite evidence from the following persons who have had some experience in the working of the Code, or who are experts in one or other of the subjects with which the Committee will be concerned :—

- 1 Mr. T. Bhaskara Rao Nayudu.
- 2 „ V. N. Kudva.
- 3 „ Javad Hussain.
- 4 „ E. C. Wood.
- 5 „ V. N. Viswanatha Rao.
- 6 „ A. A. Smyth.
- 7 „ F. W. Stewart.
- 8 Dr. Passmore, Nutrition Expert.
- 9 Sri C. H. Ranga Rao, Supervisor of Industries, Bellary.
- 10 Officer in charge of the Agricultural Research Station, Siruguppa.
- 11 Superintendent of Dry Farming, Hagari.
- 12 Mr. W. J. Davis.
- 13 „ S. J. Balraj.
- 14 „ A. W. Nightingale.
- 15 Chief Conservator of Forests or Conservator of Forests.
- 16 Rao Sahib S. Muthuswami Ayyar, Commissioner, Guntur Municipality.
- 17 The present Collectors of the districts affected.
- 18 An officer selected by the Chief Engineer (Electricity) for electric boring of wells.
- 19 Director of Agriculture, with special reference to “spark water” and dry farming.

It was decided that Collectors and the Superintending Engineer in consultation should determine which Revenue Divisional Officers, Subdivisional Officers, Minor Irrigation Supervisors, and Charge officers should be examined by the Committee. It was decided that the questionnaire should, if possible, be issued by the 1st of June and that one month's time should be given for replies. Those who volunteered evidence should be definitely asked whether they are prepared to give oral evidence before the Committee, if the Committee so desires. It was decided that the Secretary should go through the written evidence received and prepare a note for the Committee summarizing any information of importance received as written evidence and suggesting the names of persons who should be orally examined. It was hoped that it would be possible to do this and obtain the opinion of the Committee in time to enable the Committee to visit Bellary in the last week of July to hear evidence there. As, however, it was considered necessary to visit the famine relief works earlier than July in order to see them in operation before the rains break, the Committee decided to visit Bellary in the second week of June. The next meeting of the Committee has been fixed for 11 a.m. on the 6th of June in the Collector's Court Hall at Bellary. It was agreed that the Committee should split up and should visit a fair number of works in groups of two or three. This procedure is expected to enable the Committee to obtain an adequate knowledge of the actual conditions and was considered preferable to the proposal that the entire Committee should visit a small number of works. The Committee will meet again on the 13th June at Bellary in order to pool the experience gained. After its return from its second visit to Bellary at the end of July, the Committee proposes to take the oral evidence of experts and others who can more conveniently be examined in Madras during the sittings of the Legislative Assembly in August. When this has been done, a number of further meetings will be necessary to determine the lines on which the Committee proposes to report. The Committee is, therefore, of opinion that there will be no possibility of finishing its work and submitting its report to the Government before the end of October and the Secretary was instructed to address the Government immediately to that effect.

C. A. HENDERSON,
Chairman.

APPENDIX IV

QUESTIONS ON WHICH THE OPINION OF WITNESSES IS INVITED.

SECTION I—MEASURES FOR THE PREVENTION OR MITIGATION OF FAMINE.

1. What measures do you suggest for the prevention or mitigation of famine especially in the Ceded districts and how far are they practicable?

2. The possible lines of preventing or mitigating famine have been classified as follows:—

(a) *Irrigation—Major.*—(i) The Tungabhadra is the only large project under investigation in the Ceded districts. Negotiations on the question of sharing Tungabhadra water have not yet been completed. The project will protect only part of the area now liable to famine. Have you any practical knowledge of irrigation under canals? The Kurnool-Cuddapah canal was originally intended for the irrigation of paddy and other valuable crops on an intensive scale, but in Kurnool district it is largely used for the watering of the ordinary dry crop in years of deficient rainfall. Do you consider that if Tungabhadra water were taken through the famine affected tracts in Bellary, Alur and Kurnool taluks and the ryots were left to grow what crop they liked similar results would follow? If not, why not? Do you think that if this project materializes, it will prevent or mitigate famine in all the parts now liable to famine? If not, why not?

(ii) Have you any suggestion to make for making the project more useful than it can be as at present designed?

(iii) Can you suggest any other major productive or protective works which are practicable from an engineering point of view?

(b) *Minor irrigation and wells.*—(i) Is it a fact that the number of these sources and the area irrigated by them are decreasing? If so, what in your opinion are the reasons for the decrease?

(ii) Can you suggest any measures that will be effective in preventing the deterioration of these sources and especially in preventing the silting up of the minor irrigation sources?

(iii) It has been stated that the minor irrigation sources and wells which are dependent on the season for their supplies will fail when there is a failure of the monsoon and these will therefore be of no use in seasons of distress. Do you agree? If not, in what way will the improvement of these sources or an increase in their number be helpful in preventing or mitigating famine?

(iv) Do you suggest that an increase in the number of wells will improve the situation? If so, what steps should in your opinion be taken towards this end?

It has been stated that in black soil areas the subsoil water is usually brackish non-potable and probably deleterious to crops. What is your experience? If the statement is correct, is there anything to be gained by increasing the number of wells?

(c) *Contour-bund forming.*—It has been suggested that bunding up of the lands in the black soil areas will help to retain moisture and enable the crops to withstand drought. The Villagers' Calendar, 1938, contains a report on this matter. Do you recommend the suggestion?

Do you think that the extensive bunding up of the tract will materially diminish the supplies to the minor irrigation sources?

(d) *Dry farming.*—Can you suggest any dry farming methods which will make the ryot more independent of the monsoon and enable him to secure a better outturn of crops? Your attention is invited to the reports on the Agricultural Research Station at Hagari and Nandyal contained at pages 29–31 of the Villagers' Calendar, 1938.

(e) *Afforestation.*—What are your suggestions for increasing the area under forests and topes? What kind of trees do you recommend for propagation?

(f) *Alternative or subsidiary sources of employment.*—(i) *Large scale industry.*—Do you think that any large scale industry is possible in the Ceded districts? If so, what are your detailed suggestions?

- (ii) *Cottage industries.*—What cottage industries do you recommend for adoption as being economically feasible?
- (g) It has been suggested that “sparked water” treated with electricity has immense potentialities. Can you give an opinion on this claim from practical experience? Do you consider that the suggestion has any bearing on the problem of preventing or mitigating famine?

SECTION II—PURPOSES OF FAMINE OPERATIONS AND PRINCIPLES OF FAMINE RELIEF.

3. These are laid down succinctly in the Introduction of the Famine Code and section 127 thereof. While the State is bound to protect the people from starvation in time of distress, it is no part of its duty to maintain them at their normal level of comfort or to insure them against all suffering. The wage should be the lowest amount sufficient to maintain healthy persons in health. Do you agree with this statement of policy? If you consider that any modifications are necessary, what are they and how do you justify them if they involve greater financial commitments than at present?

4. *Chapter II of the Code—Preliminary measures of enquiry and preparation when the rains fail.*—What modification, if any, do you suggest to the measures laid down in this chapter?

5. *Chapter III—Period of observation and test.*—(a) Do you think the opening of test works a necessary preliminary to the grant of relief?

(b) Do you suggest any modification to the test work conditions laid down in sections 49 and 50 of the Code? If so, what and why?

6. *Chapters IV and VI—Declaration of distress and commencement of relief and description of the various measures of relief.*—Do you suggest any modifications to the provisions of these chapters? If so, what are they?

SECTION III—SCALE OF WAGES AND ALLOWANCES AND THE DIET SCALE.

7. Do you suggest any modifications of the classification of workers and dependents prescribed in sections 97 and 116 of the Code? If so, for what reasons?

8. (a) What modifications, if any, do you suggest in the scale of wages and allowances and the other provisions in Chapter VIII of the Code? On what grounds do you suggest the modifications?

(b) Do you consider that the existing allowance for vegetables in the table under section 128 (a) as last revised, is sufficient? If not what increase do you suggest? Is it normally possible to obtain vegetables on the existing scale or on the scale that may be proposed by you during the hot weather when famine works are in operation? Is the type of individual who resorts to famine works accustomed to obtain this quantity of vegetables at that season in normal years?

(c) What measures, if any, do you suggest for ensuring that the worker spends his entire wage on procuring the articles?

(d) *Chapter IX—Gratuitous relief.*—What modifications, if any, do you suggest to the provisions of this chapter? Please state your reasons.

SECTION IV—THE SIZE AND NATURE OF THE TASK IN FAMINE WORKS.

9. What is your opinion on the task work system explained in Chapter VII and Appendix D to the Code? Do you suggest any modifications and if so, what?

SECTION V—THE POSSIBILITY OF PROVIDING FAMINE RELIEF BY WORKS OF MORE APPRECIABLE BENEFIT TO THE COMMUNITY THAN STONE BREAKING, E.G., IRRIGATION WORKS OF SUITABLE SIZE.

10. What suggestions can you make on this point? Please correlate your answers with those under Section I.

SECTION VI—EXPANSION OF THE ORDINARY PROGRAMME AS A NORMAL PRELIMINARY TO THE PERIOD OF TEST AND OBSERVATION.

11. Please see sections 33-A and 212 and offer your opinion on the necessity or otherwise for expansion of ordinary works.

SECTION VII—REDUCTION OF EXPENDITURE ON FAMINE ESTABLISHMENT.

12. Appendix D to the Code gives detailed particulars of the organization of relief works. Do you consider that the system is unduly costly? If so, what cheaper agency or method can you suggest?

13. Have you any further suggestions to make on any of the other chapters or provisions of the Famine Code? Please give reasons for your suggestions.

APPENDIX V

AGENDA FOR THE MEETING ON 6TH JUNE 1938.

1. *Minutes of the meeting held in Madras on 25th May 1938.*—The Government have, as resolved by the Committee, been addressed on 25th May 1938 to allow Dr. R. Adishan or some other officer of the Public Health Department in the absence of the Director of Public Health to be on the Committee permanently to preserve continuity. A questionnaire was, on the lines agreed to by the Committee, framed and was sent to the members of the Committee, the Collectors of the Ceded districts including Chittoor and to the rest referred to at page 2 of the minutes except Dr. Passmore who had already given his opinion on the point with which he is concerned and on which he could give expert opinion. A copy of the questionnaire was sent to the Chief Conservator of Forests and another to the Chief Engineer (Electricity) asking him to forward it to the officer selected by him and to intimate his name to the Secretary to the Committee. It was also requested that the replies to the questionnaire should reach the Secretary before 1st July 1938.

The Government have also been told the opinion of the Committee that it would not be possible to submit its report before the end of October 1938. The Government have passed orders allowing the Committee to submit its report before the end of October 1938.

2. It was agreed at the last meeting that the Committee should split up and should visit a fair number of works in groups of two or three so as to enable the Committee to obtain an adequate knowledge of the actual conditions on the works. The Committee is requested to decide on the grouping and on the arrangements to be made for the inspection of works.

3. The Committee is requested to decide whether any addition need now be made to the questionnaire issued.

4. The Government have suggested that the following points should be placed before the Committee for its consideration :—

- (i) The utilization of electricity for increasing the productivity of the soil and the yield of crops with special reference to the use of the ionized and sparked water for soaking and sowing the seeds, as is reported to be done in Mainpuri district.
- (ii) The possibility of reviving or starting cottage industries of small scale such as the slate industry at Markapur and of carrying out of small irrigation works as protective measures, apart from the major question of Tungabhadra Project.
- (iii) The possibility of reviving or starting cottage industries of small scale such as system on the lines indicated in the Government Memorandum No. 1186-III/38-2, dated 22nd March 1938.
- (iv) The introduction of paddy pounding as a famine relief measure.
- (v) Deficient diet in the famine camps.
- (vi) The opening of seed granaries and digging of small wells.
- (vii) The sinking of drinking-water wells in the villages in the Bellary district on the lines said to be adopted in the villages in the Nizam's dominions, as a measure of famine relief.
- (viii) The Government should share with the ryots some of the risks of well construction and advances for the sinking of wells should come from the famine funds.
- (ix) Altering the existing scale of wages and allowances.

All these points except the opening of seed granaries have been covered by the questionnaire. It is suggested that discussion should be deferred until after all the evidence is in.

5. Any other business.

MADRAS,
3rd June 1938.

D. I. R. MUIR,
Secretary.

APPENDIX VI

MINUTES OF THE MEETING HELD IN THE COLLECTOR'S COURT HALL,
BELLARY, ON 6TH JUNE 1938.

The following members were present :—

- 1 Mr. C. A. Henderson (Chairman).
- 2 „ H. R. Dogra.
- 3 „ L. B. Green.
- 4 Dr. R. Adiseshan (on behalf of the Director of Public Health).
- 5 Sri N. Sankara Reddi.
- 6 „ H. Sitarama Reddi.
- 7 „ Kallur Subba Rao.
- 8 „ R. Suryanarayana Rao.
- 9 Abdul Rawoof Sahib Bahadur.
- 10 Sri Diwan Bahadur N. Swaminatha Ayyar.

The minutes of the meeting held in Madras on 25th May 1938 were taken as read.

The Committee fixed the following programme for the inspection of famine works during the Committee's stay at Bellary :—

Monday evening, 6th June 1938.—The Chairman, Dr. Adiseshan and the Secretary to visit Bhatrahalli test work.

Tuesday, 7th June.—Sri Suryanarayana Rao, Sri Sitarama Reddi and Sri Sankara Reddi to visit some of the Kurnool works.

Mr. Dogra, Mr. Green, Sri Swaminatha Ayyar and Abdul Rawoof Sahib Bahadur to visit Bhatrahalli.

The Chairman, Dr. Adiseshan and the Secretary to visit Moka Gulyam.

Wednesday, 8th June.—Mr. Dogra, Sri Swaminatha Ayyar and Mr. Green to visit Moka Gulyam.

Sri Suryanarayana Rao, Sri Sitarama Reddi and Sri Sankara Reddi to continue their tour of the Kurnool works.

The Chairman, Dr. Adiseshan and Abdul Rawoof Sahib Bahadur to visit Kurugodu Yemiganur.

Mr. Dowley and Sri Koti Reddi to visit Bhatrahalli.

Thursday, 9th June.—Dr. Adiseshan to visit some works near Adoni.

Mr. Dowley, Abdul Rawoof Sahib Bahadur and Sri Koti Reddi to visit Alur Moka Work.

It was resolved to meet at the Collector's Office on Friday, at 7-30 a.m., in order to pool the experience gained and to make such further arrangements as might seem necessary. In the evening the Hagari Agricultural Research Station will be visited by the Committee. The further programme of the Committee in the district will be settled at the meeting.

The Committee decided to approve the questionnaire that has been issued and had no addition to suggest.

The various suggestions placed before the Committee were considered and briefly discussed. It was observed that all the suggestions which the Government had sent for the Committee's consideration except that relating to the provision of seed granaries had been dealt with in the questionnaire already issued. It was therefore decided to await the receipt of the answers to the questionnaire before dealing with the suggestions of the Government in detail. The Chairman explained that the suggestion to open seed granaries to be financed from the Famine Relief Fund had been referred by the Government to the Board of Revenue and that the Board's reply to the Government would be communicated to the Committee. It was considered unnecessary to add anything to the questionnaire on this account.

In respect of the Tungabhadra Project, the Chairman undertook to ask the Irrigation Development Board at its meeting in July to permit a note on the present condition of that project to be put before this Committee.

As regards the suggestion that paddy-pounding might be adopted as a measure of famine relief, it was decided that much would depend on the extent to which paddy is consumed in the affected area. Mr. Green promised to address the Provincial Marketing Officer and to ask him whether he could provide figures showing imports of rice into the various Ceded districts.

C. A. HENDERSON,
Chairman.

APPENDIX VII

MINUTES OF THE MEETING HELD IN THE COLLECTOR'S COURT HALL,
BELLARY, AT 7-30 A.M. ON FRIDAY, THE 10TH JUNE 1938.

The following members were present :—

- 1 Mr. C. A. Henderson (Chairman).
- 2 „ H. R. Dogra.
- 3 „ L. B. Green.
- 4 „ F. M. Dowley.
- 5 Dr. R. Adishesan (on behalf of the Director of Public Health).
- 6 Sri N. Sankara Reddi.
- 7 „ H. Sitarama Reddi.
- 8 „ R. Suryanarayana Rao.
- 9 „ K. Koti Reddi.
- 10 Abdul Rawoof Sahib Bahadur.
- 11 Sri Diwan Bahadur N. Swaminatha Ayyar.
- 12 „ Kallur Subba Rao.

The minutes of the previous meeting were taken as read.

The following further arrangements for inspection of relief works were made :—

Saturday, 11th June.—Mr. Dowley, Mr. Dogra and Dr. Adishesan to visit Nandavaram-Nagaladinne.

Sri Suryanarayana Rao, Sri Koti Reddi and Sri Sankara Reddi to visit works near Gooty and if possible to proceed to Penukonda and Hindupur to inspect the test works there.

Sri Koti Reddi suggested that an attempt should be made to obtain information on the possibilities of certain trees as sources of fodder. It was agreed that the Agriculture and Forest departments should be addressed. The Committee adjourned to meet again at 4 p.m. at Hagari Agricultural Research Station to study the improved methods of dry farming under trial at the station and particularly the results obtained from the low bunding of dry fields.

It was decided to hold the next meeting of the Committee at 11 a.m. on Monday, 13th June.

C. A. HENDERSON,
Chairman.

APPENDIX VIII

MINUTES OF THE MEETING HELD IN THE COLLECTOR'S COURT HALL,
BELLARY, AT 11 A.M. ON MONDAY, THE 13TH JUNE, 1938.

The following members were present:—

- 1 Mr. C. A. Henderson (Chairman).
- 2 „ H. R. Dogra.
- 3 „ L. B. Green.
- 4 „ F. M. Dowley.
- 5 Dr. R. Adishesan (on behalf of the Director of Public Health).
- 6 Sri N. Sankara Reddi.
- 7 „ H. Sitarama Reddi.
- 8 „ R. Suryanarayana Rao.
- 9 „ K. Koti Reddi.
- 10 „ Kallur Subba Rao.
- 11 „ Diwan Bahadur N. Swaminatha Ayyar.
- 12 Abdul Rawoof Sahib Bahadur.

The Committee resolved to express its appreciation of the valuable demonstration of the work of the Hagari Agricultural Research Station, given to it by the Superintendent.

The Chairman asked the members of the Committee to give their impressions of what they had seen during their visits to relief works in the past week.

Mr. Dogra remarked that he had questioned the workers and found that they would unanimously prefer cash payments and permission to go back to their villages to any scheme of remaining on the works or of receiving food instead of cash wages.

Sri Swaminatha Ayyar said that the Government would have their money's worth if the worker remained in the camps and were fed there and closely supervised.

Sri Koti Reddi expressed a somewhat similar opinion but stated that he would prefer to elaborate his views in a self-contained note which he will put in.

Mr. Dogra then commented on the cheerful appearance and healthy condition of the workers and dependents and especially of the children. He will send a note giving his impressions in full.

Abdul Rawoof Sahib Bahadur said that he would give his impressions in a written note which he will send.

Mr. Green said that his general impressions were that the conditions of the camps were satisfactory and that the children especially looked well. He was much struck by the disproportionate number of women who come to the works.

The Chairman remarked that the census figures, 1931, show that there are still more men than women in each of the districts of Bellary, Anantapur and Kurnool.

Mr. Green said that he would like the figures to be circulated to the Committee. Mr. Green will send a note elaborating his impressions.

Sri Sitarama Reddi raised the question of the necessity for pregnant women who have not given birth to a child within the period of three weeks referred to in the Code, returning to the camp for a second certificate from the doctor and suggested that this might be dispensed with. The general sense of the Committee was that a certificate from the village munsif giving the actual date of the birth of the child was enough.

Dr. Adishesan remarked with reference to the first sentence of the note in the correction slip at page 39 of the Code that in his opinion the diet for an infirm person is insufficient for a pregnant woman.

Sri Sitarama Reddi stated that on the Kurnool works except Hosur there was no market and said that, in his opinion, it was necessary that the provisions of the Code should be strictly followed in this matter.

Sri Koti Reddi and Sri Suryanarayana Rao then raised the question of the inadequacy of the grain equivalent under section 128 (a) as amended in the correction slip at page 37 of the Code.

Sri Suryanarayana Rao stated that he had collected statistics of the food supplied to dependants from all the camps and that he was prepared to show that the difference between the grain equivalent and the grain item was insufficient to cover the cost of the other items. It was generally agreed that in the case of classes V (c) and V (d) there had been a mistake at the time of the issue of the correction slip to the Code, in that no addition had been made to the grain equivalent when a considerable addition had been made to the vegetable item. Further it was recognized that as the numbers coming under V (c) and V (d) are invariably in excess of those coming under the other classes of dependants, any deficiency in the diet of classes V (c) and V (d) would certainly result in general deficiency in the diet of dependants as a whole. The Chairman promised that the point would be immediately taken up with the Government.

Sri Sitarama Reddi then remarked that the kitchen superintendents were on the whole an unsatisfactory class of men and suggested that it was necessary that a permanent clerk from the Revenue Department should be appointed to these posts. It was pointed out that the alterations in the scale of pay for kitchen superintendents made after the last famine precluded the appointment of a clerk to these posts. If the old scale of pay given before the amendment was restored the difficulty will most probably be got over.

Dr. Adiseshan then gave the Committee some figures which he had collected during his inspections. These tended to show that there was very considerable deficiency in the amounts provided under "other items" [section 128 (a) of the Code]. In one camp there was actually a deficiency of 40 per cent in the pulse item, in another there was a deficiency of 75 per cent in the amounts of oil or ghee provided. Generally more salt was given than is allowed in the Code. Dr. Adiseshan also stated that the absence of any oil or ghee in the diet of dependants in classes V (c) and V (d) in his opinion is a mistake. He suggests that if instead of giving white cholam, a mixture of white and yellow ($\frac{3}{4}$ white and $\frac{1}{4}$ yellow) could be provided, this would to some extent remedy the vitamin deficiency which he considers to be present in the diet. He said that the absence of vitamin C can be counteracted by germinating a part of the pulse ration in the form of whole dhal. He said that he would elaborate these points in a comprehensive note. Sri Koti Reddi pointed out that the workers are not accustomed to eat less on rest days than on working days and thinks that the workers' wage should be given to workers on rest days also—vide section 135 of the Code. He considered that the maternity benefit should be raised from Rs. 2 to Rs. 4. He said that in his experience there were boys on the works as workers who had to discontinue their attendance at school and who ought to be at school. He was in favour of a creche at the works so that the small children could be removed from their mothers' care and looked after while their mothers were at work. It was considered doubtful whether the mothers would welcome this arrangement. In many cases, Sri Koti Reddi said that there were instances of children who were not brought to the work and therefore not being fed because of the distance of their villages from the works. He considered that some cash allowance should be given when any worker declared that he had children whom he was unable to bring to the works for this reason. It was pointed out that it would be extremely difficult to detect fraud and that the suggestion appeared to be impracticable.

Sri Sankara Reddi said that he considered that the test work task, especially the earth work was too severe. He pointed out that no special relief had been given to weavers in Kurnool district especially in the villages of Kodumur, Gudur and Pattikonda where there were extensive weaver communities and in Yemmiganur in North Adoni of Bellary district. The Chairman stated that the scheme sanctioned for Uravakonda in Anantapur district would be sent to the Collectors of Kurnool and Bellary and they will be asked to put it into operation where necessary.

Sri Sankara Reddi suggested that it was necessary to allow girls attaining puberty to absent themselves from the works and draw the workers' allowance of the class for three days. He said that he would send a written statement embodying his impressions.

Sri Suryanarayana Rao said that it would be desirable to have a standing supply of medicines at the district headquarters hospital so that they can be rapidly supplied to the works as soon as a famine begins. He referred to the correspondence at page 17 of G.O. No. 1954, Revenue, dated 4th September 1936, in which the Government had negatived the proposal of the Board to this effect. He said that the local rural medical

practitioner or the nearest sub-assistant surgeon should be asked to visit every afternoon all works including test works on which for one reason or another there was no resident doctor. He pointed out that there was no provision in the Code whereby a worker suffering from fever and ordered to return to his village by the doctor could obtain either a worker's allowance or a dependant's allowance. He stated that the Code was being interpreted in some cases unfavourably to the workers in this matter and suggested that these cases should be specifically dealt with by an amendment. He pointed out that section 135 of the Code sub-paragraph (3) was not clear, as it was not definitely stated whether three consecutive days or any three days' presence at a work will qualify for a rest day allowance.

Sri Suryanarayana Rao said that he thought the relation between the proportion of diggers and carriers might be re-examined especially by the engineer-members of the Committee.

He thought that it should be made quite clear that hutting ought to be provided when workers wanted to stay on the works.

Dr. Adishesan said that apart from the remarks which he had already made he would submit a full note embodying his suggestions based on the result of his inspection.

Sri Subba Rao, Sri Swaminatha Ayyar and Mr. Dowley said that any points to which they intended to refer had been adequately covered by the previous discussion.

D. I. R. MUIR,
Secretary.

APPENDIX IX

PRECIS OF THE WRITTEN REPLIES TO THE QUESTIONNAIRE.

SECTION I.—MEASURES FOR THE PREVENTION OR MITIGATION OF FAMINE.

Question 1: What measures do you suggest for the prevention or mitigation of famine especially in the Ceded Districts and how far are they practicable?

Major irrigation schemes.—Messrs. V. N. Viswanatha Rao, Smyth, Pritchard, V. V. Subrahmanyam, Rahamatulla (F.C.O.), C. Vijayaraghavan, C. V. Ramaswami Ayyar, Y. S. Anantarajah (Tahsildar), and P. H. Rama Reddi (Director of Agriculture), among officials, and Messrs. V. M. Giri, C. Venkoba Rao, B. Bhima Rao and P. Rama Reddi, among non-officials, recommend the completion of the Tungabhadra Project. Sri C. V. Ramaswami Ayyar also suggests that in order to afford relief to tracts not served by the project, the question of augmenting the storage reservoirs at favourable contours in seasons of good rainfall may be considered though he thinks that their use will be limited in years of scarcity of rainfall. Sri V. V. Subrahmanyam also suggests the carrying out of other projects like the Kumudavati Project, etc. Sri Sivasankaran Pillai considers that the Tungabhadra Project will not help the Penukonda part of the Anantapur district and that smaller works are to be preferred.

Sri Diwan Bahadur V. N. Viswanatha Rao also suggests the reinvestigation on a standard of lesser returns of projects such as the Velgode and Owk Projects given up in the past as unremunerative, the possibility of damming and utilizing to the best advantage of the waters of unfailing streams such as the Gundlakamma, the Bhavanasi, the Vokkileru and the Handri and the improvement and maintenance of supply channels to big tanks such as the Badvid in Markapur and the tanks in Rudravaram village in Sirvel taluk, which have deteriorated by neglect.

Sri M. Narayana Rao suggests that major tanks may be constructed in Pennar, Chitravati and Hagari basins. He also states that owing to the action of the Mysore authorities the supplies to most of the tanks in Hindupur and Madakasira have diminished and instances the Manpalli in Hindupur taluk and Agali in Madakasira. The matter should be taken up. He also recommends that an irrigation survey of the entire Anantapur district should be undertaken.

Messrs. Sivasankaran Pillai and Venguswami Ayyar suggest that negotiations may be opened with the Mysore Darbar for water for irrigation from the "Maikanave Reservoir" whose waters run within 20 miles of the border of Madakasira.

Sri Sitarama Reddi wants to take up immediately major irrigation projects which are now either under investigation or under contemplation. Sri T. Bhaskara Rao considers that the only way of mitigating famine is by providing permanent irrigation projects which depend for their supply on rivers flowing from distant places and which are unaffected by drought in the districts. Sri M. Devendra Nayudu considers that the Tungabhadra Project is not worth trying and that the excavation of a canal to Daroji from Tungabhadra and thence into the famine zone which lies almost in a line and close to it may be considered. Messrs. M. Sitarama Rao and Bhojappa Sowcar, Pullayya (F.C.O.) and Madduri Nagi Reddi suggest the construction of anicuts and irrigation channels along the Tungabhadra and Kistna rivers in order to ensure supply to all the major tanks both the Public Works Department and minor irrigation ones when the rains fail. Sri Madduri Nagi Reddi also suggests the deputation of a supervisor of the Agricultural department to instruct the ryots of Nandikotkur, etc., how to raise wet crops. Sri P. Ramachandra Ayyar (F.C.O.) suggests the repair of all silted up tanks at the cost of the Government. Messrs. Akbar Ali Khan (F.C.O.), Sankaran (Tahsildar) and N. S. Arunachalam think that the execution of irrigation projects would go a long way to mitigate famine in the Ceded districts.

Minor irrigation sources and wells.—Messrs. Javad Hussain, V. V. Subrahmanyam, S. Muthuswami Ayyar, C. Vijayaraghavan, T. R. Subrahmanya Ayyar (F.C.O.), Rahamatulla (F.C.O.), and P. Ramachandra Ayyar (F.C.O.), among officials, and Messrs. Lakshminarayana Rao, M. Narayana Rao and P. Rama Reddi among non-officials, recommend the repair of all existing minor irrigation sources to improve their efficiency and the increase in the number of wells. Loans may be granted for the construction of the wells or they may be dug at the cost of the Government from the Famine Insurance Fund and enhanced rates of assessment may be collected for irrigation from the latter

class of wells. Sri Balraj suggests a well for every 50 acres in suitable areas. Sri P. H. Rama Reddi (Director of Agriculture) suggests that in the greater part of Anantapur district and the whole of Cuddapah district which are not benefited by the Tungabhadra Project, the remedy lies in the construction of a series of wells, tanks and spring channels wherever possible.

Mr. Javad Hussain suggests that loans granted for the construction of wells might be recovered by means of a small water-rate on the lands irrigated and the water-rate may cease when the loans are entirely repaid.

Sri Sivasankaran Pillai recommends that as many old wells as possible should be deepened. Steam bore wells are suggested by Sri B. R. Venguswami Ayyar.

Sri Balraj recommends the tapping of sub-soil water in vankas and excavation of more spring channels. Where there are copious springs, tube wells may be sunk.

Sri Diwan Bahadur V. N. Viswanatha Rao proposes an investigation of underground supplies of water at the foot hills of the Nallamalais and their utilization by means of bore wells, etc., at likely places even proceeding to great depths.

Sri K. Sitarama Reddi wants to take up immediately the minor irrigation projects which are now either under investigation or under contemplation. Messrs. A. D. Tandur Mudaliyar, M. Sitarama Rao, Bhojappa Sowcar and P. Rama Reddi want to restore abandoned tanks and to build new ones if possible, sinking of wells and to control the enormous flow of water in the existing vankas during the rainy season to feed the existing tanks. Sri A. D. Tandur Mudaliyar also suggests the appointment of a special investigating staff for the purpose.

Messrs. M. Sitarama Rao and Bhojappa Sowcar recommend the installation of power engines for the purpose of lifting water for irrigation from the Tungabhadra and Hagari rivers, by private persons to whom permission should be given without any restriction. Sri N. S. Arunachalam recommends (1) execution of minor irrigation projects, (2) repairs to spring channels, (3) restoration of ruined and abandoned kuntas and (4) bunding of vagus.

Industries.—Various gentlemen look to industrial development or to the encouragement of large and small industries by the Government for a solution to the problem. These suggestions are referred to elsewhere in the notes.

Sri M. Narayana Rao suggests a geological survey of the Anantapur district to explore mining and mineral possibilities.

Sri K. Sitarama Reddi suggests that cottage industries such as spinning, weaving, tanning, toy manufacture, cumbli-weaving should be encouraged through co-operative societies. Gardening on commercial basis such as fruit, etc., should be helped by the Government by granting loans on liberal conditions and subsidies and subsidiary industries such as poultry-keeping, bee-keeping, etc., should be tried at various centres on the demonstration basis. He considers that except major irrigation projects the rest will be practicable from the financial point of view. Sri Devendra Nayudu suggests cumbli manufacture and the conversion of all the mud houses in the villages into stone ones by the use of granite. He also suggests the use of charka for spinning. Sri V. V. Subrahmanyam suggests the starting of cottage industries. Sri S. Sankaran (Tahsildar) wants the provision of subsidiary occupations such as spinning of cotton, wool and silk yarns. Sri Chendan Venkoba Rao suggests the establishment of *Khaddar* as cottage industry by a scheme of legislation, whereby every adult should be made to produce and deliver to the accredited agents of the Revenue department genuine *Khaddar* of standard width and length. He also wants that for the present State aid should be given as an immediate measure to provide enterprise to *Khaddar* in the black-cotton soil area.

Miscellaneous suggestions.—Messrs. V. N. Viswanatha Rao and M. Bhimasena Rao suggest the restriction of the area under groundnut and increase of area under food-crops, while Sri Chendan Venkoba Rao suggests a legislation penalizing groundnut crop and favouring staple crop as an economic solution against famine.

Sri Diwan Bahadur V. N. Viswanatha Rao also suggests the revival of the habit of storing grains. Ryots should have a greater reserve of stored grains and the Government should increase co-operative godowns at which grains can be stored on purchase for long periods.

The other suggestions of Sri Diwan Bahadur V. N. Viswanatha Rao are: (1) excluding some large blocks of cultivable land from the extension reserves of Kurnool East Division to relieve pressure on land in adjoining villages and (2) colonizing the Guttalacheruvu Plateau in Kurnool East Division.

Mr. F. W. Stewart recommends more provision of village-sites in places where drinking water is available in order to increase the rural population.

Sri P. Rama Reddi (non-official) suggests that if the failure of rains is due to disafforestation, the Government should take measures to stop disafforestation and to replant the forest area without encroaching the cultivable area. Sri A. Padmanabhan (Work Agent) is also in favour of afforestation so as to attract rain.

Sri P. H. Rama Reddi (Director of Agriculture) considers that bunding to curtail the run-off water will mitigate famine but cannot be considered as a cure. Mr. John A. Zaccheus suggests the laying out of new roads, extension of the existing ones, conversion of more frequented cart-tracks into pucca second-class roads, sinking large wells and construction of culverts over mountain streams which cut the roads.

The following measures are suggested by Sri J. Srinivasa Sastrulu of Halaharvi, Bellary division :—

- (i) Collection of land-tax to be made either in kind or in cash, whichever is convenient to the ryots.
- (ii) Reduction of land-tax by 50 per cent after a resurvey of the soil.
- (iii) Introduction of entire prohibition.
- (iv) Stoppage of the importation of the staple food crops and of the finished products.
- (v) Reduction in railway freights for the transfer of foodstuffs and grains.
- (vi) Insisting people to grow only grain and not cotton and groundnut.
- (vii) Free grazing of cattle and grant of timber to the deserving poor.
- (viii) Formation of road communications.
- (ix) Manufacture of salt and salt petre without levy of tax.
- (x) Grant of takkavi loans for bunding, removal of weeds, digging of wells in their lands, etc.

Question No. 2 (a) (i)—Irrigation—Major : The Tungabhadra is the only large project under investigation in the Ceded districts. Negotiations on the question of sharing Tungabhadra water have not yet been completed. The project will protect only part of the area now liable to famine. Have you any practical knowledge of irrigation under canals? The Kurnool-Cuddapah canal was originally intended for the irrigation of paddy and other valuable crops on an intensive scale, but in Kurnool district it is largely used for the watering of the ordinary dry crop in years of deficient rainfall. Do you consider that if Tungabhadra water were taken through the famine-affected tracts in Bellary, Alur and Kurnool taluks and the ryots were left to grow what crop they liked similar results would follow? If not, why not? Do you think that if this project materializes, it will prevent or mitigate famine in all the parts now liable to famine? If not, why not?

Messrs. V. N. Viswanatha Rao, Smyth, Alagiri Rao, S. Rajagopala Ayyangar, C. Vijayaraghavan, Balraj, Pullayya, Gopalam, Thirunarayanacharya, Janab Akbar Ali Khan and T. Bhaskara Rao among officials, and V. M. Giri, Sitarama Reddi and B. Subbanachar among non-officials, have practical experience of irrigation under canals.

Messrs. V. N. Viswanatha Rao, W. J. Davis, K. Alagiri Rao, S. Rajagopala Ayyangar, Balraj, Stewart, Pullayya, Arunachalam and T. Bhaskara Rao among officials, and Messrs. Bhimasena Rao, C. V. Rangachar, K. Seetarama Reddi, Devendra Nayudu among non-officials, consider that similar results as in Kurnool will follow. In the opinion of Sri V. N. Viswanatha Rao, the obstacles to the extension of wet cultivation under the Kurnool-Cuddapah canal are—

- (1) Paddy is not the staple food crop.
- (2) There are not enough labourers to cultivate paddy.
- (3) The holding of the Deccan ryot is large and is suited to extensive rather than intensive cultivation.
- (4) The net yield of dry crops in good black-soil dry land is little less than when cultivated as wet and the sale value of good dry land and of wet land do not differ much.
- (5) Capital is wanting for sugarcane cultivation.

Messrs. S. Rajagopala Ayyangar and S. Sankaran consider that for similar reasons the raising of paddy and other wet crops will be impossible under the Tungabhadra project.

Messrs. V. N. Viswanatha Rao and C. V. Rangachar consider that the use of the water will differ according as it flows through black-soil villages or red soils; in the former it will be largely used for irrigating dry lands and in the latter for wet crops. Mr. Stewart states that on account of the experience gained from the use of the Kurnool-Cuddapah canal he would not rely on the Tungabhadra project for raising wet crops on black-soils:

Sri G. Rami Reddi (Famine Charge Officer) among officials and Messrs. Khan Sayyed Buden Sahib, K. Rami Reddi, M. Sitarama Rao, Bhojappa Sowcar, P. Rama Reddi, President, Panchayat Board, Veldurthi, and J. Srinivasa Sastrulu among non-officials, consider that results similar to those in Kurnool may not follow. They consider that wet crops are not raised under the Kurnool-Cuddapah canal in Kurnool, owing to the length of the channel, consequent inadequate supply, the laziness of the Kurnool ryot and the cost of raising wet crops but they are confident that wet crops will be raised under the Tungabhadra project if adequate supply is assured and the results of wet cultivation are demonstrated to the ryots. Messrs. C. V. Ramaswami Ayyar, N. Mrityanjaya Sastri, and V. M. Giri consider that the same results as in Kurnool will not follow, as the Tungabhadra project is designed only as a dry project. Sri C. V. Ramaswami Ayyar suggests legislation to safeguard the interests of the Government while Sri B. Bhima Rao suggests that conditions may be imposed to compel intensive irrigation of dry commercial crops if not wet crops.

As regards the crops for the irrigation of which water should be supplied, Messrs. Nightingale, S. Rajagopala Ayyangar, Pritchard and A. Ranganatha Mudaliyar consider that the irrigation of dry crops only should be encouraged. Mr. Pritchard suggests superior varieties of cholam, ragi and other occasionally irrigated crops. An incidental advantage is that this will prevent increase of malaria which it is feared will be one of the consequences of the project.

Messrs. Nightingale and C. Vijayaraghavan consider that the landowners should not be allowed to grow what crops they like. The former states that supply should be given only at intervals unsuitable for the cultivation of wet crops.

Sri Vijayaraghavan states that the Irrigation Research Station at Siruguppa should in a few years have data to help landowners to select crops to grow on a particular soil and under particular watering conditions and that if these are adopted the project may not fail.

Mr. Smyth considers that it does not matter to a great extent what crops the ryots will grow so long as they make the best use of the water according to the type of soil. He suggests that a combined scheme of irrigated wet and irrigated dry is the most suitable.

Sri P. Rami Reddi suggests that the production of groundnut and cotton should be restricted and the raising of food crops alone encouraged.

Sri C. V. Ramaswami Ayyar considers it advisable to provide for the raising of wet crops as in other projects at least to a limited extent.

On the other hand Messrs. M. Bhimasena Rao and Chandramowli consider that the option of irrigating land must be left entirely to the ryots in black cotton tracts in view of the fact that heavy irrigation of black-soil increases alkalinity and the ryots know best what and when to irrigate. Suitable red and mixed tracts can very well be acquired by the Government and sold or given away to maximum number of people.

Messrs. V. N. Viswanatha Rao, Pritchard, Unnithan, Rao Sahib Muthuswami Ayyar, C. V. Ramaswami Ayyar, Pullayya, C. Gopalam, Kamakshisundara Sastri, Tirunarayanacharya and Janab Akbar Ali Khan among officials and Messrs. A. Ranganatha Mudaliyar, K. Rami Reddi, C. V. Rangachar, N. Mrityanjaya Sastri, M. Narayana Rao, Reddi Venkoba Rao, Chandramowli among non-officials, consider that the project will prevent or mitigate famine in the areas affected by it.

This result will follow in two ways in Sri V. N. Viswanatha Rao's opinion, viz., directly by irrigating dry lands and indirectly by raising the sub-soil level of water.

Sri N. Mrityanjaya Sastri suggests that no consideration (such as the agitation for the formation of linguistic provinces) should stand in the way of the Tungabhadra project being executed and that the cost of the project should be the first charge on the revenues of the Federation or of the major Provinces (Madras and Bombay) so that the minor Provinces cannot shirk responsibility.

Mr. Nightingale considers that the creation of a "cooled" irrigated area will affect the climate and rainfall of the surrounding country particularly that to the leeward of the irrigated area.

Messrs. C. Vijayaraghavan, Javad Hussain, Kudva, Balraj, Hejmadi, T. R. Subramania Ayyar, G. Rami Reddi (Famine Charge Officer), P. Ramachandra Ayyar, Arunachalam among officials and M. Bhimasena Rao, K. S. Raghavacharlu, Tandu Mudaliyar,

M. Devendra Nayudu, M. Sitarama Rao and Bhojappa Sowcar among non-officials, consider that it will not prevent or mitigate famine in all parts now liable to it. Detailed reasons for this opinion which are given by Messrs. Balraj and Devendra Nayudu are—

- (1) Parts of Siruguppa, Adoni and Rayadrug taluks affected by famine in Bellary are outside the area commanded by the project. Except Kurnool taluk in the Kurnool district it is not going to help that district or the affected parts in Anantapur district.
- (2) Very few of the people resorting to the famine works are skilled workmen who could be employed in the actual execution of work as they are not used to hard manual labour.
- (3) The people have now no experience of irrigation for dry crop.
- (4) It may cost Rs. 40 to Rs. 50 an acre to form terraces for dry irrigation and the average ryot has not this capital.
- (5) The districts are so thinly populated that it is doubtful whether there will be sufficient men for cultivating the land when the project is started.
- (6) Malaria which will follow in the wake of the project will reduce the man power available for cultivation.
- (7) The soil will ultimately deteriorate and prove saline; and
- (8) Reclamation of alkaline soil by chemical and biochemical methods is problematic.

On the question whether the black soil is suited for heavy irrigation, opinions differ.

Messrs. C. Vijayaraghavan (Dry Farming Station, Hagari), C. V. Ramaswami Ayyar (Agricultural Research Station, Siruguppa), and D. Chandramowli Rao point out the experience of heavy irrigation of black soil from the Tungabhadra shows that it has not produced any deleterious effects. Sri Chandramowli adds that in places where salinity is at its maximum dry crops may be raised. Sri C. Gopalam says that his experience of saline soils in the Godavari Eastern delta proves that profitable irrigation of such lands is possible.

Messrs. M. Bhimasena Rao and M. Devendra Nayudu are, however, of the opinion that heavy irrigation of black soil will render it saline. Sri Devendra Nayudu cites the instances of the villages of Kamalapuram, Danapuram, etc., irrigated by the Tungabhadra waters which he says are mostly depopulated and more than half the lands are lying waste. Mr. Janab Akbar Ali Khan (Famine Charge Officer) says that regar soil is unsuited for paddy cultivation. Sri S. Sankaran (Tahsildar) considers that black soils when irrigated with plenty of water would be rendered sterile and water-logged and that their productive powers would not be developed.

Sri P. H. Rama Reddi, Director of Agriculture, says that if the Tungabhadra project materializes, it is possible to prevent famine only in the area proposed to be commanded by it. In the whole of Cuddapah district and the greater part of the Anantapur district which are likely to be excluded from the project, the construction of a series of tanks, wells and spring channels is the only solution for mitigating famine.

Question No. 2 (a) (ii) : Have you any suggestion to make for making the project more useful than it can be as at present designed?

Messrs. V. N. Viswanatha Rao, Javad Hussain, Pritchard, T. R. Subramania Ayyar and T. Bhaskara Rao have no suggestions for making the project more useful. Others have made the following suggestions for making the project more useful.

Messrs. M. Bhimasena Rao, N. Mrityanjaya Sastri, V. M. Giri, Chandramowli, Tandur Mudaliyar, C. Gopalam, Kamakshisundara Sastri and B. Bhimasena Rao suggest that electricity may be generated through hydro-electric scheme and cheap power supplied to the districts give an impetus to cottage industries.

Messrs. Bhimasena Rao and V. M. Giri also suggest that the canals should be wide enough for navigation to afford cheap transport.

Messrs. Kudva, Unnithan and Raghavacharlu would extend the benefit of the scheme to as large an area in Anantapur district as possible.

Mr. Unnithan suggests that the question whether the original scheme or the present scheme is more useful may be investigated. Under the original scheme 230 villages in four taluks of Anantapur would be benefited whereas under the present scheme it will benefit only 70 villages of Gooty taluk.

Sri Raghavacharlu suggests such modification in the scheme as would secure the irrigation of the greater portion of the Anantapur district, i.e., Anantapur, Kalvandrug and Dharmavaram taluks as suggested by the Ceded Districts Irrigation Committee.

Messrs. S. Rajagopala Ayyangar, C. V. Rangachar and Lakshminarayana Rao suggest that the project can be extended to greater areas to irrigate dry crops.

Messrs. G. Rami Reddi and Chandramowli suggest that bigger tanks on the way should be linked up with the Tungabhadra canals and that water may be supplied to rainfed tanks wherever levels permit. Sri C. V. Ramaswami Ayyar would also have the existing tanks in the commanded area fed by the Tungabhadra channels.

Sri C. V. Ramaswami Ayyar also suggests modification of the scheme to allow for the irrigation of valuable wet crops.

Sri Pullayya considers that before the project is launched colonization by labourers will be necessary, that labourers should be taught to work hard to improve the quality of the land by levelling, bunding and manuring and that attempts will have to be made for providing sufficient source of manure.

Sri S. Sankaran suggests that the project should be designed in such a way as to include the west canal project investigated in 1923-24.

Sri Chendan Venkoba Rao says that the project could be made more useful if it could cover Pulivendla, Jammalamadugu and Proddatur taluks of the Cuddapah district which are most affected by the failure of seasonal rains.

Sri Pullayala Pulla Reddi, President, Panchayat Board, Pagidyala, suggests that instead of the Tungabhadra project, the Sangameswaram project would help the Cumbum and Markapur taluks of the Kurnool district which are backward and famine stricken. He has no suggestions to make in regard to the change of direction of the proposed project.

Sri P. H. Rama Reddi, Director of Agriculture, suggests that the cultivator should be permitted to grow any crop he likes, subject to necessary conditions.

Mr. John A. Zaccheus suggests the construction of large reservoirs for storage of water through pipes from pumping stations erected at convenient centres along the canals in the low-lying areas.

Sri J. Srinivasa Sastrulu says that to make the project more useful than at present designed, traffic should be carried in the channel by means of boats or by steam boats for the transport of products like paddy, sugarcane, timber from one part to another, which will give labour for many unskilled workmen, etc.

Question No. 2 (a) (iii) : Can you suggest any other major productive or protective works which are practicable from an engineering point of view?

Sri M. Narayana Rao suggests the construction of dam across the Hagari river at Kanchagara, Balagal and Balakunti villages in Siruguppa taluk. The irrigation channels to run from the sites on two sides of the bank (east and west) and to fall or end in Tungabhadra. This will feed about fifty villages.

Sri V. N. Viswanatha Rao considers that tanks and wells in Markapur taluk are worth attention. He suggested to the Executive Engineer the investigation of the restoration of a ruined tank named Gondicheruvu between hills north-west of Venkatadripalem in Markapur taluk. He also recommends the construction of the Venkatarreddicheruvu tank at Edavali, and of the tank at Bommalapuram. The formation of a supply channel from the Thigaleru to the big tank at Dupad, Markapur taluk, may be investigated.

Sri M. Bhimasena Rao considers that any irrigation project must be a combined system of storage and direct irrigation. A survey of the old tanks in these districts must be made and the existence of such tanks must be taken to prove the suitability of the soil for irrigation. All these tanks should be reconstructed and Tungabhadra water supplied. New tanks in all convenient centres must be constructed and water stored in them.

Sri V. Chidanandam suggests (a) Vogur-Vakamada project in Sidhout taluk, (b) Somasila project undertaken as a test work and abandoned, (c) anicut across Pennar at Dongalasana in Sidhout taluk, (d) Sagileru project—(i) anicut at Venkamarri, (ii) anicut at Chennampalli.

Messrs. Javad Hussain, Kudva, K. S. Raghavachari, Khan Sayyed Buden Sahib, Unnithan, Alagiri Rao, Devendra Nayudu, V. V. Subramanya Ayyar suggest the Kumudavati project. Mr. J. Hussain states that similar projects may be tried in the Chitravati and Pennar rivers in Anantapur district and that the construction of two anicuts in the Pandimeru river may also be tried.

Sri S. Rajagopala Ayyangar proposes the building of a series of storage reservoirs in many of the sites which exist in Pennar river basin. One such reservoir near Pennahobalam may be investigated.

Sri K. S. Raghavacharlu suggests the bunding of the Pinakini and its tributaries as well as the Hagari at suitable places and divert the flood water into tanks.

Mr. Unnithan suggests the Bhairavani Thippa scheme in Kalyandrug taluk and the Mushtikovila project in the Dharmavaram taluk.

Sri K. Alagiri Rao suggests the Velgode project in Kurnool district.

Sri K. Rami Reddi suggests the construction of a reservoir to hold up the flood waters of the Hundri river.

Sri C. V. Rangachar suggests the following :—

(1) Dam Chitravati river near Nayanipalle, Tadpatri taluk, where it passes through two mountains.

(2) Dam Pennar river near Gampamallaiah Palli in Anantapur district.

Mr. Hejmadi suggests the following for Cuddapah district :—

(1) Harnessing the Sagileru waters, by constructing an anicut or reservoir in a suitable place.

(2) Vogur-Vakamada project.

(3) Excavation of a spring channel from Panavalavanka to Gotur Malidevarayancheruvu.

(4) Excavation of a spring channel from Chitravati river in Jammalamadugu taluk.

(5) The Kanchalamma Gandhi-project in Rayachoti taluk.

(6) The Papaghni Reservoir project in Rayachoti taluk.

Sri Lakshminarayana Rao suggests (1) supply of drinking water to Gooty by means of pipes from Basinepalli channel; (2) restoration of Errathimmarajucheruvu.

Sri K. Ramanathan says that a few years back it was contemplated to dam the Kistna river at Sangameswaram with the object of using the water for four or five districts and that this project would be very useful.

Sri M. Devendra Nayudu suggests the taking of a canal from Kamalapur to Daroji tank.

Sri B. R. Venguswami Ayyar considers that the general condition of the Anantapur district is such and the available water-supply is so small that no major productive or protective works are practicable.

Messrs. M. Sitharama Rao and Bojappa Sowcar suggest—

(a) A dam across Tungabhadra near Kuruvatti in the Harpanahalli taluk known as the West Canal project.

(b) A smaller dam on the same river near Angur in the Hadagalli taluk.

(c) The "Madilagatta Didagu" constructed by the Vijayanagaram kings may be investigated (the above three may be connected with each other).

(d) The incomplete tank in Magalam village in Hadagalli taluk may be completed and fed with a river channel.

(e) The Hagarnur, Hirehadagalli and Devagondanahalli and similar tanks may be converted into river-fed tanks.

Messrs. Arunachalam, Tirunarayanacharya and K. V. Krishnamurthi suggest that the waters of the Hundri may be utilized for forming a major tank in the Pattikonda or Kurnool taluk. Mr. Arunachalam also suggests the construction of spring channels from the Hundri.

Janab Akbar Ali Khan suggests the Gundlakamma, Thokapalle, Velgode and Sangameswaram projects.

In a memorandum to the Premier the Rayadrug Taluk Agricultural Association has suggested the Byradevinitippa project and connecting Dodagatta major tank with the adjoining Chinna Nagari river by means of a canal.

Mr. Arunachalam also suggests the construction of a reservoir on the Devanakonda-Aspari road and at Kodumur.

Sri S. Sankaran suggests—

(1) The west canal project.

(2) The Chintrapalli-Byalahal tank project.

(3) The bunding of a big stream near Mannarmasalvada of Harpanahalli taluk.

(4) The construction of an anicut across the Hagari at Hagari Bommanahalli and Tambrahalli improving the existing channel repaired by Kudimaramath into a substantial canal to irrigate lands of Byalahal, Kadlebal, Hiresaboti, Chilugodu, Tambrahalli, Bachigondanahalli and Anandevanahalli.

(5) The diversion of Hagari water to feed the tanks of Arsikeri, Towdur, Punabhagatta in Harpanahalli taluk.

(6) The construction of Rayapuram tank in Kudligi taluk.

Sri Chendan Venkoba Rao suggests harnessing the five rivers, viz., Pennar, Chitravati, Papagni, Cheyyar and Sagileru instead of incurring huge expenditure on the maintenance of minor irrigation tanks.

Sri Pullayala Pulla Reddi suggests the taking up of the Sangameswaram project. The same suggestion has been made by Sri P. Rama Reddi.

Mr. T. Bhaskara Rao suggests that the Sidhapuram project which has proved a failure may now be investigated as to why it has failed and whether there is any possibility of improving it. He also wants an investigation to be taken for the improvement of the Cumbum tank.

Sri Y. S. Anantarajah says that there is no other major productive or protective work except the Tungabhadra project.

Sri P. H. Rama Reddi suggests the improvement of the existing tanks in the project command. He also mentions in this connexion the scheme prepared by Sri Srirama Ayyar (Executive Engineer, since retired) for impounding water from the Kurnool-Cuddapah canal near its 80th mile or so in a big reservoir for irrigation as well as for developing hydro-electric power.

Mr. John A. Zaccheus suggests the boring of wells with springs in the beds of the existing tanks.

Sri J. Sreenivasa Sastrulu suggests the starting of hydro-electric scheme, introduction of water taps, electric lights and rice mills, etc.

Notes of reference—A note on the present stage of the Tungabhadra Project.

Various proposals have been put forward from time to time from the middle of the last century for impounding the waters of the Tungabhadra for a large irrigation project in the districts of Bellary, Anantapur and Kurnool. The latest scheme which has been engaging the attention of the Government is that formulated by the Chief Engineer Sri Swaminatha Ayyar in 1933.

This scheme contemplates "the construction of a dam across the Tungabhadra at Mallapuram and that the water stored in the reservoir will be shared equally by both the Governments of Madras and Hyderabad. On the Madras side, provision is made for the irrigation of 622,500 acres of dry crop (kharif) in the months of June to September and 450,000 acres of dry crop (rabi) in the months of October to February, or a total area of 1,072,500 acres of dry crop in both the seasons. The distinctive features of the scheme proposed is for the regular irrigation of such of the dry crops as are grown now in the areas affected in the early and late seasons against the irrigation of wet crops and dry protection for two months contemplated in the original scheme of Mr. Mackenzie and the regular irrigation of wet crops only (omitting dry protection in the scheme of Mr. Ireland).

The nature of dry crops which will be grown in the two seasons will be the usual cholam, korra, cumbu and pulses and oil-seeds in the early season and white cholam and cotton in the late season. The former will be grown preferably in the red, mixed and light black soils while the latter will be grown in the heavier black soil. There is also no objection to grow groundnut in the early season as a commercial crop. There is no idea of allowing irrigation for a second dry crop on the same land for two reasons, viz., (1) that the soil will get exhausted quickly, (2) that the revenue payable for the second irrigated crop cannot be reduced on the score that it is a second crop." Irrigation for growing paddy will be permitted only in lands which are likely to get waterlogged as a result of introduction of irrigation.

Pending negotiations with Hyderabad on the distribution of waters it is not possible to carry on with the scheme outlined above which proceeds on the assumption that Madras and Hyderabad will extract 112.5 T.M. cubic feet each from the river Tungabhadra. The present Chief Engineer has, therefore, formulated four alternative partial schemes to utilize the quantity of water to which the Madras Government is indisputably entitled. These schemes are capable of expansion to the area contemplated in the full scheme proposed by Sri Swaminatha Ayyar in 1933. The four alternative schemes are briefly described below.

Scheme A provides for—

- (1) Irrigating dry crops (chiefly cambodia or other high yielding cotton in rotation with cholam) between October and February (or preferably earlier in the year, say, from July to November if the experiments show that cotton can be grown

successfully in those months) on 550,000 acres (in Bellary and Anantapur districts) commanded by the 1933 project canal from its head Molagavalli cutting at mile 180/0.

- (2) Improving and extending the existing Rampur channel to irrigate wet crops (paddy chiefly) between June and December on 60,000 acres in Bellary and Kurnool district (contour about +1060).

Scheme B provides for—

- (1) Irrigating dry crops between October and February (or preferably earlier in the year if the experiments show this to be possible) in the first 80 miles of 1933 project canal (from the dam to the Chinna Hagari crossing) on 240,000 acres.
- (2) Constructing an anicut jointly with Hyderabad at Rajolibanda, nine miles upstream of the Madras and Southern Mahratta Railway bridge over the Tungabhadra and excavating a canal, 70 miles long, to irrigate 110,000 acres of wet crops of which 65,000 acres will be in Kurnool district (at about contour +1090).

Scheme C provides for—

- (1) Irrigating dry crops between October and February (or preferably earlier in the year if experiments show this to be possible) in the first 80 miles of the project canal (from the dam up to Chinna Hagari crossing) on 240,000 acres.
- (2) Dropping the canal water into the Chinna Hagari and picking it up at an anicut on the Hagari, seven miles downstream of the railway bridge over the Hagari, and excavating a canal, 72 miles long, to irrigate 140,000 acres of dry crops as in (1) (contour +1300).

Note.—If on detailed investigation it is found feasible to drop the supply required for this contour channel from the Hagari into one of its tributaries near Bellary at about the 62nd mile of the canal, there will be some appreciable reduction in the cost of the main canal in the reach below Bellary.

- (3) Same canal as (2) in Scheme B with the area limited to 90,000 acres and the length reduced to 60 miles.

Scheme D provides for—

- (1) Irrigating dry crops between October and February (or preferably earlier in the year if the experiments show this to be possible) in the first 167 miles of the project canal (from the dam up to the head of the Anantapur distributary near Guntakal) on 470,000 acres.
- (2) Constructing an anicut jointly with Hyderabad at Rajolibanda as in Scheme B, to irrigate 100,000 acres of dry crops of which 65,000 acres will be in Kurnool at about contour +1000.

The partial schemes proposed by the Chief Engineer were recently considered by the Irrigation Development Board at its meeting, dated 6th July 1938, and its conclusions are set forth below.

“ Before dealing with the modifications to the present scheme proposed by the Chief Engineer and the Board of Revenue, the Irrigation Development Board considers it necessary to record what it believes to be the scope of the scheme at present before the Government. It is a scheme for the regular irrigation of such of the dry crops as are grown now in the areas affected in the early and late seasons. Paddy is to be allowed on lands likely to get water-logged as a result of the introduction of irrigation, but not otherwise. A restricted area of sugarcane concentrated near the main canal may be allowed.

The ayacut is to consist of most of Bellary and Siruguppa taluks, parts of Hospet, Alur, Adoni, Kurnool and Pattikonda taluks and a small part of Gooty taluk.

As regards water rates, though no definite proposals have been put forward, Mr. Priestley was instructed by the Irrigation Development Board, before he proceeded on his special duty as Revenue Officer, to explain to the ryots that, as in the Lower Bhavani scheme, the cess will have to be paid every year irrespective of the nature of the crops and whether water is or is not used. Mr. Priestley, assuming a capital expenditure of thirteen crores and a return of 3 per cent with rates of Rs. 10 for a wet crop and Rs. 5 for an irrigated dry crop, stated that such payments would appeal to nobody, even if people could make them, which they obviously could not.

The Irrigation Development Board is therefore of opinion that, in spite of the encouraging conclusions arrived at by Sri Venkataramiah as to the irrigability with suitable precautions of the commanded area, the present position is profoundly unsatisfactory.

The experiments at Siruguppa have on the advice of the Irrigation Development Board been confined mainly to the light irrigation of the crops now grown in the area commanded. The Board considered that it was useless to employ costly manures or other aids to better outturns beyond the means of the average ryot. But unless irrigation results in outturns far above those at present obtained it will be impossible to levy the necessary rates over the entire commanded area.

It would be even less feasible to allow the ryots the option which they have in the greater part of the ayacut of the Kurnool-Cuddapah canal to take or refuse water at will and to pay for it only when it is used. Experience especially in the Kurnool district, shows that water is taken from the canal to irrigate dry crops only when there is a partial failure of the rains and that little or no attempt is made to irrigate dry crops regularly. It would be clearly impossible to provide a new project on these terms.

It therefore follows that if the scheme is to go through at all it is imperatively necessary to raise the gross outturns and the money value of the crops in the commanded area to a level at which the necessary cess can be levied without difficulty.

Too much stress has, in the Board's opinion, been laid on the protection which it is hoped the scheme will afford to the tracts at present frequently visited by famine. The Board does not believe, that even if the present scheme could be carried out on sound financial principles, it would obviate for all time all expenditure on famine relief. Much of the area now most frequently visited by famine, especially in Alur taluk and in Anantapur district, is outside the proposed ayacut, and, though no doubt a certain amount of migratory labour from say Hindupur and Penukonda taluks could find employment within the commanded area in times of scarcity, the tendency would undoubtedly be for the population in the commanded area to rise and eventually produce its own full labour force.

The Irrigation Development Board is forced to the conclusion that the natural desire to protect the maximum area commandable at a price which the ryot can pay from the crops which he now grows can only result in stalemate. It is, therefore, of opinion that the problem should be viewed from another angle and that the aim should be to produce a commercial proposition which would incidentally be famine protective.

The following proposals are, therefore, unanimously put forward for the consideration of the Government:—

- (1) The experiments at Siruguppa should proceed on the assumption that there will be regular irrigation with Tungabhadra water of all the commanded area and that the ryots will be made to pay for it, whether they take it or not, by legislation.
- (2) The scope of the experiments should be enlarged to find out the crop or crops that will ensure the largest return to the ryots.
- (3) The possibility that the project should be mainly for the irrigation of Cambodia cotton or other suitable types including American and Egyptian should be carefully explored. Already experiments at Siruguppa have demonstrated the impracticability of irrigating the cotton locally grown. On the other hand, irrigated Cambodia cotton grown at the Hagari station has given larger outturns than those obtained at Coimbatore.

The Board has carefully considered the four schemes of partial development put forward by the Chief Engineer for Irrigation. The Chief Engineer's proposal has the inestimable advantage of allowing work to be begun thereby incidentally providing employment for large numbers of labourers as soon as an interim agreement with Hyderabad is arrived at. Scheme B involves the smallest commitment and the Irrigation Development Board agrees with the Chief Engineer that the scheme should be singled out for detailed investigation. It accordingly recommends the investigation of this scheme from the revenue point of view including the framing a revenue estimate. The revenue estimate should be prepared separately for the first and all subsequent stages. The estimated return on the first stage may be fixed having regard to the fact that all subsequent expansion will show a clear profit. The investigating officer should consider the possibly deleterious effects of a small admixture of Hagari water where the canal is taken across the Hagari and the question of the crop to be grown in the ayacut in Kurnool district should be left entirely open until the experiments now suggested at Siruguppa are over.

The Irrigation Development Board's proposals are therefore—

- (1) Intensive experimental work at Siruguppa to discover the most paying crops for the project area.
- (2) The detailed investigation from the revenue point of view on the basis of results obtained at Siruguppa of the scheme favoured by the Chief Engineer in all its stages up to approximately the full ayacut as proposed by Sri Swaminatha Ayyar.

The most difficult problem has however still to be solved, namely, how to compel the ryots to grow the approved crops in the proper way on the selected area so that the necessary water rates may be paid. The Irrigation Development Board cannot sufficiently stress the extreme difficulty and complexity of this problem. Much of the area commanded is now parcelled out in comparatively large holdings indifferently cultivated owing to unfavourable seasons, lack of manure and lack of capital. What is now proposed is to convert this into a regularly irrigated tract entirely independent of the vagaries of the monsoons, producing the crops which will show the maximum profits and paying without difficulty the necessary return on capital expenditure. The Irrigation Development Board is very doubtful whether the mere provision of an unfailing supply of water and the advice and assistance of the Agricultural department would produce the desired results and is inclined to agree with the Board of Revenue that a measure of compulsion to which ryots in this province are not accustomed will be necessary. The Irrigation Development Board therefore agrees with the Board of Revenue that, after the experiments at Siruguppa have produced sufficiently reliable results, an experiment which would give a clear indication of the commercial possibilities of the scheme, and might if successful open the way to a drastic remodelling of the agricultural economy of the commanded area, should be undertaken. The suggestion is that the Government should acquire under the Land Acquisition Act two or three contiguous villages to which Tungabhadra water could be brought by a temporary channel. The bought-out ryots should, if they so desire, be retained as the tenants of the Government, if not, other tenants from outside should be introduced. The entire area thus acquired should be cut up into convenient plots and allotted to tenants on the following conditions:—

- (1) All agricultural processes should be managed and controlled by an officer of the Agricultural department.
- (2) The crops should be marketed by the Government and the proceeds paid to the cultivators less a rent which will be the sum of the following amounts:—
 - (i) The land revenue now paid on the plots held by the cultivator;
 - (ii) the water-rate that may be fixed for the project;
 - (iii) interest charges or any initial capital expenditure on agriculture, improved agricultural machinery or manure provided by the Government;
 - (iv) a small charge to pay for the cost of management; and
 - (v) a small interest charge to cover the initial expenditure on land acquisition incurred by the Government.

N.B.—The rate of interest on all initial capital expenditure including management need not necessarily be that at which the Government could profitably invest its funds. It may be fixed as low as possible, taking into account all the indirect returns likely to be obtained from the scheme including the general amelioration of the condition of the labouring classes.

In the Irrigation Development Board's opinion the suggested experiment would at one and the same time produce the large demonstration farms which the Chief Engineer wants, provide a conclusive test of the commercial possibilities of the project and be of great evidentiary value on the question of the extent to which State ownership and control would result in the improvement of the condition of the people of these tracts.

It was also suggested that an officer of the Revenue and the Agricultural departments might be deputed to study the conditions in the Gezira project in the Sudan which is largely for the irrigation of cotton and is run on commercial lines including the marketing of cotton.

Question No. 2 (b)—Minor irrigation and wells:

- (i) *Is it a fact that the number of these sources and the area irrigated by them are decreasing? If so, what in your opinion are the reasons for the decrease?*
- (ii) *Can you suggest any measures that will be effective in preventing the deterioration of these sources and especially in preventing the silting up of the minor irrigation sources?*
- (iii) *It has been stated that the minor irrigation sources and wells which are dependant on the season for their supplies will fail when there is a failure of the monsoon and these will therefore be of no use in seasons of distress. Do you agree? If not, in what way will the improvement of these sources or an increase in their number be helpful in preventing or mitigating famine?*
- (iv) *Do you suggest that an increase in the number of wells will improve the situation? If so, what steps should in your opinion be taken towards this end?*

It has been stated that in black soil areas the subsoil water is usually brackish, non-potable and probably deleterious to crops. What is your experience? If the statement is correct, is there anything to be gained by increasing the number of wells?

(i) Most of the gentlemen admit that it is a fact that the number of these sources and the area irrigated by them are decreasing and the reasons for such a decrease are attributed to one or more of the following causes, viz., (a) failure of seasonal rain, (b) want of efficient and proper repairs to the tanks, wells and channels, (c) silting up of tanks and the consequent decrease in their capacity, (d) increase in the ayacut due to conversion of lands from dry to wet without regard to their capacity, (e) abandonment of tanks, etc., (f) disafforestation.

Sri V. N. Viswanatha Rao states that he does not agree that the number of these sources is decreasing though he sees that the area irrigated by them is decreasing. Mr. A. A. Smyth is unable to offer any opinion on this. Sri T. Sivasankaran Pillai says that there is no decrease in the number of wells but that the supply in them is diminishing. Messrs. K. M. Unnithan and K. Alagiri Rao do not agree with the statement that the number of these sources and the area irrigated by them are decreasing. On the other hand, Mr. Unnithan states that there has been a slight increase in the number of wells and that the extents cultivated under the sources have been varying due mostly to uncertain rainfall. Messrs. V. S. Hejmadi and V. V. Subrahmanyam say that only the area irrigated by these sources is decreasing. Mr. V. V. Subrahmanyam also states that only the number of wells in use has decreased appreciably. Sri W. Tirunarayana-charya (Famine Charge Officer) says that he has no definite knowledge about the decrease in the number of the sources but that the area irrigated under tanks is certainly decreasing.

(ii) The measures suggested effectively to prevent the deterioration of these sources and especially their silting up are (a) construction of silt traps at the inlets of supply channels to the bigger tanks, (b) removal of silt clearance under kudimaramat, (c) control of soil erosion by means of afforestation, etc., (d) raising the bunds and F.T.L. of tanks so as to have more water, (e) extensive contour trenching on the tank foreshore with the co-operation of the Forest department, (f) keeping the feeder channels in order, (g) restoration of abandoned tanks and channels, (h) construction of reservoirs to store up the Pennar water which will also prevent the deterioration of the sources, (i) the lowering of the tank-beds now and then, and (j) the revision of the ayacut under these sources and reduction to the minimum where necessary.

Mr. Javad Hussain suggests, so far as Anantapur district is concerned, the carrying out of repairs and removal of silt, etc., to the channels and tanks at the cost of the Government as the ryots of the district are too poor. Sri T. Sivasankaran Pillai refers to the suggestions made by the (now defunct) Tank Restoration Scheme department and contained in the Legislative Council Proceedings of 1921.

Mr. Pritchard says that in respect of supply channels which have been badly neglected, the ryots should do the silt clearance though the Government may do it partially in the case of channels which are particularly long. He agrees with the suggestion of Sri Diwan Bahadur N. Swaminatha Ayyar that the ryots should be assisted in the silt clearance by the formation of berms, etc.

Mr. K. M. Unnithan would like to leave the suggestions to be made to the Engineering department.

Sri K. Rami Reddi suggests (a) the ryots must be allowed to take the soil of the tanks free of cost, (b) the Government must repair all the small drains running from the main canal to the fields, and (c) the Government must provide each village with boring wells sufficient for purposes of drinking water and cultivation.

Sri N. Mrityanjaya Sastri suggests among others (a) to reinforce the bunds of the tanks and to entrust the work to the village panchayat on a statutory basis, (b) to revise the kudimaramat scheme, and (c) to double the tank restoration establishments in these districts.

Mr. Balraj says that for improving the wells the ryots must be encouraged to take loans from the Government on nominal interest or even without any interest and that more co-operative societies should be formed and that famine relief work should include the silt clearance.

Sri A. D. Tandu Mudaliyar suggests the formation of an Irrigation Board consisting of men with local knowledge to guide the department wherever necessary for the purpose. The same suggestion has also been made by Sri B. Bhima Rao.

Mr. V. V. Subrahmanyam says that in future famines the entire labour available should be diverted to the restoration of tank and that legislation should be passed making it compulsory for every adult in the village to contribute labour for a certain number of days for the improvement of the tanks in the village.

Sri S. Sankaran (Tahsildar) suggests (a) that the Government should undertake the repairs to supply channels to the tanks and the removal of all shrub growth, only the repairs to channels leading from the sluices to the fields being left to the ryots, (b) that their inspection must be more vigorous than at present, supervised by a panchayat of the village and minor irrigation overseer with one or two maistris under him for keeping them in order, (c) that periodical reports may be prescribed for reporting on their conditions every quarter and necessary funds supplied for executing the repairs, (d) that the removal of earth silted up in the beds of the tanks should be allowed free to the ryots to manure their lands, (e) that the panchayat should be given powers to enforce the removal being done in the off season in March and April when the tanks are empty, (f) that in cases where the ryots do not remove silt, the panchayat should have it done under kudimaramat labour and (g) that suitable contrivances may be provided at the mouth of the supply channels of each tank for preventing the silt entering the bed of the tanks.

(iii) The majority of the witnesses agree with the statement that minor irrigation sources and wells will fail when there is a failure of the monsoon and that they will therefore be of no use in times of distress. Messrs. M. Bhimasena Rao, K. S. Raghavachari, Pritchard, G. Rami Reddi, C. V. Rangachar, S. Rajagopala Ayyangar, S. J. Balraj, Muthuswami Ayyar, V. V. Subrahmanyam do not entirely agree. They consider that an improvement in the number and in the condition of these sources will go a long way in mitigating, if not altogether preventing, the rigours of famine. The suggestions made to this end more or less cover the same given with reference to item (ii) above. One important suggestion made is the sinking of deep bore-wells to tap the underground sources.

(iv) The majority of persons who have given written evidence agree on the point that an increase in the number of wells will certainly improve the situation. Mr. Javad Hussain says that he does not think that a mere increase in the number of wells will improve the situation unless the wells are extremely deep and there is a guarantee of a never failing supply. Mr. V. N. Kudva states that the situation will not be improved by increasing the number of wells as it may not be possible to tap adequate supplies of water in the wells. Sri C. Gopalam (work agent) states that increasing the number of wells in black soil will be of no avail while it will be of much use in red soil tracts. Sri Y. S. Anantarahajah states that there is no possibility to increase the number of wells in the Bellary taluk as the subsoil water is brackish.

The opinion of the witnesses on the question whether in the black soil areas the subsoil water is usually brackish, non-potable and deleterious to crops, or not, and whether there is, if the statement is correct, anything to be gained by increasing the number of wells, is divided. Sri K. R. Rajagopalan, the nominee of the Chief Engineer (Electricity), does not agree with the view as a result of actual experience he has had in the Cuddapah district. He also says that, even if the water cannot be used directly for irrigation, it may be used after mixing it with the water drawn from shallow wells for irrigation. He considers such a course will be possible in the areas under reference. A variety of suggestions have been made by the witnesses for improving the number of wells.

Sri K. R. Rajagopalan considers shallow ones to be of no use in seasons of distress. On the other hand, he suggests that geophysical study of the districts in question should be made and bore-wells sunk in suitable areas for tapping subsoil water for drinking and irrigation purposes.

Miscellaneous suggestions.—Sri A. Ranganatha Mudaliyar recommends that water-rates under spring channels should be reduced, specially where the ryots have long lengths of channels in river-beds to excavate and take care of.

The Government have asked the Committee to consider (1) the recommendation of the sub-committee for Agricultural Development of the Provincial Economic Council, viz., "that the Government should share with the ryots some of the risks of well construction and advances for the sinking of wells should come from the Famine Insurance Fund" and (ii) suggestion of Sri B. Bhima Rao, Advocate, Bellary, regarding the sinking of drinking water wells in the villages of the Bellary district from the Famine Relief Fund, on the lines carried out by one Sri Venugopal, Executive Engineer, Gulburga, in the Nizam's Dominions.

Notes of reference—A note by the Director of Industries on the survey of underground water resources of the Ceded districts (without the annexures).

Of the total rainfall that falls on the earth's surface, a portion is evaporated, either directly or indirectly by transpiration through the growth of plants, a portion runs off through streams and rivers into inland lakes or tanks, whilst the remaining portion sinks into the ground through pores in the soil and openings in rocks and becomes

underground water. The quantity of water that is thus absorbed in any locality is dependent upon the inclination of the ground and the geological nature of the material composing the surface. Impervious strata such as deposits of hard clay or fissureless rocks arrest the downward flow of rainwater and in consequence it accumulates in the pore spaces and interstices between the constituent grains and loose formations, such as, soil, sand, and weathered rock, and also in the cracks, joints, faults and other divisional planes in rocks which overlie the impervious strata below. As a result of such successive accumulations of water, the loose formations get saturated with water up to a certain level, called the water table, and when a borehole or well is sunk to a depth below this water table, the water-bearing strata yield the water held in their interstices. A study of the ground water conditions of a region, therefore, involves the determination of the various underground strata, their distribution, thickness and depth below the surface and their condition, characteristics and water-bearing capacity. Formations of water-bearing strata differ from one another in their water-bearing capacity according to their geological characteristics and they may range from a few feet to hundreds of feet in thickness and may extend over several hundreds of square miles. The determination of these various factors can be done satisfactorily and at minimum expenditure only by a geologist with a knowledge of hydrology. From a study of the geological history of a locality, natural outcrops and artificial exposures, etc., a geologist will be able to prepare a sectional map of a region extending over hundreds of square miles showing the distribution of the various formations with special reference to their water-bearing capacity. If an extensive survey of the underground water resources of the Ceded districts is to be made, it seems very necessary that a geologist should be associated with a water diviner if one is employed or to be precise, that a geological survey of the subsoil water of the areas selected should precede an intensive survey by a water diviner with the rod or the putting down of borings by a boring party without the assistance of a water diviner. In practice, the actual procedure would be somewhat as follows: The geologist would first examine the physical features of the areas selected with a view to indicating the areas where water is likely to be found thus localizing the work of the water diviner who would otherwise probably waste a good deal of time in trying to find water in unsuitable areas or confining the putting down of borings to areas where there appears to be a likelihood of tapping underground water if a water diviner is not employed. When an area is selected by a geologist as likely to yield water, the water diviner would concentrate on it and by this association of the geologist and the water diviner, the number of unsuccessful borings put down should be reduced to a minimum and the survey of the selected area or areas completed with much greater expedition and at a less cost than would otherwise be possible. The geologist would in ordinary circumstances work in advance of the water diviner and after the operations have been completed, he would, in order to facilitate further work, prepare for permanent record a map showing the distribution of the various formations and the strata with special reference to their water-bearing capacity. The water diviner, if one was employed, would then make an intensive survey of any site, village, or group of villages in the belt overlying the water strata. If a water diviner was employed for the purpose of discovering or selecting localities or areas in the Ceded districts with a view to sinking boreholes on such selected areas to a depth of 200 feet in each case, the task would be so vast that it might take him years even to superficially prospect the area with the rod. It is the case that unless an area to be surveyed by a water diviner is small and compact it is not possible for him to survey it with a rod either efficiently or within a reasonable time. On the other hand, a geologist with a knowledge of hydrology can deal with large tracts approximating to a district or a group of districts, although it is of course understood that his findings would only give a general indication of the presence or otherwise of water-bearing strata in the areas surveyed. Nevertheless the conclusions of the geologist would limit the area to be surveyed by a water diviner and enable the latter to efficiently explore with the rod small areas such as a village or a group of villages within the zone indicated by the geologist. It may be mentioned that, according to a statement which appeared in the newspapers recently, the Bombay Government have requested the Government of India to lend them the services of an expert geologist to survey the tracts between the Mahi and Sabarmati rivers in Guzarat with a view to ascertaining whether subterranean streams exist so that Government may sink tube-wells for the purposes of irrigation and water-supply to agriculturists.

2. The usefulness or otherwise of water-divining is a matter on which widely varying opinions are held. Water-divining has been known through the centuries, but during the nineteenth century, when modern science took its birth, everything savouring of empiricism became suspect, and not being susceptible of scientific explanation, water-divining or dowsing, fell into disrepute as an example of charlatanry. During the last few years, however, a decided reaction appears to have set in and dowsing has been more and more resorted to and recognized as a useful art. In England

it has become common for dowzers to be consulted by public authorities and this seems to be the case in other countries also. It is possible that sooner or later water-divining will meet with scientific acceptance and there will be a scientific explanation of the phenomena. The late Industrial Engineer, Mr. L. S. Pinto, was a water-diviner and had great faith in the efficiency of this method of locating underground water-supplies. On the other hand, the present Industrial Engineer—Sri N. M. Adyanthaya—has no faith at all in water-divining. There seems to be no suitable machine which can locate the presence of water and the electrical appliances which have been devised do not appear to be reliable and have not, therefore, come into general use. A water-divining instrument was tried in the Department of Industries some years ago and the conclusion arrived at by Mr. Tressler, a former Director of Industries, was that it is unreliable and that the vagaries of its indications cannot be understood and applied. If water-divining is not resorted to in the Ceded districts when the geologist has given an indication of the presence or otherwise of water-bearing strata, the experience of the engineering staff of the Department of Industries will have to be utilized for actually locating underground water by putting down trial borings at sites selected by them.

3. Scarcity of drinking water and absence of irrigation facilities in certain tracts led, in 1928, to the consideration of proposals for carrying out an intensive survey of underground water-supplies in the Bellary district. In order to collect data with a view to ascertaining whether such a survey would be effective in locating underground currents, it was decided to carry out an experimental survey in the Bellary taluk of the Bellary district. Apart from the fact that Bellary taluk is notoriously deficient in tanks and wells and singularly liable to drought, there is to be found in the Bellary firka, unlike other similar areas, an alteration of black, red and mixed soils, and experiments conducted in such a tract would, it was considered, be likely to yield more useful data as to the quality of water and the depth at which water could be found in such soils. The following villages in the Bellary firka were accordingly selected in consultation with the Collector of Bellary for the conduct of the survey:—

- | | |
|-------------------|--------------------|
| (1) Bellary. | (8) Bisalahalli. |
| (2) Mundrigi. | (9) Bevinahalli. |
| (3) Gonahal. | (10) Haddinagundu. |
| (4) Andrahal. | (11) Sanganakal. |
| (5) Honnehalli. | (12) Sidaragadda. |
| (6) Patrabadihal. | (13) Belagal. |
| (7) Aladahalli. | (14) Kolagallu. |

The total extent of these 14 villages was about 101 square miles. The villages form a compact block and lie within a convenient distance from Bellary town. A boring party equipped with two power drills and twelve hand-boring sets, and the staff necessary to work them, was sanctioned for the purpose, and a water-diviner was associated with the operations with a view to minimizing the number of unsuccessful borings. The operations were actually commenced on the 28th March 1928 and continued up to the 6th February 1930. Ninety-seven borings were put down of which 9 were abandoned, and of the remaining 88 borings, 30 yielded fresh water, 12 slightly brackish and 32 brackish, 14 borings proving total failures. Seventy-four borings yielded two gallons or more per minute. The total number of feet bored was 6,527. The survey operations revealed that the whole area is underlined with hard granite rock below 30 to 40 feet, that where the surface soil is typically jet black cotton soil, the water tapped underneath is always brackish, but where it is lighter in colour and contains considerable quantities of gravel, the water found underneath is generally less brackish, and that where the surface soil is red or of light sandy colour or gravelly in substance, the water tapped therefrom is generally drinkable. The experiment established the fact that it is possible by means of boring to tap underground sources of water even in tracts considered totally unpromising. A consolidated map indicating the course of underground water as detected by the water-diviner with a divining rod is enclosed.* It may be mentioned that the water-diviner did not specify the depth at which water would be met with on the sites selected by him, nor could he state the quality of water that would be tapped. Details of the survey of subsoil water carried out in the Bellary firka will be found in G.O. No. 1984, Development, dated 29th October 1930, copies of which have been distributed to members of the Committee. The total cost of the survey was Rs. 23,500.

4. From 1910 to 1938, 248 borings were put down in the Bellary district by the Department of Industries, 365 in the Kurnool district, and 341 in the Anantapur district. The figure for Bellary district does not include the 97 borings put down in the course of the survey of subsoil water referred to in the preceding paragraph. The

* Not printed.

districts of Bellary and Kurnool are situated on the Deccan Plateau and the area gradually rises from east to west, the ground level at Bellary being about 1,400 feet above sea-level. Annexure I gives particulars of the borings that have been put down in the Bellary district since 1932-33 and Annexure II gives similar information in respect of the Kurnool district. A statement in respect of the Anantapur district is under preparation and will be forwarded shortly. It will be seen that borings (ground borings) have been put down on an average to a depth of 75 feet in rock and some of them to a depth of 118 feet in very hard rock and that most of them have been supplying water for a hand-pump only, i.e., four to five gallons per minute on an average. Not one of the borings has yielded sufficient water for irrigation purposes. It is understood that, some years ago, a few borings were tried in wells, but that they did not yield sufficient additional supply of water for increase of irrigation. It will be seen from the statements enclosed that good potable water was tapped in many cases in the crevices of rock. Certain borings were abandoned or not carried sufficiently deep since the ryots could not afford to meet the expenditure which was heavy in proportion to the progress achieved in rock. No very deep borings have been put down in the Ceded districts by the Department of Industries, and it would seem worth while, as an experiment, to put down a few larger diameter and sufficiently deep borings in suitable and selected places in order to ascertain whether water could be tapped at depth for irrigation purposes. A few such borings might with advantage be put down under the Rural Water-supply scheme, as, if successful, they would solve the protected water-supply problem. As a result of such demonstrations, the comparatively well-to-do landowners and ryots might be prepared to put down deep borings on their own land for irrigation purposes.

5. In January 1937, Government ordered an investigation into the possibility of sinking tube wells in the Ceded districts for irrigation and drinking water purposes and as a preliminary a geophysical report was prepared by the Electricity department with plans and contours from which were deduced the most favourable areas for boring. The late Industrial Engineer surveyed six sites in the Cuddapah taluk, and for the purpose of the survey, each area was divided into three or four rectangles and each rectangle was in turn subdivided into several imaginary triangles. A man was placed at each of the three apices of the triangle and the area was completely traversed with the rod. The Industrial Engineer did not consider that a borehole in any of the areas surveyed would yield (a) one cusec of water, (b) not less than 250 gallons of water per minute or any quantity approximating to that figure. He considered that a number of dug wells (supplemented by boreholes) each commanding a very small acreage was indicated. The results of the boring work so far have been given in a press communiqué issued in G.O. Ms. No. 860, Public Works Department, dated 2nd May 1938, in which it is stated that the first experimental borewell was put down at Ambavaram, a village eight miles from Cuddapah, in June and stopped in October 1937 after reaching a depth of 561 feet. The first surface spring was met with at 31 feet and a second spring was struck at 290 feet below ground level. In order to determine the yield of the borewell an air compressor pump was installed. The discharge measured was found to vary from 90 to 100 gallons per minute. The maximum fall in the water level consequent on the eight-hour continuous pumping was about 23 feet, but within two minutes of the cessation of pumping, the level rose by 12 feet. It is stated in the press communiqué that a sample of the soil and water was sent to the Government Agricultural Chemist for analysis and his report was as follows:—

“ The soil contains very little soluble salts and as such can be considered good. The sample of water is good enough for irrigation purposes; although the total salts content is not very high from the irrigation point of view, most of them are present, as magnesium and soda bicarbonate. In the long run this water might affect the soil when used.”

Work on a second well, which is located within four miles of Cuddapah town, is in progress. The soil of the area commanded by the first experimental borewell borders on black cotton, while that around the second well is red earth for a yard, below which loose boulders and shingle are met with. Arrangements are being made to install an oil-engine and pump on the well in Ambavaram village which has been completed and tested to 100 gallons per minute continuous supply. It is presumed that the two borings referred to in the press communiqué have been put down on sites selected by the former Industrial Engineer, but no definite information is available on this point. The representative, who is deputed to give evidence before the Committee on behalf of the Electricity department may be interrogated in regard to this.

6. The irrigation works in the Bellary district are not many and a large number of them are dependent on local rainfall. If, therefore, wells could be sunk along the margin

of the river Hagari in Bellary, Alur, Harpanahalli and Siruguppa taluks and pumping plants set up, additional land could be brought under cultivation. There seems no reason why it should not be possible to tap the areas on either side of the river Hagari from Hagari town to the place where it falls into the Tungabhadra. The distance between these two places is roughly 50 miles, and if wells could be sunk on either side near the banks, the lands within half a mile on either side of the bank could be irrigated from these wells, making a total area of, say, 50×1 or 50 square miles. It is possible that some of the lands on either side of the river are already under cultivation, and taking their extent to be half the total area within half a mile of the river on either side, the new lands that could be brought under cultivation would amount to 25 square miles in extent. It would be necessary to put down in the first instance borings with a view to ascertaining the depth at which water is to be found. It would seem worthwhile, as an experimental measure to put down a boring and sink a well in a piece of land and raise some garden crops in collaboration with the Agricultural department. If, after a reasonable period, the garden proved a success, there should be no difficulty in inducing the ryots in the neighbourhood to adopt this method of irrigation.

7. The possibilities of extending irrigation in the Ceded districts by sinking wells in river-beds would also seem to be worth considering although it would no doubt be necessary in some cases to ensure that the supply of water further down the river was not interfered with. But where the interests of existing irrigation are not affected, irrigation from such wells could be encouraged by Government charging only a nominal water-rate in order to maintain the rights of Government over the water as recommended by Sub-Committee II (Irrigation) of the Sub-Committee of the Provincial Economic Council for Agricultural Development. It was pointed out by this sub-committee that the ryot has to keep the well structure in good repair, clear the leading channel from the river from time to time, and in addition to these has to incur the very heavy expenditure involved in lifting the water on to the land. Similarly, where water is taken from a spring channel only a nominal rate was recommended by this sub-committee to be charged, since the ryots have to spend collectively a considerable amount in maintaining in order the whole length of the spring channel from its head in the bed of the river and this throughout the supply season. There is also the possibility of utilizing flood waters of seasonal rivers by putting down 'inverted' boreholes in river beds. A word of explanation in regard to the expression 'inverted' borehole is perhaps called for. A vertical borehole is a borehole from which water is pumped out from the water-bearing layers of the earth in which water has been stored, and its function is to enable water to be supplied from the ground to the surface. When, however, this function is reversed, i.e., when the borehole is utilized to replenish water from the surface into the dry sandy layers of the earth, the borehole is called an 'inverted' borehole. Along the beds of seasonal rivers a series of 'inverted' boreholes could be put down at intervals of, say, half a mile so that the bottom of these boreholes may reach the dry water-bearing strata. The uppermost part of these boreholes would be provided with strainers or some other form of protection from sand. During floods the excess water that would otherwise go to waste would sink into the underground layers and thus assist to replenish the subterranean sources. In this way large quantities of water which would otherwise never have the necessary time to percolate into the ground owing to the short spells of rain and rapid floods, would reach the dry underground layers. These boreholes would assist to raise the height of the permanent water table in the surrounding areas and enable the cultivators to continue their baling out operations from their dug wells for longer periods than at present. Such boreholes are receiving increased attention in some countries and experiments in this direction might well be made in the Ceded districts.

L. B. GREEN—29-11-38.

Notes of reference—A note on spring channels.

Sri Swaminatha Ayyar points out the two classes of spring channels which require immediate attention—

- (a) In one case the spring low supply flowing down the river is tapped at a point sufficiently above the head-sluice to the supply-channel.
- (b) In the other case the channel starts from a "spring head" in the river-bed and is taken through a head-sluice.

In the first case the excavation of the bed is often damaged by floods and has to be done every year. In the second case though they are located and aligned as not to

be easily damaged, yet in years of high floods these also are damaged. In some cases they are restored partially while in some others they are neglected, being beyond the means of the ryots. He therefore suggests—

- (1) that berms should be provided in all necessary cases by the Government;
- (2) that the accumulation of silt deposit should be removed at Government expense in the first instance and the ryots left to maintain the channel in efficient condition afterwards;
- (3) that the carrying out of these works may be included in the famine relief programme;
- (4) that necessary relief may be afforded in most essential cases even as an ordinary measure; and
- (5) that the Government may lay down rules relaxing those now in force, so as to make it possible to afford help in necessary and suitable cases.

Collectors of Bellary and Kurnool are in entire agreement with the suggestion that the repairs to spring-channels should be included in famine relief programme; but consider that such channels are not generally in the tracts subject to famine. It may not be practicable to take them as famine works. The Collector of Kurnool considers that it would be desirable to carry the improvements as an ordinary measure in the initial stages or at the end of the famine.

The Collector of Anantapur considers that no advantage will be gained by including the repairs to spring channels in famine relief programme as the work that is being done every year by kudimaramat is rendered useless by the next floods and has to be done again. He, however, agrees that it is desirable to do this at the cost of the Government. He is also in favour of construction of berms.

As regards the second class of channels the Collector considers that they may be included in famine relief programme and that urgent cases may be taken up as an ordinary measure. He also points out that some channel works have already been included in the programme.

This Collector also agrees with the other two and considers that these works will not be suitable as large departmental work and suggests that they can be taken up as village works under non-official agency or under official agency under section 121 of the Code. He also supports the suggestion that the accumulation of silt deposit should be removed at the cost of the Government in the first instance and that the Government Order relating to cutting of berms may be amended suitably.

Question 2 (c)—Contour-bund forming :

- (1) *It has been suggested that bunding up of lands in the black-soil areas will help to retain moisture and enable the crops to withstand drought. The Villagers' Calendar, 1938, contains a report on this matter. Do you recommend the suggestion?*
- (2) *Do you think that the extensive bunding up of the tract will materially diminish the supplies to the minor irrigation sources?*

(1) On this part of the question, Messrs. E. C. Wood, V. N. Kudva, V. S. Hejmadi and T. R. Subrahmanya Ayyar (Sub-Magistrate), among official witnesses, and Sri V. Chidanandam, among the non-official witnesses, have neither remarks nor suggestions to offer. Mr. C. C. Wilson (Chief Conservator of Forests) says that the formation of contour-bunds in forest areas has had the effect of retaining moisture in certain localities. Messrs. F. W. Stewart, Javad Hussain, Smyth, Pritchard, Unnithan, N. S. Arunachalam, V. N. Viswanatha Rao, Rahamatulla (F.C.O.), C. Vijayaraghavan, S. Rajagopala Ayyangar (Revenue Divisional Officer), Balraj, Nightingale, Alagiri Rao, (Subdivisional Officer), Muthuswami Ayyar, Pullayya (F.C.O.), P. Ramachandra Ayyar (F.C.O.), Sankaran (Tahsildar), Akbar Ali Khan (F.C.O.), T. Bhaskara Rao, Y. S. Anantarajiah (Tahsildar), P. H. Rama Reddi (Director of Agriculture), A. Padmanabhan (work agent), among officials, and Bhimasena Rao, T. Sivasankaran Pillai, K. S. Raghavacharlu, Venguswami Ayyar, K. Rami Reddi, Mrityanjaya Sastri, V. M. Giri, M. Narayana Rao, K. Seetharama Reddi, Reddi Venkoba Rao, Chandramowli, Tandu Mudaliyar, C. V. Ramaswami Ayyar, M. Sitarama Rao, Bhojappa Sowcar, C. Venkoba Rao, P. Pulla Reddi, P. Rama Reddi, K. V. Krishnamurti, John A. Zaccheus and B. Subbanachar, among non-officials recommend the suggestion. Messrs. Mrityanjaya Sastri and Giri state that the term is not clear and if what is meant is of the type carried out in the U.S.A. it will be costly and that Government will have to help. Sri J. Srinivasa Sastrulu considers contour-bunding advantageous if the Government help the ryot to a great extent as he has no means to do it. Sri Pullayya (F.C.O.) seems to understand the term as "dividing the surface into a number of triangular prisms placed side by side."

Sri G. Rami Reddi (F.C.O.) is of the opinion that contour-bunding is not of much use, as it would give way when the rainfall is heavy and as it might here and there engender 'harvas' (small vanka like formations) in the fields. He considers that in order to help the lands to retain water, it would be necessary to bund them on all sides, where the extents are small and in other cases after splitting the fields into smaller plots. In other words he recommends ridge bund forming instead of contour-bund forming, with the help of state loans.

Mr. Nightingale is of opinion that a start should be made in this direction only after having the benefit of advice from men who have had practical experience of the work, on a large scale, as he fears that if the contour ridges are not prepared with care, great damage may be done. In this connexion he suggests the name of one Mr. M. P. Fletcher, address, care of Katco, Hubli, as having had wide experience of the work and states that he may be asked to give evidence before the Committee.

Sri Lakshminarayana Rao does not recommend the suggestion as he does not think it to be of much use in retaining the moisture for any useful length of time.

Sri S. M. Kamakshisundara Sastri (Subdivisional Officer) states that the famine zone is sufficiently flat, that the contour-bund, besides giving room for friction between adjacent owners of lands, will create more obstacles for ploughing and sowing and that the top soil necessary and useful for cultivation will be unnecessarily wasted in these intermediate bunds. He does not recommend the suggestion.

Sri B. Bhima Rao doubts if the moisture obtained in a particular year will enable the ryot to raise a crop in the succeeding rainless year. Hence he considers that contour-bund forming cannot mitigate distress due to famine.

Miscellaneous suggestions.—Sri C. Vijayaraghavan states that such formation of bunds along the contour lines should be done with the co-operation of the land-owners as otherwise it may not be possible to obtain good results, similar to those obtained in U.S.A. where ownership of land has been comparatively recent.

Khan Sayyed Buden Sahib Bahadur (non-official witness) states that the contour-bund forming may be undertaken on the low level side when the land is sloping and that it must be done at every 300 feet with the provision of an anicut for the excess of water to flow out.

Messrs. C. V. Rangacharlu, S. Rajagopala Ayyangar (Revenue Divisional Officer), A. D. Tandu Mudaliyar and W. Tirunarayanacharya (F.C.O.) and F. W. Stewart recommend that the Government should sanction loans to the ryots freely or on a nominal interest for the purpose.

Mr. Nightingale suggests that some pictures similar to those published in "Soil Erosion and its Control" by Mr. G. C. Ayres [reported to be in the Chief Engineer (Irrigation's) library] should be shown to the members of the Committee and published with the report.

(2) Messrs. Diwan Bahadur V. N. Viswanatha Rao, N. S. Arunachalam, C. Vijayaraghavan, A. A. Smyth, K. S. Raghavachariu, B. R. Venguswami Ayyar, G. Rami Reddi (F.C.O.), K. Alagiri Rao (Subdivisional Officer), C. V. Rangacharlu, S. Rajagopala Ayyangar, V. M. Giri, S. J. Balaj, M. Narayana Rao, Rao Sahib S. Muthuswami Ayyar, Reddi Venkoba Rao, D. Chandramowli Rao, M. Devendra Nayudu, C. V. Ramaswami Ayyar, M. Sitarama Rao and Bhojappa Sowcar, W. Tirunarayanacharya (F.C.O.), Janab Akbar Ali Khan (F.C.O., Khyruppala), C. Venkoba Rao, T. Bhaskara Rao, K. V. Krishnamurti, Y. S. Anantarajah, P. H. Rama Reddi and John A. Zaccheus have stated that the extensive bunding of the black-soil tract will not materially affect the supplies to the minor irrigation sources. On the other hand, Mr. Vijayaraghavan states that tanks will have a greater amount of water as they will not be silted up as the bunds will prevent soil erosion.

Messrs. E. C. Wood, Javad Hussain, Khan Sayyed Buden Sahib, K. Rami Reddi, Lakshminarayana Rao, Rao Sahib A. D. Tandu Mudaliyar, Pullayya, C. Gopalam, S. M. Kamakshisundara Sastri, Sankaran and P. Rama Reddi state that extensive bunding will materially diminish the supplies to the minor irrigation sources where these exist. Messrs. Javad Hussain, E. C. Wood, Pritchard, Rahamatulla and S. Subbanachar, however, consider that in black-soil areas where tanks are few, no material diminution will in fact be caused. Messrs. Javad Hussain and Unnithan add that extensive bunding in red-soil areas will seriously diminish supply to sources. Sri K. Rami Reddi suggests that the formation of bunds may be effected in places where there are no minor irrigation sources. Sri A. Padmanabhan considers that the extensive bunding may indirectly affect the minor irrigation sources to a less extent, which are less in number with the exception of wells.

Sri M. Bhimasena Rao and Sri P. Ramachandra Ayyar state that there are no minor irrigation sources in the black-soil areas and that therefore the question does not arise.

Sri T. Sivasankaran Pillai considers the question to be problematical while Mr. Nightingale would on no account allow such a consideration to stand in the way of widely introducing the contour-bund forming.

Notes of references.

The Government have referred for the Committee's consideration the possibility of bringing lands in the affected area under the "bunded" system on the lines indicated in their memorandum, dated 22nd March 1938. In this memorandum, the Government referred to the apparent success of the experiment as revealed in the article at pages 124-125 of the Villagers' Calendar, 1938, and suggested that (1) the Agricultural department should lend out bund-formers freely to ryots without charging a hire and that the Deputy Director of the circle should see that a particular number of acres, say, 20,000 to 25,000 were bunded every year, submitting periodical reports on the progress and (2) that the bunds may be made by means of famine labour. The replies of Deputy Director of Agriculture and the Director of Agriculture to these suggestions are contained in Appendix VI to the note furnished to the members of the Committee. They considered that the work was not suitable for famine labour but that practical demonstrations might be begun on as wide an area as possible to gain the confidence of the ryots.

The bunding is of two distinct kinds—(1) Tiny bunds across furrows as demonstrated at Hagari and (2) substantial bunds intended to control the flow of water over a fairly large area possessing frequently metalled escapes and employed frequently in Bellary and Siruguppa taluks.

Mr. Green, after visiting the Hagari farm along with the members of the Committee, has remarked that the results as given to the members by the Farm Manager go to show that the possibilities of bringing the lands in the affected areas under the "bunded" system are considerable although the experiment will have to be continued for some time longer before definite and final conclusions can be formed as to the economics of the system.

Question 2 (d)—Dry Farming :

Can you suggest any dry farming methods which will make the ryot more independent of the monsoon and enable him to secure a better outturn of crops? Your attention is invited to the reports on the agricultural research station at Hagari and Nandyal contained at pages 29 to 31 of the Villagers' Calendar, 1938.

Messrs. T. Sivasankaran Pillai and N. S. Arunachalam and others state that if the experiments conducted at Hagari and Nandyal stations have proved encouraging and successful they may be demonstrated for the benefit of the ryots.

Sri C. Vijayaraghavan suggests (1) the use of iron inversion ploughs for getting the best result, (2) the contour-bund forming in order to conserve rain water by the use of bund former and (3) formation of bunds on the slopes lest water held by contour-bunds flow away along the contour. He also suggests that in order to push through bunding on a large scale, bunding implements may be supplied free of cost to the cultivators and that they may be collected again after sowings are over and that these implements may be purchased out of the famine fund. He considers that the adoption of these methods will increase crop return and lessen the chances of famine. Besides supporting the suggestions of Sri C. Vijayaraghavan, Sri P. H. Rama Reddi (Director of Agriculture) suggests the purchase of a good number of bund-former out of the famine fund for lending them free of charge to the ryots for their use till their importance is realized.

Mr. K. M. Unnithan finds no suitable methods of dry farming possible in view of the poverty of the soil in a major portion of the district.

Sri P. Rami Reddi suggests the sowing of indigo plants in lands as being not only a source of income but also as one which enriches the soil by its manurial qualities. He also states that the Government should encourage indigo production by reducing the duty on the same.

Sri Devendra Nayudu suggests the growing of fruit trees such as citrons and mangoes as there is a large demand for them and the taking up of fruit culture on a large scale. Messrs. M. Sitarama Rao and Bhojappa Sowcar suggest the same and also add that fig industry may be tried. Mr. Stewart suggests the method of deep ploughing by the use of tractors which are being used in the Bombay Presidency.

Sri A. Padmanabhan, work agent, Bhatrahalli, says that the black-soil in this area more or less resembles the black-soil in the Guntur district where tobacco is made to grow. He therefore suggests that in the black-soil areas tobacco may be made to grow after contour-bunding. Sri J. Srinivasa Sastrulu says that good manuring, best water-supply and careful attention of the ryots would always increase the outturn of crops.

Question 2 (e)—Afforestation :

What are your suggestions for increasing the area under forests and topes? What kind of trees do you recommend for propagation?

Most of the witnesses are in favour of increasing the area under forests and topes by planting useful trees such as mango, lime, tamarind, babul, and also trees useful for agricultural implements and minor forest produce and for fodder, in order to conserve rainfall, to improve the grazing facilities for live-stock and to act as wind brakes, thereby preventing to some extent soil erosion. Only Sri B. Bhima Rao doubts the success of afforestation in the famine area as water which is necessary for the purpose is not available. Sri G. Rami Reddi (F.C.O.) is not for increasing the area under forests but only wants to improve the existing ones by the exercise of better control. He, however, wants to increase the area under topes by planting useful trees. Mr. V. S. Hejmadi considers that the area under forests cannot be increased without further reservation of land which, he thinks, will prove to be very unpopular. Sri Y. S. Anantarajiah (Tahsildar, Bellary) states that it may not be possible to increase the area under forests and topes in the Bellary taluk as there are no water facilities.

Places at which afforestation can be successfully tried.—Lower ranges of Nallamalai places adjacent to ponds either naturally formed or constructed in the black-soil areas, places in the red-soil where the water table is low, tope porambokes, foreshore of tanks and river margins, water-courses, hillsides, road porambokes, road margins, and all available waste land have been suggested by the witnesses for planting and growing trees. Suitable places along the Hagari have been suggested by Sri Y. S. Anantarajiah, Tahsildar, Bellary.

The kind of trees recommended.—The following are among the different trees and shrubs recommended by the witnesses for propagation:—

Mango, tamarind, lime, margosa, babul, yepi, yegi, accacia, arabica, prosopis spirigero, prosopi juliflora, zizyphus jujuba, azadirachta indica, dalbegia, sisoo, casuarina equisetæ-fofia, albizza labbak, tamarinda indica, aloe, tangedu, naradu, bamboo, mulberry, indigo, sapota, pungam, vepa, pipal, jali, zeedi, kanuga, velaka, teek gumathai, *cassia siamea*, cashew, nallathumma and red saunders.

Sri Chendan Venkoba Rao is for cumri-cultivation in forest areas.

The measures suggested for improving the area under forests and topes—(i) *Panchayat forests.*—Messrs. Javad Hussain, Pritchard, G. Rami Reddi, N. Mrityanjaya Sastri, C. Gopalam, Janab Akbar Ali Khan, S. Sankaran and B. Subbanachar criticise the present management of panchayat forests as there is marked deterioration. Mr. Javad Hussain is for the transfer of control of these forests to the Forest department. Sri C. Gopalam is for the discontinuance of the present system while the others desire more effective supervision and control of these forests by the panchayats. Sri G. Rami Reddi considers the employment of at least two Deputy Tahsildars for a district with four or five Revenue Inspectors to be essential while Sri S. Sankaran wants to have the full complement of Panchayat Deputy Tahsildars. Sri B. Subbanachar considers the employment of at least two Panchayat Deputy Tahsildars essential to effectively supervise the panchayats.

(ii) *Tree-planting week.*—This is recommended by Messrs. T. Sivasankaran Pillai, J. W. Pritchard, V. M. Giri, P. Pullayya and N. S. Arunachalam in order to induce the ryots and the local bodies to grow more trees and consequently to increase the area under forests and topes.

(iii) Sri V. Chidanandam states that topes planted with tamarind, etc., should be maintained at the cost of the Government. Messrs. T. Sivasankaran Pillai, G. Rami Reddi and S. Rajagopala Ayyangar suggest the remission in part or in full of the lease amount payable to the Government by the forest panchayats as an incentive to effecting more improvement and to starting new plantation.

Sri Venguswami Ayyar suggests that suitable lands may be allotted to deserving ryots for planting trees thereon and nurture them carefully for five years. After this

period they may be allowed to enjoy the usufruct for five years after which they should be made to pay reasonable assessment. Sri G. Rami Reddi wants to freely assign assessed wastes fit for tope cultivation for about ten years, on condition that tope plantations are undertaken and to show the concession of assessment to holdings so as to induce the ryots to take to tope plantations. Messrs. K. M. Unnithan, S. Rajagopala Ayyangar, V. S. Hejmadi and N. S. Arunachalam want to relax the provision contained in Board's Standing Order No. 19 (B) and to make them more liberal so as to encourage tree-plantations. Sri C. V. Rangachar is for subsidizing the ryots of the village or granting them free permission to grow trees on porambokes and allowing them to have the benefits of such plantation. More or less the same recommendations have been made by Sri V. M. Giri. Sri S. Rajagopala Ayyangar recommends the grant of loans at a favourable rate of interest for bona fide planters. Sri W. Tirunaranayacharya and Sri K. V. Krishnamurti suggest setting apart in every village two to three hundred acres for growing trees which will be useful to agriculturists and others. Coupes should be set apart every year for felling. These forests should be under the Tahsildar of the taluk and watcher or watchers appointed for guarding them.

The Chief Conservator of Forests says that if serious proposals to start afforestation are made a considered scheme can be prepared by the working plans circle of the Forest department.

Mr. T. Bhaskara Rao suggests that the area under topes can be increased by popularizing cowle tope rules and also by encouraging ryots to plant trees on poramboke margins.

Sri B. Subbanachar considers that forest lands under any circumstances should not be assigned on pattas and encroachments on such lands should be repressed with an iron hand.

Question 2 (f)—Alternative or subsidiary sources of employment :

(i) *Large scale industry.—Do you think that any large scale industry is possible in the Ceded districts? If so, what are your detailed suggestions?*

Large scale industry in Ceded districts.—Messrs. Smyth and Unnithan, among officials, and Messrs. G. Rami Reddi, Ramathan, Devendra Nayudu and B. Subbanachar among non-officials, consider that large scale industry would not be possible on account of lack of natural resources, poor transport facilities and long distances.

Production of minerals for paint.—Officials, viz., Messrs. Pritchard, Ranga Rao, Alagiri Rao, Rajagopala Ayyangar, Balraj, Muthuswami Ayyar, Hejmadi and Tirunaranayacharya consider that there is scope for the development and production of Hæmatite and other minerals for the manufacture of paint. A factory for the purpose may be established. Government can give a helping hand in the shape of bounties for a few years at the initial stage. Among non-officials, Sri K. Rami Reddi, Sri K. V. Krishnamurti and Sri Rangacharlu also make the above suggestion. It is stated that there is an inexhaustible supply of raw materials required for manufacture of paint. Sri P. Rama Reddi suggests that some metal industry such as aluminium industry can be started.

Cotton-spinning and weaving mills.—The following officials and non-officials recommend the establishment of cotton-spinning and weaving mills :—

Officials.—Messrs. Viswanatha Rao, Vijayaraghavan, Pritchard, Ranga Rao, Alagiri Rao, Rajagopala Ayyangar, Gopalam, Kamakshisundara Sastri, Tirunaranayacharya, Arunachalam and P. H. Rama Reddi.

Non-officials.—Messrs. Raghavacharlu, Bhimasena Rao, Vengusami Ayyar, Mrithyanjaya Sastri, Giri, Narayana Rao, Chandramouli Rao, Tandu Mudaliyar, Rangachar, Bhima Rao, P. Rama Reddi and K. V. Krishnamurti.

It is reported that this would provide employment for many people and would save the agriculturist who produces cotton. To get necessary supply of water for these mills steam bore wells should be sunk on an extensive scale. Sri Sivasankaran Pillai and Sri Madduru Nagi Reddi consider that it is not desirable to instal factories, as this will break up domestic life and that it will not be profitable. The former, however, suggests that there may be good scope for starting a weaving mill near Guntakal. Sri Mrithyanjaya Sastri says that weaving mills should not be encouraged as this will affect cottage industries. Sri J. Srinivasa Sastrulu says that spinning, weaving and manufacture of cloth is the only possible large scale industry in the Ceded districts.

Ground-nut oil pressing and soap-making industry.—Messrs. Rajagopala Ayyangar and Tirunaranayacharya, among officials, and Raghavacharlu, Rangacharlu and K. V. Krishnamurti, among non-officials, consider that oil pressing industry and other

allied bye-products can profitably be carried on through groundnut seeds and that there is much scope for opening soap manufacturing centre and also biscuit-making. Sri P. Rama Reddi considers that soap-making industry, if properly maintained, would thrive in the Ceded districts.

Sri Pullayya (F.C.O.) says that groundnut and cotton, being industrial crops, are being exported to other countries and are imported again as finished products. Provision should be made to absorb these indigenous products in this country itself.

Paper manufacture.—Messrs. Alagiri Rao, Rajagopala Ayyangar, Kudva, Wilson, Tirunarayanacharya, among officials, and K. Rami Reddi, Sitarama Reddi, Sitarama Rao, Bhojappa Sowcar, P. Rama Reddi and John A. Zaccheus consider that there is a vast supply of grass in forests from which paper pulp can be made and paper mills can be started. Government help should also be given. Sri K. V. Krishnamurti says that bamboo which is largely available in the forests of Kurnool district may be profitably utilized for the manufacture of paper and that Nandyal will be a suitable place for an industry of that nature.

Slate industry.—Messrs. Viswanatha Rao, Ranga Rao, Wilson, Tirunarayanacharya, Janab Akbar Ali Khan, T. Bhaskara Rao, among officials, and Sitarama Reddi and K. Rami Reddi, among non-officials, say that there are a number of quarries in these districts and that a slate industry can be developed. The timber required for frames for slates and for pictures is also available in sufficient quantities in the forests. Production on a large scale would be possible if either Government or private enterprise would finance such schemes. Sri Ranga Rao suggests that arrangements may have to be made to see that soft wood from the Government forests is supplied at a cheap rate. Sri K. V. Krishnamurti says that the improvements to the slate industry in the Markapur taluk will, to a large extent, benefit the working class population in that taluk.

Sugar industry.—Messrs. Alagiri Rao, Tirunarayanacharya and K. V. Krishnamurti consider that a sugar factory can be established and there is scope for the expansion of this industry for the manufacture of both sugar and confectionery.

Match industry.—Messrs. Alagiri Rao and Rajagopala Ayyangar, both officials, consider that with the produce of Nallamalais and other forests, match industries on a large scale under Government management appear possible.

Cement industry.—Messrs. Kamakshisundara Sastri, Ramachandra Ayyar and Viswanatha Rao, all officials, say that lime stone is available in large quantities and that it may be possible to prepare cement.

Gold mining.—Mr. Javad Hussain, among officials, and Sri Sivasankaran Pillai, among non-officials, consider that there is scope for a large scale industry in gold mining. The former suggests Ramagiri of Dharmavaram taluk and Ramapuram near Uravakonda.

Slab industry.—Messrs. Ranga Rao, Tirunarayanacharya and T. Bhaskara Rao, officials, consider that much can be done if the industry is handed on a large scale on a co-operative basis, as slabs are found in abundance. Sri P. Rama Reddi considers that black marble (Cuddapah slabs) polishing industry can be started to provide labour in Cuddapah district as a vertical combination.

Silk industry.—Messrs. Javad Hussain and Arunachalam, both officials, say that the silk industry can be taken up.

Wool industry.—Messrs. Ranga and Kudva, both officials, consider that this industry which is declining may be revived. Weaving of woollen goods and cumblies as cottage industries on a large scale may be considered. Sri Gopalam (official) and Sri Reddi Venkoba Rao (non-official) also support starting of wool industry.

Miscellaneous.—Sri Viswanatha Rao (official) suggests that a concern for preparation of chelam malt as a large scale industry may be tried.

Sri Tirunarayanacharya (official) considers that there is great scope for the fruit canning industry if the Tungabhadra Project materializes. Government should open a factory and run it on for two or three years.

Mr. T. Bhaskara Rao considers that fruit canning can be tried on a large scale in Paniam of Kurnool district and Kodu of Cuddapah district. He also suggests that mining for iron ores and barytes may be carried on a large scale in Kurnool and Cuddapah districts. Sri K. V. Krishnamurti wants that the Government should try to open fruit canning industrial centres in each and every district in the "Famine zone."

Sheep rearing.—Sri Subramanyam (official) states that research may be undertaken and suitable breeds introduced as Ceded districts are suitable for sheep rearing.

Mining diamonds.—Mr. Nightingale (official) suggests the investigation of the possibilities of mining for diamond.

Ceramic industry.—Mr. Hejmadi (official) says that there is some clay available for the ceramic industry but that it is unlikely that necessary capital and enterprise will be readily available. The ceramic industry has no great possibilities as a cottage industry in South India where there is little demand for porcelain and china in the villages.

Carpet and cumbli weaving.—Mr. Arunachalam (official) and Messrs. Sitarama Reddi, Mrithyanjaya Sastri and Reddi Venkoba Rao (non-official) suggest that the industry may be encouraged. Sri Y. S. Anantarajah says that Kudatini is the centre for manufacturing blankets and that the industry is likely to increase if Government subsidy is given.

Alae fibre industry.—Sri Sivasankaran Pillai considers that this industry is another enterprise which will afford employment to many. There is a factory now working at Penukonda.

Tanning industry.—Sri Ranga Rao (official) and Sri Mrithyanjaya Sastri (non-official) consider that the tanning industry is possible. A number of people (Malas and Madigas) are without occupation on account of the closing down of cotton ginning and pressing factories. They could be employed on tanning industry on a co-operative basis.

Palmyra and other fibres.—Mr. Kudva (official) says that the possibility of utilizing the fibre commercially in the Anantapur district may be considered.

Bangle industry.—Mr. Kudva (official) suggests the revival of bangle industry. This industry was being carried on, in a village of the Penukonda taluk from some minerals which are locally available. Details are available in the Collector's Office, Anantapur, and a note about it was left by him in 1935.

Bee-keeping and dairy farming industry.—Sri Reddi Venkoba Rao (non-official) suggests that these could be tried with advantage.

Brick and tile industry.—Sri Chandramouli Rao (non-official) recommends this industry wherever the soil permits. The investigation of soil may be started as a preliminary measure.

Manufacture of fertilizing manure and improved agricultural implements.—Sri Sitarama Rao and Sri Bhojappa Sowcar (non-officials) suggest the above manufacture may be tried on a large scale.

Sri P. Rama Reddi suggests the encouragement of dyeing industry in the Anantapur district. He also wants that the Government should undertake industrialization in the Ceded districts and that before so doing a sub-committee may be appointed with profit to enquire into possibilities and ways and means. Sri A. Padmanabhan considers that large scale industry is possible in the Ceded districts as barytes, asbestos, yellow ochre, etc., are found in abundance.

Question No. 2 (f) (ii)—Cottage Industries: What cottage industries do you recommend for adoption as being economically feasible?

Spinning.—The majority of those who have made any suggestions on the question have suggested spinning as the most suitable cottage industry for the tract. Officials (Messrs. Viswanatha Rao, Vijayaraghavan, Rahamatulla Sahib, Smyth, Rama Reddi, Unnithan, Alagiri Rao, Rajagopala Ayyangar, Muthuswami Ayyar, Hejmadi, Pullayya, Gopalam, Kamakshisundara Sastri, Ramachandra Ayyar, Arunachalam, Sankaran, T. Bhaskara Rao, Y. S. Anantarajayya, P. H. Rama Reddi and A. Padmanabhan) and non-officials (Messrs. Bhimasena Rao—Adoni, Chidanandam, Raghavacharlu, Venguswami Ayyar, Ram Reddi, Rangachar, Narayana Rao, Ramanathan, Sitarama Reddi, Reddi Venkoba Rao, Chandramouli Rao, Tandu Mudaliyar, Devendra Nayudu, Bhimasena Rao—Siruguppa, Sitarama Rao, Bhojappa Sowcar, C. Venkoba Rao and John A. Zaccheus, have supported this. The reasons given are—

- (1) This will form a subsidiary occupation for agriculturists of both sexes during the off-season.
- (2) Cotton is grown in large quantities in the tract.
- (3) It can be easily adopted and is economically feasible.
- (4) It provides a large number of other connected industries such as carding, ginning, dyeing, printing, weaving, etc.

The industry though it existed before has practically died due to competition of mills. The following methods have been suggested to revive the industry:—Sri Vijayaraghavan suggests propaganda and an agency for the distribution of spinning wheels; Messrs. Unnithan and Anantharajayya suggest Government subsidies, Messrs. Rama Reddi loans and Viswanatha Rao bounties. Organization of co-operative societies for the supply of cotton has been suggested by Sri Muthuswami Ayyar. Sri S. K. Bhimasena Rao of Siruguppa considers that a net-work of Government officials will be necessary for the successful revival of this industry.

Weaving.—Officials (Messrs. Viswanatha Rao, Pritchard, Rami Reddi, Unnithan, Alagiri Rao, Rajagopala Ayyangar, Balraj, Hejmadi, Pullayya, Gopalam, Kamakshisundara Sastri, Tirunarayanacharya, A. A. Khan, Arunachalam and Y. S. Anantarajayya) and non-officials (Messrs. Bhimasena Rao—Adoni, Raghavacharlu, Venguswami Ayyar, Rangachar, Mrithyunjaya Sastri, V. M. Giri, Narayana Rao, Sitarama Reddi, Reddi Venkoba Rao, Chandramouli Rao, Tandu Mudaliyar, Devendra Nayudu, Sitarama Rao, Nagi Reddi, P. Pulla Reddi and K. V. Krishnamurti) have suggested this as suitable for the Ceded districts. Sri Viswanatha Rao fears that the demand for khaddar may flag. Weaving mill yarn exists now on a small scale and the expansion is not difficult.

The introduction of fly-shuttle has been suggested by Messrs. Venguswami Ayyar and Chandramouli Rao. Messrs. Chandramouli Rao and Tandu Mudaliyar consider advancing of loans through co-operative societies necessary. Sri Viswanatha Rao has also suggested advancing loans. Sri Devendra Nayudu goes to the extent of suggesting that weaving should be made compulsory in every village as a vocational training.

Messrs. Smyth and Viswanatha Rao have suggested that the cottage products should be used in all Government departments wherever possible. Sri Muthuswami Ayyar suggests that the Government and local bodies should come forward in helping the industry to successfully combat mills. Sri Y. S. Anantarajayya suggests the opening of a weaving factory at Bellary to train selected weavers from the villages where weaving is still in existence.

Hand-spinning.—Messrs. Bhimasena Rao (Adoni) and S. Rajagopala Ayyangar suggest that this will be an economic cottage industry.

Wool-spinning.—Messrs. Vijayaraghavan and P. H. Rama Reddi (officials) and M. Bhimasena Rao and Raghavacharlu (non-officials) consider that this industry which exists in selected areas among Kurabas should be encouraged. Messrs. Vijayaraghavan and P. H. Rama Reddi suggest the organization of co-operative societies for the pooling of raw materials and finding a market for finished products. Sri Bhimasena Rao would prohibit the export of raw wool from these districts and provide better grazing facilities for sheep and run the industry through co-operative societies.

Cumbli and carpet making.—Messrs. Vijayaraghavan, Pritchard, Alagiri Rao, Rajagopala Ayyangar, Balraj, Pullayya, A. A. Khan, T. Bhaskara Rao, P. H. Rama Reddi and A. Padmanabhan among officials, and Messrs. Bhimasena Rao (Adoni), Raghavacharlu, Mrityanjaya Sastri, Giri, Narayana Rao, Ramanathan, R. Venkoba Rao, Chandramouli Rao, Tandu Mudaliyar, Sitarama Rao, Bhojappa Sowcar, Nagi Reddi and B. Subbanachar among non-officials have supported this. Cumbli-weaving exists among Kurabas even now. It got a setback due to high price of wool and competition with soft Italian rugs. Sri Giri considers that immediate attention should be directed to encourage this. He suggests that devices to make the wool softer, should be looked for. Better designing and colouring and a sheep-breeding centre are also suggested. Sri M. Bhimasena Rao, Sri Chandramouli Rao and Sri Tandu Mudaliyar suggest the organization of co-operative societies and advancing loans. Sri Tandu Mudaliyar suggests subsidies as in Bombay Presidency. Sri Narayana Rao suggests that it may be taken up by Government as a State aided industry and later on left to private management. Messrs. Alagiri Rao, Ramanathan, Chandramouli, Tandu Mudaliyar, Sitarama Rao and Nagi Reddi consider that weaving of carpets should also be encouraged. Country blankets have been suggested by Messrs. Sitarama Rao, Nagi Reddi, R. Venkoba Rao, Pullayya, Arunachalam and P. Rama Reddi.

Coir rope and coir mattress.—Sri Pullayya (Famine Charge Officer) suggests that this industry may be encouraged.

Tanning.—Sri Bhimasena Rao, Rangachar, Giri and Sitarama Reddi support the encouragement of this industry. It is suggested that the hides that are being exported to the metropolis may be tanned in the villages by Harijans. Sri Bhimasena Rao suggests that these people should be exempted from municipal fees, facilities should be given to get Tangedu and Kakka bark free, and that co-operative societies should undertake the work.

Oil-seeds crushing.—Sri Bhimasena Rao suggests the crushing of oil-seeds in village *ghanas* and exporting the oil. The cakes may be used for the land. Sri Srinivasa Sastrulu also suggests oil-crushing. Mr. T. Bhaskara Rao suggests oil-pressing as ground-nut also is raised on extensive areas.

Jaggery.—Sri M. Bhimasena Rao suggests jaggery making from sweet toddy. Sri Raghavacharlu and Giri advocate the manufacture of jaggery from date palms. This creates a use for date palms even when prohibition comes. Messrs. Tandu Mudaliyar and J. Sreenivasa Sastrulu consider that the industry may be tried on improved lines in wet areas where sugarcane is grown. Sri P. H. Rama Reddi suggests better use of palmyra tree for brush and jaggery making.

Bangles.—Messrs. Rami Reddi, Rajagopala Ayyangar and Tirunarayanacharya, among officials, and Bhimasena Rao, Sivasankaran Pillai, Rangachar, Narayana Rao and J. Sreenivasa Sastrulu, among non-officials, have supported this. Sri Sivasankaran Pillai considers that improved methods should be introduced and demonstrated. Financial aid is also necessary. Messrs. Narayana Rao and Tirunarayanacharya also support the view that financial aid should be given. As fine silica is available Sri Narayana Rao suggests that glass industry can be attached on to this.

Forest industries.—Messrs. Bhimasena Rao (Adoni) and Subrahmanyam (Sub-Collector, Chandragiri) suggest that forest industries should be investigated. Sri Bhimasena Rao suggests wood distillation, manufacture of dyes and oils, collection of wild seeds, etc. Sri Subrahmanyam suggests the investigation of the use of *aloe* and *cactus* which grow abundantly in the forests. Sri P. H. Rama Reddi says that there is a big *aloe* plantation near Penukonda and suggests that it is worth while trying to create demand for *aloe* fibre and extend *aloe* plantations in the Anantapur district.

Paper industry.—Messrs. Bhimasena Rao (Adoni), Sivasankaran Pillai, Giri, Narayana Rao, Bhima Rao and J. Sreenivasa Sastrulu, among non-officials, and Mr. Wilson (Chief Conservator of Forests) advocate this industry.

Sri Sivasankaran Pillai states that this industry formerly existed in Nyamaddala in Dharmavaram taluk. Sri Bhimasena Rao suggests that paper may be made from worn-out *aloe* ropes and bamboo pulp. Planting of the trees should be undertaken for this purpose.

Mr. Wilson suggests the possibilities of paper from the immense supply of grass as advocated at Wardha.

Sri Giri has suggested sending people at Government expense to Wardha for training in cottage industries.

Match and pencil industry.—Sri Bhimasena Rao (Adoni), Rami Reddi, Rangachar and J. Sreenivasa Sastrulu suggest this as feasible in forest areas. Rangachar considers the following facilities necessary:—

- (1) Supply of bamboos at concessional rates.
- (2) Reduction of licence fee to Rs. 25.
- (3) Increase in rebate.
- (4) Advancing of loans at cheap rate of interest on personal security or otherwise.

He suggests also a 10-year plan for the development of cottage industries.

Dairy farming.—Dairy farming finds support from Messrs. Sivasankaran Pillai, C. V. Rangachar, R. Venkoba Rao, Tandu Mudaliyar and B. Subbanachar, among non-officials, and Rajagopala Ayyangar, Hejmadi and Kamakshisundara Sastri, among officials. Sri Sivasankaran Pillai considers that milk trade has great scope with the increase of coffee hotels. He suggests financial aid to villagers for the development of this. Mr. Hejmadi confines himself to Cuddapah and particularly mentions Jammalamadugu as capable of exporting buffalo milk and ghee.

Housing schemes.—Housing schemes have been suggested as a source of employment by Sri Sivasankaran Pillai. He thinks that it is bound to come in course of time.

Mat-making.—Messrs. T. Bhaskara Rao, A. Padmanabhan, B. Subbanachar, Raghavacharlu, Venguswami Ayyar, Sitarama Rao and Bhojappa Sowcar have suggested mat-making out of date-palm leaves. Making of baskets is also suggested.

Seri culture and silk industry.—Mr. Raghavacharlu considers that this can be thought of in Penukonda and Hindupur taluks. Sri P. Rama Reddi supports sericulture and epiculture in places most suited for silk-worm farming. Sri Devendra Nayudu thinks that it can be profitably undertaken and added to spinning and weaving.

Messrs. Alagiri Rao, Arunachalam and Sankaran (officials) and Sitarama Reddi and Devendra Nayudu have suggested the silk industry. Sri Devendra Nayudu thinks that the yarn will be consumed in the factories at Hindupur, Rayadrug and Dharmavaram.

Beedi manufacture.—Messrs. Pritchard and B. Subbanachar consider that the existing beedi manufacture should be encouraged.

Embroidery.—Sri Venguswami Ayyar recommends embroidery. Sri Rajagopala Ayyangar suggests that the filigree work in Nossam may be revived.

Poultry farming.—Messrs. Rangachar, Mrithyanjaya Sastri, Tandu Mudaliyar and B. Subbanachar (non-officials) and Kamakshisundara Sastri, Rajagopala Ayyangar, Balraj, Hejmadi, Pullaya and Thirunarayanacharya (officials) suggest poultry farming. Mr. Balraj considers that with proper marketing facilities it will be profitable. Mr. Hejmadi who confines his remarks to Cuddanah thinks that if organized on co-operative lines eggs

from the Rajampet, Sidhout and Cuddapah taluks can be exported to Madras. Sri Tirunarayanacharya suggests that the Agricultural department should open demonstration centres and popularize the industry.

Shoe-making.—Sri Rangachar suggests that shoe-making on improved lines may be encouraged.

Preparation of bone manure.—He also suggests the preparation of bone manure as a cottage industry.

Soap-stone industry.—Messrs. Mrithyanjaya Sastri and Giri consider that soap-stone industry has possibilities. Utensils and vighrams are suggested.

Sheep-farming.—Messrs. Narayana Rao (non-official) and Kamakshisundara Sastri (official) suggest sheep-farming. Narayana Rao says that there is a good market for sheep in Bangalore and hence it will be a success.

Slate frames.—Mr. Wilson considers that this could be undertaken as a cottage industry if local authorities or private enterprise will undertake to erect to operate small portable saw mills for supplying necessary sawn sizes to cottages.

Toy manufacture.—Improvement in toy manufacture has been suggested by Messrs. Sitarama Reddi and Tandu Mudaliyar.

Pottery.—Sri Chandramouli Rao considers that pottery can be pursued on a large scale if the Government advance loans through co-operative societies.

Hand-pounding of rice.—Sri Tandu Mudaliyar suggests the hand-pounding of rice. He even considers that eventually rice mills may be closed by legislation.

Bee-hiving.—Sri C. Venkoba Rao suggests that in areas adjacent to forests and in Rajampet taluk where fruit-farming is conducted on a large scale, bee-hiving is a feasible cottage industry. He also says that there are many garden and forest produce which run to waste but which are valuable as dry vegetables and that they should be secured as a cottage industry.

Honey-making.—This has been suggested by Sri P. Pulla Reddi, President, Panchayat Board, Pagidyala.

Sri K. V. Krishnamurti suggests bee-keeping and fowl-breeding to be introduced by the Agricultural Department on a large scale.

Sri P. H. Rama Reddi states that it is worth prospecting for manganese in Kurnool district where it is said to be available.

Mr. John A. Zaccheus suggests the manufacture of grass mats, bamboo baskets and other bamboo-made articles, such as, chairs, tables, etc.

Notes of reference.

The following questions have been remitted to the Committee for consideration: (1) the possibility of reviving or starting cottage industries and industries of small scale such as the slate industry at Markapur; (2) the introduction of paddy-pounding as a famine relief measure.

The Collector of Bellary who was consulted was not in favour of the second proposal as it was not only unsuitable for famine relief works but also contrary to the principles on which famine works should be selected. It should be the guiding principle in selecting famine work that it does not compete in any way with private enterprise but this proposal does so compete. Apart from this general objection, the particular objection was that rice is not the staple diet of the district, so that the hand-pounded rice has to be re-exported, thereby increasing the cost prohibitively. The Collector considered that weaving was not suitable as it requires skill while spinning was suitable. The Board agreed with the Collector in its report to the Government and also pointed out that spinning also was unworkable as it depended on the cotton crop which would be an outstanding failure in seasons of scarcity.

Mr. Green, the Director of Industries, has furnished the following statistics regarding import of rice:—

“ The following table gives the figures of exports and imports by rail of paddy and rice in 1933-34. There were no imports of paddy.

Districts.	Exports.		Imports.			Percentage of estimate (5) to (6).	Imports of rice in 1934-35.	Estimated export of rice in 1934-35 on the basis of the figures in column 7.
	Paddy.	Equivalent in terms of rice.	Rice.	Total of columns (3) and (4).	Rice.			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	MDS.	MDS.	MDS.	MDS.	MDS.		TONS.	TONS.
Kurnool .. ..	..	..	..	..	657,880	..	24,171	..
Bellary	15,328	10,270	..	10,270	441,342	2.327	16,200	377
Anantapur	22,123	14,822	24,801	39,623	251,910	13.729	9,257	1,456

The table below shows the figures of consumption of rice in 1934-35 :—

Districts.	Production of rice in 1933-34.	Imports of rice by rail, 1934-35.	Estimated export of rice by rail in 1934-35.	Net import of rice by rail in 1934-35.	Rice available for consumption in 1934-35 (columns (2) and (5)).	Population according to the 1931 census.	Annua per capita consumption of rice.
	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	TONS.	TONS.	TONS.	TONS.	TONS.		CWT.
Kurnool	35,140	24,171	..	24,171	59,311	1,024,961	1.16
Bellary	19,580	16,200	377	15,823	35,403	969,774	0.73
Anantapur	66,940	9,257	1,456	7,801	74,741	1,050,411	1.43

The population of the districts is shown below :—

Districts.	According to 1921 census.	According to 1931 census.	Percentage increase.
Kurnool	914,890	1,024,961	12.0
Bellary	862,370	969,774	12.5
Anantapur	955,917	1,050,411	9.9

The annual increase percentage of population has been calculated by the use of logarithms and the rate of annual increase per cent of population in Kurnool has been found to be 1.04, in Bellary 1.18 and in Anantapur .95. The estimated population in these three districts in 1934 was, therefore, as follows :—

	Population according to 1931 census.	Rate of annual increase. PER CENT.	Estimated population in 1934.
Kurnool	1,024,961	1.04	1,057,273
Bellary	969,774	1.18	1,004,510
Anantapur	1,050,411	0.95	1,080,633

The table in paragraph 2 supra showing the consumption of rice for 1934-35 may therefore be revised as follows :—

District.	Production of rice in 1933-34.	Imports of rice in 1934-35.	Export of rice in 1934-35.	Net import of rice in 1934-35.	Quantity of rice available for consumption in 1934-35 (columns (2) and (5)).	Estimated population in 1934.	Annual per capita consumption of rice.
	TONS.	TONS.	TONS.	TONS.	TONS.		CWT.
Kurnool	35,140	24,171	..	24,171	59,311	1,057,273	1.12
Bellary	19,580	16,200	377	15,823	35,403	1,004,510	0.70
Anantapur	66,940	9,257	1,456	7,801	74,741	1,080,633	1.38

The above table gives figures of net import and consumption of rice in the three districts. The last column of the table gives the estimated per capita consumption of rice. The average per capita consumption of cereals and pulses in this Province is generally assumed to be 3.85 cwt. Assuming this figure to represent the per capita requirements of cereals and pulses in the three districts, the consumption of rice forms only 29.1 per cent of the total consumption of cereals and pulses in Kurnool, 18.2 per cent in Bellary, and 35.8 per cent in Anantapur. It is clear, therefore, that rice is by no means a staple food-grain in the three districts."

Question 2 (g).—It has been suggested that "sparked water" treated with "electricity" has immense potentialities. Can you give any opinion, on this claim from practical experience? Do you consider that the suggestion has any bearing on the problem of preventing or mitigating famine?

None of the witnesses claim to have practical experience of the use of "sparked water."

Messrs. Diwan Bahadur V. N. Viswanatha Rao, G. Rami Reddi and C. V. Rangachar feel doubtful about "sparked water" having any bearing on the problem of preventing or mitigating famine, while Messrs. J. W. Pritchard, Arunachalam and S. Rajagopala Ayyangar consider that the use of "sparked water" has no bearing, on the question. Sri V. N. Viswanatha Rao doubts whether it will be possible to 'spark' the large

volume required for irrigation but that 'seeds' and 'nurseries' may be so treated. Mr. Hejmadi says that it cannot prevent or mitigate famine unless a very much smaller quantity of water is sufficient for irrigation.

Messrs. M. Bhimasena Rao, B. R. Venguswami Ayyar and K. V. Krishnamurti say that as the experiment conducted by Sri S. S. Nehru looks convincing, it may be tried in the Ceded districts. Messrs. Krishnamurti, John A. Zaccheus and Gopalam (work-agent), think that it will to certain extent mitigate famine. Sri Y. S. Anantarajiah wants to try sparked water in the Hagari Farm-station. Sri P. H. Rama Reddi, the Director of Agriculture, says that whether 'sparked water' can increase or sustain the moisture which is required for the tract is problematical. Sri Subbanachar fails to see any relation between 'sparked water' and the famine.

Sri V. M. Giri, Secretary, District Congress Committee, Bellary, requests that the possibilities of the use of 'sparked water' may be investigated by the Government.

Sri C. Vijayaraghavan, Superintendent, Dry Farming Station, Bellary, says that though he has no practical experience of the use of 'sparked water,' he considers it inapplicable to the case of cropping under rainfed conditions, as such use will lead to using up of the moisture by the plants quickly and consequent drying up earlier resulting in no grain yield.

Mr. Nightingale considers that what is wanted is moisture and that such niceties should be tried in more fortunate areas where water, electric-plant and transmission lines already exist.

Messrs. K. Sitarama Reddi, M. Sitarama Rao and Bhojappa Sowcar observe that no opinion can be given unless the experiment is tried.

Sri S. Pullayya, Charge Officer, Harivanam, is of the opinion that 'sparked water' like rain water should contain something that is conducive to the growth of all organisms and that, therefore it will, when properly retained on land, enrich the land considerably.

Sri S. M. Kamakshisundara Sastri states that the proposal looks to him like irrigating soil with 'aerated water,' and asks whether the country has developed to that stage.

Notes of reference.

Electro-culture—Sri N. S. Varadachari's plea.—Among the papers read at the Agricultural Officers' Conference at Coimbatore on Friday was one on "Electro-culture" by Sri V. Ramanathan, Cotton Specialist, who was deputed by the Government to study electro-culture as practised in the United Provinces.

Sri Ramanathan said that he would not recommend the adoption of electro-culture all at once before conducting further experiments on agricultural farms in the Madras Presidency. As it was not crop season when he visited the United Provinces he could not see much of the claims of electro-culture. However, it seemed to him that the experiments were not conducted on such a large scale to obtain really convincing proofs of the benefits conferred by the method.

In the course of his address, Sri Ramanathan described the three methods of electro-culture. The first was sparking water with a magneto and using this water for irrigation of crops. The second was the jacketing of tree trunks and their branches with wire-netting for giving more yield and the third was the utilization of myto-genetic rays obtained from onion roots. These methods were either used individually or in combination for crop improvement. The usage of sparked water had something in common to the summer rains accompanied by thunder which were beneficial to cultivation since there was a certain dose of electricity contained in the rain water. The third method was done by using onionised water, since it contained ultra violet rays of mild intensity.

Value of sparked water.—Sri Ramanathan was made to understand that sparked water had the effect of improving germination of seed, plants were reported to be green and vigorous and yielded more. Further, it was reported, it had done good to sugarcane. Plants also required less sparked water compared to the usual quantity of water required for ordinary cultivation. He had brought some cotton samples grown with sparked water and on analysis found one specimen had a good staple, while the other did not support the claim.

However, Sri Ramanathan was convinced that electro-culture had achieved remarkable results when applied to fruit-trees in the United Provinces. He examined the dead cores of certain fruit-trees which were brought back to life by using sparked water and enabled to bring forth healthy shoots. Peach and orchard treated by this method yielded more. Mangoes were reported to have done better in a bad mango season. A garden in which trees could not be planted for three years was made to grow trees by using sparked water. Although exaggerated reports were current regarding the claims of electro-culture he was fully convinced that jacketing and sparked water had done some real good to fruit-trees.

Success with animals.—Electro-culture had also done some good to animals and human beings. Buffaloes which were given sparked water and food gave more milk, poultry thrived well, eggs were big and greater in number, hairs of pigs grew longer and were used for making brushes. In one case a wound, six inches long and three inches wide, was cured by the application of sparked water.

Sri N. S. Varadachari, Parliamentary Secretary to the Minister for Agriculture, made a spirited appeal to the Madras Agricultural department to take up the experiments with an open mind and in a true scientific spirit. He stated that the cheapness of the experiments alone was enough to give it a fair trial. He suggested that experiments should be conducted on barren and alkaline soil in some selected place in the Presidency to find out the real benefits of electro-culture.

The Hon'ble Mr. V. I. Muniswami Pillai stated that from his recent conversation with Dr. Katju, Minister for Revenue and Agriculture in the United Provinces, that the United Provinces Government was going to take up the matter in all seriousness and so far as the Madras Government was concerned, they would have an open mind in the development of electro-culture.

The Government have required the Committee to examine the suggestion about the "utilization of electricity for increasing the productivity of the soil and the yield of crops with special reference to the use of unionised and sparked water for soaking and sowing the seeds as is reported to be done in Mainpuri district, United Provinces, by Dr. S. S. Nehru." This is mentioned in the reply of the Hon'ble Minister for Revenue to the debate on Famine demand.

The Director of Agriculture reports that an officer of the Agricultural department has been deputed to study the subject of 'electro-culture' in Mainpuri district and that he is awaiting his report. The report of the Director of Agriculture will be placed before the Committee after receipt.

Sri A. R. Srinivasa Rao has written an article in the *Hindu*, dated 2nd July 1938, speaking highly of the use of sparked or 'Agaskarised' water. Extracts are available for perusal.

Sri B. R. Venguswami Ayyar (a non-official witness) says that an article has been published at pages 16-24 of the *Modern Review* for January 1938 by Swami Sevananda which proves that very beneficial and encouraging results were obtained.

Notes of reference.—A report on electro-cultural methods adopted in Northern India by Mr. V. Ramanathan, Cotton Specialist.

In G.O. Ms. No. 1203, Development, dated the 9th May 1938, the Government directed me "to study electro-cultural methods introduced by Dr. S. S. Nehru, I.C.S., in Mainpuri, United Provinces and by Colonel Noel in Peshawar, North-West Frontier Provinces" and report on the results. I immediately got into communication with Dr. Nehru, who wired to me to start at once as he was under orders of transfer to Lucknow as Commissioner.

Itinerary.—I left Coimbatore on the 27th May, reached Mainpuri on the 30th and adhered to the following programme of tour kindly drawn up by Dr. Nehru:—

Statement I.

Date.	Names of villages.	Purpose of visit.
30th May 1938	.. Kishni, Mangaon, Bhogaon villages.	To see orchards and sugarcane cultivation, an orchard raised on a sandy soil and a model village hut.
31st May 1938	.. Karhal and Chandpur	Orchard and rural uplift work.
1st June 1938	.. Sikandarpur, Sessarpur and Ruppura.	Poultry, piggery and dairy using electro-cultural treatments.
2nd June 1938	.. Bahraul, Ghiror, Bamrauli, Kusyari and Bahadurpur.	Orchards, disinfected wells, dying trees brought back to life by electro-culture, treated patients and animals.
3rd June 1938	.. Naglahar and Sujrai	Reclamation of alkaline land, inter-culture and best village for rural uplift work.
4th June 1938	.. Labhowa	Orchard—sterile trees brought to bearing.
5th June 1938	.. Eka	Orchard—dying trees revived.
6th June 1938	.. Shikohabad and Sirsaganj	Orchards, school gardens. 'Bijili' ghee with a special trade mark.
7th June 1938	.. Lucknow	Teak tree and bamboo clumps raised from treated seeds.
8th and 9th June 1938.	Rodsain and Jarwal road	Orchard.
10th and 11th June 1938.	Gorakhpur	Mango, citrus and sugarcane.
15th and 16th June 1938.	Tarnab Farm near Peshawar	Plum and peach trees jacketed.
23rd June 1938	.. Returned to Coimbatore .. ..	.....

I might mention here that Colonel Noel, the officer responsible for the starting of experiments at Tarnab, was transferred to a neighbouring district and Mr. Rajab Ali Khan, Extra Assistant Director of Agriculture, was in charge of that farm during the period of my visit.

Description of methods.—The various treatments I happened to see or hear them described in the several villages I visited can be broadly grouped under three heads, viz., (a) sparking, (b) jacketing, and (c) utilization of what are called 'mito-genetic' rays.

(a) *Sparking.*—This is done by connecting one end of an electric cable to an old magneto of a motor car, and the other terminal to the material or body to be energised, and then rotating the handle of the magneto from a half to a minute, so that the current may pass direct into the body. When materials like seeds, straw, etc., are to be sparked they are spread thinly on a wire-gauze placed over insulated stands, and the loose end of the electric wire is connected to the gauze and the current passed (11)*. Very often water is used for the transmission of energy. In those cases the loose end of the coil is dipped in the water and the handle of the magneto turned for half a minute. When water for irrigation is to be charged, the loose terminal from the magneto is inserted in the middle of the water inlet of the field and the magneto worked till the irrigation is completed. Electrically charged water is generally called 'sparked' water. When sparked water is applied from a height so as to form a thin film or spray over various limbs, the process is spoken as 'Agaskarization' named after Mr. Agaskar, the originator of the idea.

(b) *Jacketing* (11) is the name given to the operation of covering a portion—generally the basal region—of trees and plants with ordinary wire-netting used for poultry enclosures. It is said that galvanized iron netting of $\frac{1}{2}$ to 2 inches mesh is very efficient for the purpose; a band of mesh 9 to 12 inches in width, is cut out and wrapped closely round the base of trunks of trees such that two or three inches of this width are buried underground. When trees increase in girth, the jacket is loosened and a suitable length of netting added. Sometimes the base of the branches is covered when it goes by the name of 'Aproning' or 'Collaring.' Rarely the stalks of flowers and fruits are also wrapped with small strips of the netting.

(c) *Mito-genetic rays.*—These are also referred to as M rays or Gurwitsch rays. These rays are said to stimulate growth. Roots of onion, damaged leptome bundles of potatoes, cotyledons of sunflower, mash of yellow beet, pulp of *Sedum maximum* are reported in literature (6) to emit these rays. To utilize their beneficial effects two methods are being employed at Mainpuri. One is to plant onion bulbs around trees and the other is to pass the irrigation water, prior to letting it into the crop, through a series of furrows having onion plants at the sides. Dr. Misra of Jaunpur is using these rays for the treatment of human patients. He has for this purpose devised what is called "M ray gun." In that apparatus fresh onion seedlings with roots are fixed at one end of a tube while the other end is placed on area to be treated.

It may be remarked here that the last two methods do not strictly belong to electric treatments, but Dr. Nehru justifies their inclusion on the ground that jacketing captures electro-magnetic energy from air, while onion roots emit M rays and they thus create a 'field' of energy similar to an 'electric field.'

It may also be said that these methods differ from those used by the previous investigators. They generally drew currents for their experiments from charged net work suspended over the crop or from the differences present in the atmospheric potential gradients. Some grew plants in iron cages devised to destroy the electrical field present in the air while others applied currents directly to the soil by burying electrodes. Dr. Nehru himself had tried, prior to the evolution of the simple technique now recommended, cumbrous and expensive apparatus like soil ticklers, anten induction coil, dynamos, radio magnetic cradle, apparatus for X-rays, violet rays and ultra violet rays.

Their application and effects.—These methods are applied by Dr. Nehru and his collaborators either singly or in combination to plants, animals and human beings. Special electro therapy has been developed for each group and a set of recipes have been formulated (12). A few of these together with their effects, are set out in the following statement.

* The number within parentheses refer to literature cited at the end (pages 57-58).

Statement II.

I. (A) Annual crops—

<i>Mode of application.</i>	<i>Effects claimed.</i>
(a) Sparking the dry seed.	(1) Better and earlier germination of seeds. Seeds that are difficult to germinate sprout quickly.
(b) Soaking the seed in sparked water before sowing.	(2) More tillering in canes.
(c) Irrigating the crop with sparked water.	(3) Less of insect damage.
(d) Irrigating with ionized water.	(4) Less consumption of irrigation water.
(e) Raising the nursery on a sparked seed bed.	(5) Profuse production of flowers and fruits.
(f) Wrapping fruit stalks with a small piece of wire netting.	(6) Reduction in alkalinity.
(g) Holding wire netting just touching the top of plants infested with insects and passing the current through the wires.	(7) Growing crops out of season. (8) Insects killed or stunned.

I. (B) Perennial crops—

(a) Jacketing at the base of trunks and aproning the branches.	(1) Dying and sickly trees rejuvenated and revived.
(b) Sparking the jackets.	(2) Non-bearing trees stimulated to fruiting.
(c) Irrigating with sparked water.	(3) Production of more fruits.
(d) Ag-akarization.	(4) The size of fruits increased.
(e) Planting onions around.	(5) Trees raised on alkaline lands stimulated to grow and bear fruits.
(f) Planting of mango near Dhak, citrus near mango trees.	

II. Animals—

(a) Sparking the feed.	(1) In the case of buffaloes more milk and better butter are produced.
(b) Soaking the feed in sparked water.	(2) The animals are made more energetic.
(c) Using sparked water for drink.	(3) In the case of poultry, the hatchability is increased; the eggs are bigger.
(d) Activation of thyroid glands by sparking.	
(e) Sparking the affected regions and massaging.	(4) Pullets reared on electrically treated feed grow more rapidly.
(f) Washing the wounds with sparked water.	(5) Wounds are healed very quickly. (6) In the case of pigs hairs grow quicker and longer.

III. Human beings—

(a) Drinking sparked water.	(1) Pain in the affected parts is reduced.
(b) Sparking the affected regions.	(2) Inflammations subside.
(c) Washing the sores with electrified water.	(3) Fever, partial paralysis are cured.
(d) Activating the glands by sparking them.	(4) Wounds are healed quickly.
(e) Application of M ray gun.	(5) Stomach troubles are got rid of.
(f) Disinfecting well water periodically by sparking.	(6) Sleep is increased.
(g) Wearing of a necklace made of one to four strands of iron wire.	

Dr. Nehru has included all these methods in the programme of rural uplift work that is being done in Mainpuri district. Members of Fruit Growers' Association, Mainpuri, of which Dr. Nehru has been the President and guide adopt them in the various centres in the district. The results obtained by them are being recorded in the various bulletins and in the journal, "Gram Sudar," published by the above association. It is learnt that as a result of electro-farming many of them were able to carry away a number of prizes in many of the exhibitions and that the methods are being practised by a few in Ceylon, Malaya, Central America, United States of America, Germany and Sicily (13) with great success and enthusiasm.

My observations.—I may be permitted to state here that my visit to Mainpuri happened at a time when there was practically no crop on the ground. My observations were therefore limited to the following:—

Wheat seedlings and straw-berries raised in pots; sugarcane, colocasia, melons, gourds, mango, citrus, pomegranate, papaya, falsa, peaches, and plum trees; treated poultry, buffaloes and human patients.

Mr. Ahmed, Revenue Divisional Officer, Mainpuri, was conducting an interesting experiment with treated wheat in pots. He at first had groups of ten seeds sparked and sowed them in two small pots and irrigated one set with sparked and the other with plain water. It was interesting to see the seedlings watered with sparked water greener and healthier than those raised with plain water. Likewise a pot of strawberries raised with sparked water were better than the control at Tarnab Farm. At Mangaon a plot of half an acre of sugarcane was raised from setts soaked in sparked water and irrigated with sparked water. In a plot of 10 cents opposite to the above plot the same variety of cane was irrigated with plain water. On comparing both, the former was greener in appearance, had more tillers and low mortality from shoot borer. At Gorakhpur some setts were soaked in sparked water for 20 minutes and others for 10 minutes. When these were grown side by side, the germination was later in the group treated for a longer time; but the tillers were stouter and more vigorous in growth. A small bed of Colocasia irrigated with sparked water appeared greener in Mr. Sadhu Singh's garden than the

next bed receiving plain water. At Kishni a plot of gourds watered with electrified water had larger number of flowers and the fruits that had their fruit stalks jacketed were bigger. Sardar Surjan Singh, Principal, Agricultural School, Gorakhpur, reported that ash gourds gave him a second crop of fruits as a result of jacketing. He had, however, a different experience with regard to wheat, peas and grams. In a replicated experiment conducted on plots of $\frac{1}{2}$ an acre in size, electrical treatments had not produced any effect (vide Statement III).

Statement III.

Name of crop.	Yield per acre.		
	Seed sparked.	Seed soaked in sparked water.	Control.
	MAUNDS.	MAUNDS.	MAUNDS.
Wheat	15	13 $\frac{1}{2}$	13 $\frac{1}{2}$
Peas	14 $\frac{1}{2}$	14 $\frac{1}{2}$	13
Gram	13.11	13.50	13.11

The Farm Manager, Mainpuri, informed me of a similar experience on his farm with wheat. I might also mention here that Dr. Nehru supplied me with four samples of cotton kapas, two of which were from plots irrigated with sparked water. When they were examined at Coimbatore by the Technological Assistant for fibre properties, the results of the duplicates were confictory with regard to lint length; but in the case of lint and seed weights definite improvements were noticed. Sparking would, however, seem to have had no effect on fibre weight and immaturity of fibres.

Statement IV.

Name of cotton.	Seed weight.	Lint weight.	Ginning.	Lint length.	Fibre weight.	Immaturity.
	MILLI-GRAM.	MILLI-GRAM.	PER CENT.	MILLI-METRE.	10 GRAMS.	PER CENT.
520 untreated	52.2	32.6	38.4	0.68	2.85	95.2
520 treated	66.0	35.8	35.2	0.80	2.52	90.3
Comilla untreated	76.4	59.1	43.6	0.79	3.44	98.05
Comilla treated	82.5	61.5	42.7	0.75	3.86	98.07

At a number of villages like Mangaon, Sujrai, Karhal, Bamrauli, Kuayari and Eka, it was interesting to see sickly and dying mango and citrus trees rejuvenated, and putting forth fresh shoots as a result of jacketing. In some of them the dead cores were yet visible betraying their past history. At Bamrauli, the owner of the orchard narrated to me how he failed previously to get a good stand in his garden on account of alkalinity of the soil and how he succeeded in the last trial with the help of jacketing and application of sparked water. At the time of my visit these young trees were throwing out new shoots. At Labhowa, a jambulana tree was pointed out to me by the young zamindar as a specimen which started bearing after the jacketing treatment. Again at Bahraul almost all the mango trees were observed in an orchard to be literally laden with fruits in a season declared bad for fruiting. Such a remarkable condition was ascribed to the electro-cultural treatments (jacketing and irrigating with sparked water) practised by the owner. Again in the Raja's garden at Eka two bael (*Aegle marmelos* corr) trees growing side by side within a distance of 8 feet was shown to me as having been in poor condition about six months back. When one of them was jacketed, it commenced to put forth fresh shoots. At the time of my visit that tree had a fairly good growth of healthy leaves, while the untreated tree was bare with no leaves. At Rodain, a few mango and citrus trees were reported by Mr. Dhar, Superintendent of Hunter's Garden, to retain fruits better as a result of Agaskarization. It was interesting to see at Naglabar, trees fruiting well on a badly alkaline patch as a result of jacketing. Again at Gorakhpur a number of mango trees were brought to bearing at the instance of Sardar Surjan Singh by covering the base of the trunks with iron wire. Besides a small experiment was conducted in duplicate here by Mr. Singh to determine the optimum size of the wire netting required for jacketing citrus trees. It was stated that he chose the best tree for the control and jacketed neighbouring four trees with 4 inches, 6 inches, 9 inches and 12 inches wide wire netting. At the time of my visit the control was the poorest signifying the effectiveness of jacketing. Amongst the different widths of jackets, 9 inches was found to be the best in growth as well as in the total yield. But it was at Tarnab farm, a more convincing proof of the usefulness of jacketing was obtained. A series of experiments in replicated plots on peaches and plums were started there three years ago by Colonel Noel and their performances are being carefully recorded by the farm staff. The yields of the past two years were statistically examined. (Vide Statement V.) It is manifest from the analysis of the results that in both years mere jacketing around the base of the trees has definitely enhanced the yields up to 50 per cent, while jacketing of branches only has failed to induce any appreciable effect.

Statement V.

Yield of peaches on the Tarnab Farm.

Treatments.	Field No. 6 A. Plot I.					Field No. 6 A. Plot II.				
	Number of trees.	1935-36.		1936-37.		Number of trees.	1935-36.		1936-37.	
		Yield per tree in lb.	Increase over control.	Yield per tree in lb.	Increase over control.		Yield per tree in lb.	Increase over control.	Yield per tree in lb.	Increase over control.
			PER CENT.		PER CENT.			PER CENT.		PER CENT.
1 Jacketing trunk ..	21	192.2	+31.2	203.0	+40.2	28	184.4	+16.8	176.0	+16.1
2 Jacketing branches.	21	176.2	+20.2	184.5	+28.2	28	176.2	+15.2	167.6	+8.8
3 Jacketing trunk and branches ..	21	146.0	-0.5	157.1	+8.4	28	140.1	-4.2	144.4	-4.6
4 Control ..	21	146.7	..	144.8	..	28	155.8	..	151.4	..
Critical difference ..	P=0.05	14.74	..	26.7	..	..	..	..	..	..

Yield of plums on the Tarnab Farm.

Treatment.	Number of trees.	Yield per tree in lb.	Increase over control.	Yield per tree in lb.	Increase over control.
			PER CENT.		PER CENT.
1 Control (1935) ..	8	18.4	..	25.8	..
2 Jacketed in 1935 ..	8	28.7	56.1	35.1	36.0
3 Control (1935 and 1936) ..	14	..	..	..	..
4 Jacketed in 1936 ..	5	..	..	34.0	31.9

As the experiments on plums were not done on replicated basis and as proper precautions were lacking with regard to outskirts, their yields cannot be analyzed statistically.

With regard to the improvement of animals by electro culture, my observations were rather very limited. At Sikandarpur, a poultry man showed me two eggs—one from treated breed and the other from a normal hen. The former was distinctly bigger which fetched him 20 per cent more money. At Karhal and Bahraul villages two respectable men showed me pullets, bigger in size than the normal due to the feeding on grains soaked in sparked water. I saw at Chandpura a buffalo said to be fed on sparked straw and concentrates. It looked distinctly healthier and bulkier. At Ruppura where most of the residents are employed in selling dairy products at Mainpuri, I learnt that buffaloes increased their milk yield and yielded a better quality of butter when electrified feed was supplied to them. It would appear that a co-operative society was formed at Sirsaganj for the supply of 'Bijili' ghee (Bijili=electricity) to Calcutta market where it actually fetched, it seems, Rs. 2 extra per tin over the ordinary brand. Unfortunately the prime worker in this society died prior to my visit which precluded me from seeing the actual working of the society.

In the case of human beings, I happened to see a ryot at Kusyari with a scar about 5 inches long and about 3 inches wide reported to be healed entirely by the use of sparked water. Sardar Surjan Singh of Gorakhpur told me of his personal experience. He had, it seems, a kind of facial paralysis and rheumatic pain in the body which he was able to shake off by sparking the affected portions from a cycle magneto. On the day of my arrival at Mainpuri, Dr. Nehru got a letter from Sri Rao Bahadur L. Venkatakrisnan, Superintending Engineer, Tanjore, wherein he described how his old father was saved from acute attack of uræmia by electro cultural treatment at a stage when doctors had given him up.

The visits and reports mentioned above, interesting and instructive as they were, made me feel that some of the treatments advocated by Dr. Nehru had certainly something useful behind them; but unfortunately they were being carried out in such a way that it was difficult to form a decisive opinion about their individual performance. Testing them under conditions of normal agricultural experiments would have furnished them better background. At present, all of them were carried out by private individuals who could not be expected to realize the usefulness and importance of maintaining records to corroborate their statements. I for one could also easily realize their difficulties in attempting to do so. These could have been easily overcome by conducting experiments on agricultural research stations. It might be said that many improvements like the introduction of Mauritius groundnut in our Presidency were brought into general practice without such rigorous trials. But in all such cases the benefits were so patent that they themselves acted as their own advertisers. The puzzling feature about the electrical treatments was that they had not spread amongst the ordinary farmers as one would expect. Some allowance should, however, be made for this state to two facts, viz., that the time factor is rather long even in the spread of agricultural practices that are definitely found beneficial, and that the tenant farmers who form the majority in the United Provinces are not much interested in increasing the yields in the

zamindars' lands. Against these should be mentioned the simplicity and the cheapness of the methods and their sponsoring by the members of an organization like the Electro-culture and Fruits Growers' Association, Mainpuri. The slow spread would lead me to infer that the good effects observed might not be universally true and that season and place might have had some neutralizing effect. It would therefore be wise to withhold our unquestioning support to the universal and wide adoption of these methods till exact knowledge of the conditions for success would become available.

Theoretical basis of cell response.—Although the fact that electric current influences plant growth is known since 1746, an explanation for the response accepted by all is yet to come. For the sake of easy reference a few opinions are quoted here. Koernicke (7) reports that treated beans transpired more rapidly and used greater amount of salts from the nutrient solution. Marinesco (6) states that the application of electro-motive force to plants creates a difference of potential which affects the flow of sap in the vessels. Dixon and Bennetclark (4) consider that a moderate electric current in a tissue caused a fall in electrical resistance and that the ability of a current to stimulate a cell is determined by the potential difference across the membrane of the cell. Brown (3) and Wakshman (16) are of opinion that application of electric current to soil increases the activity of soil micro-organisms. Wollny (17) and Dorchester (5) have found that weaker currents stimulated bacterial activity while stronger currents were harmful. Blackman (2) concludes that the effect produced is out of all proportion to the energy supplied and the effect may be classed as stimulative. Stiles (15) writes that when electric current is passed through an organ, a response similar to mechanical shock is made and changes in turgor are brought about.

Dr. Nehru (12 and 14) explains that "the basic principle in all these experiments is that wherever there is cellular activity electrical energy is developed and conversely wherever electrical energy is applied, cellular activity is increased and better growth is obtained." He (12) considers that by sparking, clogged capillaries become normal and that when electrified water is taken in "it is reasonable to expect metabolism to improve, nervous tension to be stabilized, functional equipoise to be regained and in short vital processes to be fostered." He further says that in Agaskarization a mild electric field is set up by the sparked water coming in contact with the numerous growing points and as a result cell sap moves more freely. He describes it as "a reproduction of the natural phenomenon associated with monsoon rains when rain charged clouds are struck by lightning before they burst into showers (14)." It is not necessary for the purpose of this report to discuss here how far the explanations offered above by Dr. Nehru are in conformity with the accepted relationships between electric energy and plant growth.

Regarding jacketing very little is known about its mode of action. Dr. Nehru is of opinion that cosmic-radio magnetic waves are captured by the wires. Now if that represents the correct state of things, then the effect should be dependent on the quantity of metal used and the width of jacketing. The place of jacketing should not also cause any difference in the results. But the data secured at Tarnab clearly point out that jacketing of branches has not induced any effect, while jacketing of the trunks is phenomenally successful. It is manifest therefore that more investigation is needed in this direction.

With regard to the effects of mito-genetic radiation a number of experiments have been conducted by various workers. It is reported that they are due to ultra violet rays of a very low intensity emitted by meristematic cells of certain plant and animals. They are said to be more sensitive than the most sensitive instrument and yet certain biological objects like yeast bacteria, sea urchin eggs are able to detect them. These rays, as stated previously are said to stimulate growth. Dr. Nehru is of opinion that when irrigation water is passed through beds growing onion, the water is enriched by the emanations from the onion roots and is effective on plants in much the same way as sparked water.

Conclusions.—What I have seen makes me infer the following :—

1. There is something mysterious about jacketing and its effects. Under certain conditions it improves plants and trees strikingly.
2. There is considerable amount of evidence to indicate the usefulness of sparking in the treatment of diseases.
3. Sparked water stimulates young seedlings to develop better.
4. More experiments and observations under controlled conditions are needed to offer a definite opinion on the effects of sparking on the improvement of annual crops.
5. Since my observations on the effects of application of water charged with 'mito-genetic' rays are very few nothing can be said about them.

6. Even in the case of treatments where distinct beneficial results have been obtained there are many lacunæ in the knowledge accumulated so far which makes one feel diffident while attempting to advocate them widely.

In drawing these deductions, it is hard to forget the contribution which Dr. Nehru has made in this connexion. That electricity when applied to plants and animals improves their general condition is known for a long time. That minute quantities of the current are sufficient for this purpose has also been proved by many workers. But in almost all these cases the cost of equipment necessary for the purpose has always been far above the reach of many men and still less in the case of farmers. But it is Dr. Nehru, as far as I am aware, that has brought the potentialities of electro-cultural treatments within the compass of an ordinary cultivator. He has spent much of his time and money in the midst of arduous duties as a District Magistrate in devising methods and testing them. The apparatus he now recommends and the treatments he suggests are simple, foolproof, inexpensive, not time-consuming and applicable to a number of maladies. His jacketing idea seems to be original and marvellous, though mysterious. Unfortunately I had not come across with actual yield data of crops except at Tarnab farm to bring out the superiority of the treated plots. The information furnished by Dr. Nehru in United Provinces Departmental Bulletins (10) was mostly about the effects produced by different sets of apparatus used by him formerly. Most of the experiments conducted by his co-workers suffer from the lack of sufficient number of controls and from the non-inclusion of ordinary precautionary measures enjoined for the conduct of agricultural experiments to eliminate and exclude disturbing factors like effects due to differences in soil fertility and variation in biological populations. The result is that a certain amount of uncertainty and scepticism has begun to gather in scientific circles around the recommendations made by them. Enough confidence has not been created to pronounce that the effects noticed will be reproducible in the majority of the trials that may be conducted in future. Such a condition is an essential desideratum especially in view of the following statements and facts:—

- (a) A number of eminent scientists like Sir Oliver Lodge, V. H. Blackman, J. H. Priestly, J. Jergensen, L. J. Briggs and G. N. Collins have carried out experiments in electro-culture for a number of seasons, and some of them have reported, after extensive series of experiments, that increased yields were obtained from crops and plants as a result of treatments; and yet subsequent workers who repeated them have declared that even with the observance of extreme precautions, the differences between the treated and the controls are found not significant (3-a and 5). Millet (9) after reviewing the available literature on electrical treatments on crops states that "knowledge concerning the proper conditions under which electrical treatments should be given is very meagre and much more experimental work is needed before any definite statements can be made concerning the effects of electricity in growth and crop production." When such a conclusion is drawn from data collected from experiments with well understood backgrounds, it will be wise to be more cautious in the interpretation of the observations made under less exacting circumstances. With regard to mito-genetic radiation, Bateman (1) while summarizing the information available in literature on this subject likewise states that "the unsatisfactory state of mito-genetic literature makes it advisable to regard all that has been written in support of the existence of mito-genetic radiation with greater scepticism. The existence of mito-genetic effect has neither been finally proved nor finally disproved. The evidence against it though extensive, is yet insufficient. But supposing that a mito-genetic effect does exist, it is highly improbable that it has anything at all to do with ultra violet radiation."
- (b) It is the departmental policy dictated by experience that no innovation or improvement should be advocated unless and until it has been tested and found successful under a variety of conditions in the entire Presidency. It is too well known that if once the confidence and trust reposed in the department by the farmers is shaken off by the poor results arising out of the recommendations made by its officers, it takes years to resume the original position not only in subjects where failure has been met with, but also in other recommendations which are certain to result in success.
- (c) Presuming that the electro-cultural treatments cause increases in crop production with a small initial outlay, it is necessary to know the period during which additions in yield will be manifested and the nature and extent of their after-effects. Dr. Nehru considers that the beneficial effects recorded are not brought about by stimulation and as such no harmful effects should follow by the adoption of the methods. But it is hard to reconcile it with the fact

that better crop production means absorption and removal of more nutrients from the soil. His explanation that charging a plant with electricity remove the clogging of the capillaries implies that more uptake of salts will result in the process. It is reasonable to expect on a priori grounds that these treatments will tend to accelerate soil exhaustion after a period. Data are to be gathered to proclaim to the farmers either that such an apprehension is not founded on facts or that the after-effects are deleterious.

Dr. Nehru reports in bulletin 62 of the United Provinces Department of Agriculture (10) that the good effects of sparking were seen even in the fourth generation. Unfortunately the data furnished were insufficient to test whether the differences noted were the outcome of the seed energization done four generations ago.

Our first aim should, therefore, be to test all the methods recommended by Dr. Nehru under more rigorous and controlled conditions and select such of them as give convincing proof of their good effects. The following are some of the points that are to be elucidated in this connexion :—

1. The optimum strength of the current needed for sparking.
2. The inter-relation between dosage and the developmental phases of the crop or animal.
3. The relative efficacy of different methods.
4. The best kind and optimum size of wire netting required for jacketing trees.
5. The seat of jacketing to give best results.
6. The effect of onionized water on crop growth.
7. The effect of season and place on the treatments.
8. Nature and extent of their after-effects.

It may be useful in the connexion to quote Dr. Nehru's words. " He states (12) that it has yet to be fixed when exactly a treatment should begin and when it should terminate to secure a certain specified result."

Recommendations.—It may be stated here that it may appear useful for the sake of getting quicker results, to carry out the experiments recommended below on a number of stations simultaneously. But since the evidences on the effects of sparking and mito-genetic rays are not on the same footing as those concerning jacketing, it will be desirable to make a distinction in the choice of stations for their conduct. I suggest that the former series be first tried by the Crop Specialists stationed at Coimbatore and when some certainty and confidence are obtained by them, they may be tried on the district stations. The experiments relating to jacketing may be taken up at all stations wherever facilities exist for such trials. Again, it is essential prior to the starting of the investigation to standardize the apparatus and the methods such that the treatments may be on a comparable basis for drawing valid conclusions.

Apparatus.—Dr. Nehru recommends the use of magneto of cars and cycles. No information is at present available on the voltage of current developed in each. The Research Engineer may be requested to determine the relationship between the type of magneto and the number of revolutions given so that each worker may know and adjust the strength of the current according to his needs. He may arrange to purchase all the magnetos required by the officers, test their strength and send them to the farm managers of the agricultural research stations with a statement about voltage developed under different conditions. It is needless to point out that this supply should precede the starting of experiments on the research stations.

Knowledge is needed on the following points :—

Paddy and ragi—

- (a) Effect of sparking dry seed.
- (b) Effect of soaking seed in sparked water.
- (c) Determination of the optimum duration for soaking seed in sparked water.
- (d) Determination of the optimum dosage needed for sparking water.
- (e) The effect of agaskarization of the nursery beds.
- (f) The effect of irrigating the nursery with sparked and onionized water.
- (g) The effect of irrigating the crop after transplanting with sparked water.
- (h) Nature of after-effects.
- (i) The possibility of improving alkalinity by irrigating the plots with sparked water. These may be studied by the Paddy Specialist and the Millets Specialist.

Cotton, cholam, cumbu, tenai and groundnut.—Items (a) to (d), (h) of the above list and irrigating the crop with sparked water in the case of irrigated cotton and cholam will have to be studied.

These experiments may be conducted by the Cotton Specialist, Millets Specialist and the Oil Seeds Specialist. If needs be, the trials on cumbu and tenai can be put off till some experience is gained on cholam and ragi.

Sugarcane—

- (a) The effects of soaking the setts in sparked water.
- (b) Determination of optimum duration for soaking.
- (c) Determination of the best dosage.
- (d) The effect of irrigating with sparked water.
- (e) Nature of after-effects.

These may be carried out at Anakapalle and Gudiyattam stations.

Plantains—

- (a) Study of the effects of irrigating the crop with sparked water.
- (b) Study of the effects of jacketing the fruit stalks.
- (c) Determination of the best dosage for item (a).

These may be investigated by the Assistant in Systematic Botany at Coimbatore.

Coconuts—

- (a) Study of the effects of jacketing the trunk.
- (b) Study of the effects of jacketing the spadix.
- (c) Study of the effects of sparking the jackets.
- (d) Determination of the size of the jacket to be used.
- (e) Determination of dosage in sparking.
- (f) Determination of the stage when sparking and jacketing will give the best results.
- (g) Nature and extent of after-effects.

These may be tried at coconut stations on the West Coast and on the Central Farm by the Oil Seeds Specialist.

Fruit-trees—

- (a) Effect of jacketing trunks.
- (b) Effect of jacketing branches.
- (c) Effect of jacketing fruit stalks in the case of fruits of big size.
- (d) Effect of sparking the jackets.
- (e) Determination of the strength of current for sparking.
- (f) Determination of the size of the jacket.
- (g) Effect of irrigating with sparked water wherever it is done.
- (h) Effect of agaskarization.
- (i) Effect of planting onions around trees.
- (j) Effect of irrigating with onionized and garlicized water.
- (k) Finding out the phase when jacketing and sparking will give maximum response.
- (l) Study of the extent of improvement in improving the yield of fruit-trees grown on alkaline lands as a result of jacketing.
- (m) Nature and extent of after-effects.

These experiments can be done at Burliar, Kallar, Central Farm and Kodur research stations.

Cows, buffaloes and bullocks—

- (a) Effect of feeding with sparked straw and concentrates.
- (b) Effect of giving feeds that have been exposed over a cloth spread on a cot to the early morning sun for half an hour.
- (c) Effect of feeding with straws and concentrates soaked in sparked water.
- (d) Effect of giving them sparked water to drink.
- (e) Effect of sparking the thyroid region.

Cows, buffaloes and bullocks—cont.

- (f) Effect of washing wounds with sparked water and sparking the injured parts.

These may be carried out at the Central Farm, Coimbatore, Hagari and Guntur agricultural research stations.

Poultry—

- (a) Effect of feeding with adults and pullets with grains soaked in sparked water.
 (b) Effect of giving them sparked water to drink.
 (c) Effect of sparking laying hens at the neck daily.

These may be tried on the Central Farm, Coimbatore, and Anakapalle.

Pests and diseases—

- (a) The study of the effects of sparking infested seeds.
 (b) The study of soaking infested seeds in sparked water for definite short period and drying them.
 (c) Testing the effect of holding wire netting just touching the tops of crops infested with aphids, mealy bugs and hairy caterpillars and passing the current.
 (d) The study of optimum time for items (a), (b) and (c).

The efficacy of these may be tested by the Government Entomologist. Dr. Nehru says that diseases like rust, smut and root rot were controlled by electrical treatments. The Mycologist may repeat these trials under Coimbatore conditions.

The above recommendations except the last are made with reference to biological objects in health. Since enough replications may not be possible to secure specimens with the same stage of ill-health, workers may have to record the conditions of such objects prior to and after the treatments carefully so that the results may be collated later on.

Acknowledgments.—I cannot adequately express my indebtedness to Dr. S. S. Nehru, for drawing the programme, for making arrangements during my visits to the different villages, for giving the benefit of his experience in short talks on the evenings, and for looking after my needs and comforts during my stay at Mainpuri. The anxiety he felt when I was stranded at Karhal owing to the breakdown of the car and the quick arrangements he made, at great personal inconvenience, to get me back, have placed me under deep debt of gratitude to him. I am also thankful to Sardar Surjan Singh Siddu, Principal, Agricultural School, Gorakhpur, Mr. Dhar, Superintendent, Hunter's Farm, Jarwal Road and Mr. Rajab Ali Khan, Extra Assistant Director of Agriculture, Tarnab Farm, Peshawar, for taking me round their farms and explaining to me the results they have obtained. Finally, I wish to express my gratitude to the Madras Government for giving me an opportunity to visit Northern India and learn this interesting and fascinating aspect of farming.

Literature cited.

- | | | | | | | |
|----|---|-----------------------------|----|----|----|---|
| 1 | Bateman, J. B. (1935) | .. | .. | .. | .. | Mito-genetic Radiation.
Biological Review, Vol. 10. |
| 2 | Blackman, V. H. (1923) | .. | .. | .. | .. | Field Experiments in Electroculture.
Jl. of Agricultural Science, Vol. 14. |
| 3 | Brown, F. E. (1915) | .. | .. | .. | .. | Bacterial Activities and Crop Production.
Research Bulletin, 25, Iowa, U.S.A. |
| 3 | (a) Collins G. N. (1929)
J. W. | Flint, L. H. and
Maclan, | | | | Electric Stimulation of Plant Growth.
Jl. of Agricultural Research, Vol. 38. |
| 4 | Dixon, H. H. and Bennet, Clark, T.A. (1927) | .. | .. | .. | .. | Response of Plant Tissue to Electric Currents.
Quoted by Miller in his book of Plant Physiology, p. 835. |
| 5 | Dorchester, C. S. (1937) | .. | .. | .. | .. | The Effect of Electric Current on certain Crop-Plants.
Research Bulletin 210, Iowa, U.S.A. |
| 6 | Duggar, B. M. (1936) | .. | .. | .. | .. | Biological Effects of Radiation, Vol. 2,
p. 941. |
| 7 | Koernicke, M. (1927) | .. | .. | .. | .. | Deutsche Botanische Gesellschaft Berichte,
Vo. 45 (quoted by Dorchester, 5). |
| 8 | Marinesco Neda (1931, 1932) | .. | .. | .. | .. | Academic Science (Paris) Comptes Rendus,
Vols. 193, 194 and 195 (quoted by Dorchester, 5). |
| 9 | Miller, E. C. (1931) | .. | .. | .. | .. | Plant Physiology. |
| 10 | Nehru, S. S. (1931, 1932 and 1933) | .. | .. | .. | .. | Experiments in Electric Farming Bulletins 53,
61, 62, Department of Agriculture, United Provinces. |
| 11 | Do. | .. | .. | .. | .. | The Application of Electricity to Fruit-Farming.
Bulletin No. 14. Department of Agriculture,
United Provinces.
(Fruit series.) |

Literature cited—cont.

12	Nehru, S. S. (1937)	..	..	..	..	..	The Rural Uplift Educator, published by Mainpuri Dev. Fair Exhibition.
13	Do. (1937)	..	..	..	..	..	Fertilisers and Utilities.
14	Do. (1938)	..	..	..	..	..	World's Aspect of Social Progress.
15	Stiles, W. (1936)	..	..	..	..	..	Second Primer of Electric Culture and Radio Culture.
16	Wakzman, S. A. (1922)	..	..	..	..	..	An Introduction to the Principles of Plant Physiology.
17	Wollay, E. (1893)	..	..	..	..	..	Microbiological Analysis of Soil as an index of Soil Fertility. Soil Science, Vol. 14.
							Forschungen auf dem gebiete der Agricultur-Physik, Vol. 16 (Quoted by Dorchester, 5).

SECTION II—PURPOSES OF FAMINE OPERATIONS AND PRINCIPLES OF FAMINE RELIEF.

Question No. 3: These are laid down succinctly in the introduction of the Famine Code and section 127 thereof. While the State is bound to protect the people from starvation in time of distress, it is no part of its duty to maintain them at their normal level of comfort or to insure them against all suffering. The wage should be the lowest amount sufficient to maintain healthy persons in health. Do you agree with this statement of policy? If you consider that any modifications are necessary, what are they and how do you justify them if they involve greater financial commitments than at present?

Messrs. Wood, Viswanatha Rao, Nightingale, Balraj, Pritchard, Unnithan, Javad Hussain, Hejmadi, Arunachalam, Smyth, Davis, Kudva, Rahamathulla Sahib (Famine Charge Officer), T. R. Subrahmanya Ayyar (Famine Charge Officer), W. Tirunarayana-charya, K. Alagiri Rao, Pullayya (Famine Charge Officer), C. Gopalam, P. Ramachandra Ayyar, Janab Akbar Ali Khan, T. Bhaskara Rao, Y. S. Anantarajayya and A. Padmanabhan among officials and Messrs. K. S. Raghavacharlu, Khan Sayyed Buden Sahib, K. Rami Reddi, Narayana Rao, K. Seetharama Reddi, Reddi Venkoba Rao, Chandramouli Rao, M. Davendra Nayudu, M. Sitarama Rao, Bhojappa Sowcar, Sivasankaran Pillai, K. V. Krishnamurti, John A. Zaccheus and B. Subbannachar among non-officials agree with the statement of policy in section 127.

Mr. Wood points out that the sentence in the section (omitted in the question), viz., "persons who are not in health when they come to the works are treated specially" is an important one. Reference to generosity in connexion with famine is out of place. It has to be remembered that an increase in wages increases the number of persons who come for relief.

Mr. Smyth's experience is that even in normal times the standard of living in famine areas is very low and the scale of food and allowance laid down in the Code is generally as good if not better than the usual standard of living in good years.

Sri K. S. Raghavacharlu considers that the "lowest amount sufficient to maintain healthy persons in health" now prevailing, is really very low and requires to be enhanced by 25 per cent. The greater expenditure has to be met from the savings under establishment and supervision charges. Messrs. Sitarama Rao, Bhojappa Sowcar, B. R. Venguswami Ayyar, B. Bhima Rao and Sivasankaran Pillai say that these people deserve as much consideration as the inmates in jail and that the excess expenditure involved may be met by retrenchment.

Khan Sayyed Buden Sahib considers that the wages should be in accordance with the conditions in the locality which may be appraised by the non-official committee which may be formed the moment that famine threatens any locality.

Mr. Kudva thoroughly agrees with the principle because—

- (1) The cost of relief measures in famine has to be borne by rate-payers in other districts also.
- (2) During the 1935 famine an appreciable number of persons who were not in need of relief attended works after the raising of the wages. As observed by the Famine Commission, 1901, women and children not in need of relief, have always a tendency to resort to the works. Disproportionately large number of women and children is a sure indication that the work serves people not in need of relief.
- (3) Personal enquiries revealed that landholders who had supplies of grains did not scruple to send their female relatives and children to camp for the sake of wages. In some cases even the landholders attended the works.
- (4) If wages are too attractive, people will stick to the works with the result that normal agricultural operations will suffer.

(5) There are doctors in attendance and if it is found that the health of the workers is deteriorating there is provision (sections 104 and 130) for raising the scale of wages on any particular work.

(6) No harm will result from the present policy as the Collector has to watch vigilantly the condition of health of workers in view of the dictum laid down in 1868 that every district officer will be held responsible for avoidable deaths from starvation.

Sri Sitarama Reddi suggests that "the amount sufficient to maintain" must be judged by the standard of living at the present time.

Sri Reddi Venkoba Rao considers that the policy is not carried out in practice as the coolies are underpaid. Sri Chandramouli Rao also suggests an increase in wages.

Sri C. Gopalam considers that the payments or the wages should be such as to enable the average ryot not only to maintain himself and his family but also to be able to continue his agricultural operations even after famine.

Sri W. Tirunarayanacharya says that experience in the famine camp shows that with the scale of wages as now obtaining, the workers maintain good health and have not shown any signs of deterioration.

Sri K. V. Krishnamurti says that workers should be supplied with clothing once in four months.

Sri A. Padmanabhan considers it desirable that the workers should be paid allowances for rest days, equivalent to the wages of the class to which they belong and not allowances of dependents that are meagre for their maintenance.

Sri B. Subbanachar wants that the wages should be raised at least by 1 or 2 pice to keep the wage-earner above the elementary wants.

Messrs. G. Rami Reddi (Famine Charge Officer), S. Rajagopala Ayyangar, S. Muthuswami Ayyar, S. Sankaran among officials and Messrs. M. Bhimasena Rao, C. V. Rangacharlu, Mrithyanjaya Sastri, V. M. Giri, Lakshminarayana Rao, Ramanathan, B. Bhima Rao, C. Venkoba Rao, P. Rama Reddi and J. Srinivasa Sastrulu among non-officials consider a change of policy necessary. Mr. Bhimasena Rao is of the opinion that the State exists for the people and its interests are identical with those of the people. Famine is caused by lack of employment and purchasing power. The State is therefore justified in spending any amount of money to give the people normal comfort and insure them against all sorts of suffering. If all the people are given employment by revival of cottage industries, famine will be a thing of the past. Identical views are held by Sri Mrithyanjaya Sastri.

Sri G. Rami Reddi while agreeing that the State is no doubt not bound to maintain the people at their normal level of comfort considers it their duty to insure the people against all suffering and deterioration. Clothing and enhanced wages should be given. The increase may be met by reduction of establishment, etc. Sri Lakshminarayana Rao is of the same view and considers that the enunciation of policy should be made clear.

Sri C. V. Rangachar considers that the principle does not satisfy the requirements of keeping the labourers mentally and physically healthy as they require not only food but also oil for lights, clothing, etc. An increase of more than 50 per cent in wages is called for. Sri S. Rajagopala Ayyangar (Revenue Divisional Officer) is also of the same view but considers that an increase of 1 pice in wages all round will meet the demand. Sri Muthuswami Ayyar considers that as the class of people who depend mainly on agricultural labour will migrate to adjoining districts, those who remain are small ryots who deserve to be maintained at their normal level of comfort. So also the weavers and other artisans.

Sri Ramanathan states that the ideal of the State should be to keep a person in his normal level of comfort as it is now an accepted principle that the man power of the State is the wealth of the State.

Sri Sankaran suggests modification as follows :—

"While the State is bound to protect the people from starvation in times of distress it is no part of its duty to maintain them above their normal requirements but it is their duty not to put them to unnecessary suffering. The wage earned should be such sum as is sufficient to get them a day's food to retain them in normal health."

He suggests this modification because, as human beings they deserve consideration and their normal comforts, viz., three full palatable meals, good drinking water and in deserving cases a cloth cannot be denied to them. He also suggests that officers in charge of the works should be allowed a free hand to adjust the task to enable the workers to earn nothing less than a living wage.

Sri C. Venkoba Rao suggests that the Government could earmark a certain percentage of revenue collections in each district to be accumulated for the benefit of the district against famine and other contingencies, whereby the present system of remission of revenue in famine areas and expenditure on famine works could be avoided.

Sri J. Srinivasa Sastrulu says that when the prisoners who have committed wilfully atrocious deeds are having slightly better comforts in the prisons, it would be better to give the famine-stricken people sufficient help to maintain their own standard of living.

Question No. 4—Chapter II of the Code—Preliminary measures of enquiry and preparation when the rain falls; what modification, if any, do you suggest to the measures laid down in this chapter?

Messrs. Arunachalam, Kudva, Unnithan, Javad Hussain, Smyth, Pritchard, T. R. Subrahmania Ayyar, Balraj, P. Ramachandra Ayyar, W. Tirunarayanacharya, T. Bhaskara Rao, Sankaran and Y. S. Anantarajiah, among officials, and Lakshminarayana Rao, T. Sivasankaran Pillai, K. Rami Reddi and K. V. Krishnamurti, among non-officials, consider the present measures adequate and that no modifications are necessary.

Warnings of possible distress :—

Messrs. S. Rajagopala Ayyangar, Diwan Bahadur V. N. Viswanatha Rao and C. V. Rangachar observe that not all the symptoms of distress enumerated in section 34 are likely to exist to-day. Messrs. Rajagopala Ayyangar and Rangachar consider that the simple fact that rain has failed should be sufficient to warn Government of the approach of famine and that want of rain accompanied by crop failures and unemployment may be adopted as the criteria.

Diwan Bahadur V. N. Viswanatha Rao, points out that as it will be difficult to make the declaration contemplated in 2 (a) under section 33-A, test works might be started straightaway without an expanded programme of local fund works and that this should, as a rule, be the starting point of famine operations.

Sri M. Narayana Rao suggests that all works undertaken under section 33-A of the Code should be executed departmentally and not through contractors.

Sri Chandramowli Rao of Moka in Bellary district, however, suggests that test-works should be dispensed with and the relief works started straightaway.

Sri Bhimasena Rao thinks that the revenue subordinates do not submit their reports in time to the higher authorities, whenever, they apprehend distress as they fear that they may be taken to task and that this fear should be removed. He also states that they should learn the correct methods of assessing crop outturn. Messrs. Sitarama Rao and Bhojappa Sowcar also suggest that the reports from the subordinates do not give a true picture of the distress prevailing.

Sri Ramanathan suggests that preliminary measures now undertaken to enquire into famine conditions would be obviated if monthly reports were called for from each village about seasonal conditions.

Messrs. Sitarama Rao and Bhojappa Sowcar suggest that the inspection of crops should be commenced early in November and should not be postponed to December, that cotton, white cholam and wheat may, however, be inspected early in February and that all reports sounding a note of warning of distress should give an estimate of loss in the outturn. They further suggest that as the revenue subordinates are apt to minimize the extent of distress to avoid trouble, it would be better to get information regarding the distress from some non-official sources as well every month, that the karnams' reports may be attested by at least three non-officials appointed for this purpose and that a local non-official committee consisting of prominent ryots and members of panchayat board should be formed to watch the situation, to make crop inspections and to submit outturn reports to Collectors. In cases of conflicting reports the Collector or the Sub-Collector should make a personal inspection.

Messrs. Mrityanjaya Sastri and Giri suggest that the crop estimates should be made only by the Agricultural department and not by the revenue officials. It is further suggested by the latter that in the alternative, the Deputy Collectors should take the assistance of the members of the Legislature for the division.

The other suggestions of Messrs. Sitarama Rao and Bhojappa Sowcar are—(1) that the number of rain gauges should be increased to one station in each village where a Board Elementary school exists, that the headmaster of the school should record the readings, maintain the register and submit the report to the taluk office through the village headman if there is no post office; (2) that when the rainfall is found to be deficient, special weekly or fortnightly season reports should be obtained from the Tahsildars in a special form to be prescribed; and (3) that final orders of the Government regarding grant of remission should not be delayed beyond 15th January in the case of red-soil tracts.

Sri K. Sitarama Reddi suggests the addition of the words "within two weeks" after the words "issue orders" occurring in section 47 (b).

Rao Sahib Muthuswami Ayyar considers that some legislation is necessary to compel zamindars and big landholders to restore their tanks and to undertake big works to give employment to the needy.

Sri Pullayya, Charge Officer, Harivanam, suggests the following addendum to section 33-A, as amended by correction slip No. XVII, dated 15th October 1936:—

"The Collector may select willing zamindars and landowners of the locality to take up such works of utility as can be executed by unskilled labourers after prescribing the manner of executing those works."

Sri Gopalam suggests that in addition to the Government the rich ryots as well as the general public may be asked to contribute something to relieve the distress instead of simply criticising the Government.

Mr. W. J. Davis, Superintending Engineer, Coimbatore, points out that early collection of grass for cattle fodder from forests is essential and suggests that it should be done every year before the burning of grass in forest areas is started.

Sri Venguswami Ayyar suggests that sparked water may be tried on withering plants and that materials necessary for cottage industries may be kept ready for distribution.

Khan Sayyed Buden Sahib Bahadur suggests that the Collector may form a committee of influential non-officials for the whole of the famine area to suggest ways and means to combat famine.

Sri A. Padmanabhan, work agent, Bhatrahalli, considers it desirable that for advances given under the Land Improvement Loans Act under section 41 of the Code, interest less than the usual rate may be charged and that it may be left to the discretion of the Collector who may fix the rate of interest in accordance with the crop of the season without leaving the full allowance.

Mr. John A. Zaccheus wants to delete item 10 in section 34. Sri J. Sreenivasa Sastrulu suggests taking active steps by the higher officials to verify the statements of the subordinate officials dealing with the rainfall and the condition of crops and also to inspect as many times as possible before coming to a decision on the famine conditions.

Question No. 5—Chapter III—Period of Observation and Test :

(a) *Do you think the opening of test works a necessary preliminary to the grant of relief?*

(b) *Do you suggest any modification to the test work conditions laid down in sections 49 and 50 of the Code? If so what and why?*

(a) (i) Messrs. E. C. Wood, Kudva, Diwan Bahadur Viswanatha Rao, Arunachalam, Rahamatulla, Sivasankaran Pillai, Pritchard, Smyth, Balraj, Nightingale, Hejmadi, Reddi Venkoba Rao, Stewart, Pullayya (F.C.O.), G. Rami Reddi (F.C.O.), W. Tirunarayana-charya (F.C.O.), Akbar Ali Khan (F.C.O.), Sankaran (Tahsildar), T. Bhaskara Rao, K. V. Krishnamurti, Y. S. Anantarajah, and A. Padmanabhan consider that the opening of test works is essential before starting relief works.

Mr. Wood says that test works are a necessary preliminary but that they should be opened promptly and continually watched and that the decision to convert them to relief works should not be unduly postponed. Mr. Smyth considers that test works are necessary in order to prevent abuse, that they should be of as short duration as possible and that if they show that there is no need to declare famine soon, the situation would probably be met for sometime by expansion of ordinary works. Further tests, he considers, could be tried if distress increased. Messrs. K. S. Raghavacharlu, Subrahmanya Ayyar, K. Alagiri Rao, K. Rami Reddi and S. Rajagopala Ayyangar consider the test works essential, but would like to limit their period to a fortnight. Mr. Arunachalam considers, however, that in times of severe distress and in localities of complete failure of

crops, the Collector may be authorized to open relief works straightaway and report the fact to the Famine Commissioner for his formal approval. Khan Sayyed Buden Sahib Bahadur is for leaving the question to be decided by a committee. Sri G. Rami Reddi (F.C.O.), considers that test works are essential, but that, if in a portion of an affected area, a test work has been opened and it is found that the distress is acute, no test works need again be put in operation in the adjoining affected tracts where similar conditions are found to obtain. In such cases he thinks relief works can straightaway be opened. Mr. V. N. Kudva thinks that tests should be 'stringent' but not 'repellant.'

(ii) Messrs. M. Bhimasena Rao, Javad Hussain, Venguswami Ayyar, Unnithan, C. V. Rangachar, N. Mrityanjaya Sastri, V. M. Giri, M. Narayana Rao, Lakshmi Narayana Rao, K. Ramanathan, K. Sitarama Reddi, Devendra Nayudu, C. Gopalam (Work Agent), P. Ramachandra Ayyar (F.C.O.), P. Pulla Reddi, John A. Zaccheus and J. Sreenivasa Sastrulu do not consider the opening of test works a necessary preliminary to the grant of relief. Mr. Javad Hussain suggests that the expansion of ordinary works be resorted to in the first instance and subsequently converted rightaway into relief works. Mr. K. M. Unnithan is for giving discretion to Collectors to propose relief works straightaway, if the attendance on the ordinary expansion works justifies the opening of relief works. He also says that necessary provision may be made in the Code giving power to the Collector to fix the wages on the ordinary expansion works irrespective of the agency through which the work is done. Sri Mrityanjaya Sastri recommends that if in any one of the three preceding years there was drought or scarcity and if the crop outturn was poor, no test works need precede starting relief works. Sri V. M. Giri suggests that immediately the signs mentioned under section 34 of the Code are noticed scarcity be declared and works of utility started either by the Government or local boards with the Government's assistance and wages paid according to the scale of the Public Works Department. Such works can, he suggests, be started near the home of the villagers without reference to the number of the people attending these works. But if even after these scarcity works are opened, the number offering themselves for work shoots up, famine relief works may straightaway be started. Sri Lakshminarayana Rao observes that the rigidity of test works would scare away the intending workmen from resorting to the works. Sri Chandramowli Rao says (1) that the estimating of the outturn of crops should be entrusted to the Agricultural department, (2) that no time should be lost in observation and (3) that as soon as the monsoons fail, the reports on the outturn of crops should be called for and the relief begun. Sri M. Devendra Nayudu is for the abolition of test works as he considers the provisions with regard to observation are enough, Sri P. Rama Reddi, President, Panchayat Board, Veldurthi, says that in areas where famines frequently come, test works would delay relief and entail more suffering.

(b) Messrs. M. Rahamatulla, W. J. Davis, Pritchard, T. R. Subrahmanya Ayyar, K. M. Unnithan, K. Alagiri Rao, K. Rami Reddi of Kodumur, C. C. Wilson, Hejmadi, W. Tirunarayanacharya (F.C.O.), N. S. Arunachalam, Chenden Venkoba Rao, K. V. Krishnamurti and Y. S. Anantarajah have no modifications to suggest to the test work conditions laid down in these two sections. Mr. John A. Zaccheus says that as he considers the opening of test works unnecessary, these two sections may be deleted or suitably altered.

Section 49.—Mr. Javad Hussain considers it unnecessary to impose in test works any task higher than that on relief works.

Mr. Smyth who considers no modification to test work conditions necessary, suggests that the test should be strict, that if it is found that large numbers are resorting to it, it should be rapidly converted into a relief work but if a few resort to it, it should be closed and the slight distress prevailing met by the expansion of ordinary works. He also considers that the limited piecework system is unsuitable for test works. Sri Sivasankaran Pillai would like to add the following items of work, viz.: (i) cleaning of villages, (ii) improvement of village-sites by levelling, (iii) filling up of insanitary pits and (iv) installation of bore-hole latrines. Sri Venguswami Ayyar would like to fix a minimum wage of one-anna for a test worker and to give no allowance for rest days. He also says that Collectors should not be authorized to reduce the wage. Sri G. Rami Reddi (F.C.O.) wants a reduction of work for weakly persons since, if their number is fairly large, it will affect the wages of other workers. Mr. V. N. Kudva says that the provision in section 49 (b), viz., that there should be no allowance for a rest day or for dependants, works sometimes as a hardship, as test works are started in tracts where there is acute distress and as it takes some time to obtain orders converting the test work into a relief work and declaring famine in that area and as it is also found necessary sometimes to enlist the aid of private individuals or organization for the relief of the dependants of persons working in the test works during this interval.

Sri Lakshminarayana Rao wants the deletion of clause 49 (b) as he considers that allowances should be paid for rest day and dependants. He suggests that section 49 (c)

may be amended so as to allow a reduction of task for new comers and weakly persons. In this connexion he states further that the test period should on no circumstances exceed a week.

Sri Sitarama Reddi says that the task work system may be followed, that wages may be given as in the case of relief works, that disabled persons may be given grain doles by way of gratuitous relief, that the task imposed should not be above the standard and ordinary task and that test works should be tried only for three weeks. Sri Devendra Nayudu suggests the following:—(1) deletion of clause (b) of section 49, (2) the fixing of the task in clause (a) at 50 per cent of the standard task, (3) the fixing of ratio for woman at one-third of the man, and (4) the modification clause (d).

Sri Pullayya (F.C.O.) says that section 49 (a) does not lay down how much above the standard task the task imposed in the case of departmental works should be, that full ordinary task imposed in the case of village works is too much for famine stricken people, and that both the stone-breaking and earthwork are more or less of similar type and of equal exaction. He therefore suggests that the full task during test should be fixed at 80 per cent of the ordinary task. Sri C. Gopalam (Work Agent) suggests the payment of cash doles for babies in arms and pregnant women during the test period, if test works are considered necessary. Janab Akbar Ali Khan suggests the reduction of the task by a little but gives no reasons for the suggestion. Sri Sankaran (Tahsildar) would like to fix the task at the task prescribed for relief works instead of the enhanced task on the ground that the workers will be able to earn a living wage. He also advocates the task work system as being the best and is for the abolition of the piecework system.

Mr. Bhaskara Rao says that the task imposed in respect of earthwork may be reduced to 80 per cent of the standard task as in the case of stone-breaking as most of the workers are unaccustomed to the nature of the work and the conditions under which it is done.

Sri A. Padmanabhan also wants that the task imposed for items other than stone-breaking should be fixed at 80 per cent of the standard task in order to have a uniform procedure. He also says that, as there is no provision for children of 10 to 12 years of age who are able to do some work, it is better to open another class and impose two-thirds of the task of class III.

Section 50.—Mr. Wood is opposed to the instructions that the earlier stages of distress should be met by the expansion of ordinary works and that test works should be opened only if such measures seem incapable of meeting the situation on the ground that the situation at that stage is obscure and that the test work is a means of elucidating it, while Sri Viswanatha Rao considers the provision to be inconsistent with those laid down in section 33 (A) 2 (a) and to require clarification. Mr. Wood also suggests that late in the season when workers would in normal years have little employment, the number of men attending the test works should be the guiding factor in judging the distress and requests that necessary provision may be made in the Code. Mr. Smyth considers that during the test stage gratuitous relief should only be given with great discretion and in the form of cooked food. Mr. V. N. Kudva says that it is generally not possible to take advantage of this provision as gratuitous relief is given in practice only after the famine is declared and not with the opening of test works.

The following are some of the other suggestions made by the witnesses:—

Section 48.—Mr. Wood considers that in practice it is not ordinarily possible for the Collector to obtain the previous inspection and sanction of the Board before starting test works as such a procedure delays taking timely action.

Khan Sayyed Buden Sahib Bahadur says that the Executive Engineer must be an *ex-officio* member of the committee [which he has proposed for question (a)] and that works must be undertaken and proceeded with, with the approval of the Committee.

Mr. Balraj suggests (1) that a test work should not be converted into a relief work till it is found that the proportion of men to women attending on the works is at least 1:2 and (2) that during test and relief periods, payment of wages should be in grain, proportionate to the outturn of work, as only people who are really without any grain for their daily consumption will attend the works. Mr. Nightingale also agrees with these suggestions of Mr. Balraj. He also thinks that a special Executive Engineer with previous experience of famine should be posted as the Collector's assistant so that the difficulties of the early stages may be explained and appreciated and so that the staff may be appointed promptly.

Rao Sahib Muthuswami Ayyar suggests (1) that works should be so selected as to require more men than women and children, (2) that tanks and channel works in which digging is the main item of work, should be preferred to stone-breaking on roads, (3) that

Famine Charge Officer and the Work Agent may work under the control of the Tahsildar and (4) that the weakly and children who are dependants of workers should also be provided for even during the test period.

Sri P. Rama Reddi, President, Ranchayat Board, Veldurthi, says that the test work conditions must be humanized and the rigour has got to be minimized, that the period of work should not exceed 8 hours and that reasonable comforts for work must be provided.

Sri Y. S. Anantarajah says that it is better if the payment of wages daily is made compulsory, as the payment of wages twice a week results in confusion to the headmen who distribute them and also in the difficulty to the workers in purchasing grains daily.

Question 6—Chapters IV and VI—Declaration of distress and commencement of relief and description of the various measures of relief: Do you suggest any modifications to the provisions of these chapters? If so what are they?

Messrs. Diwan Bahadur V. N. Viswanatha Rao, M. Rahamatulla, Javad Hussain, A. A. Smyth, J. W. Pritchard, T. R. Subrahmania Ayyar, G. Rami Reddi, K. Alagiri Rao, S. Rajagopala Ayyangar, V. N. Kudva, V. S. Hejmadi, P. Pullayya, P. Ramachandra Ayyar, W. Tirunarayanacharya, Akbar Ali Khan, S. Sankaran, N. S. Arunachalam, T. Bhaskara Rao, Y. S. Anantarajah and A. Padmanabhan among official witnesses, and Messrs T. Sivasankaran Pillai, B. R. Venguswami Ayyar, K. Rami Reddi, C. V. Rangacharlu, Lakshminarayana Rao, K. Sitarama Reddi, K. V. Krishnamurti and John A. Zaccheus, among non-official witnesses, have no modifications to suggest to the provisions contained in these two chapters IV and VI.

2. *Heading of Chapter IV.*—Mr. K. M. Unnithan suggests the deletion of the phrase “ declaration of distress ” as there is no such formal declaration.

Chapter IV—Section 55.—Sri Devandra Nayudu considers the appointment of Famine Commissioner unnecessary.

Chapter IV—Section 56.—Mr. E. C. Wood says that the arrangement for providing work proceeds much more rapidly than the arrangement for providing gratuitous relief in the village and that during the earlier part of the test works stage, the arrangements for providing gratuitous relief in the village are not complete, so much so that persons who are to get gratuitous relief could not get it in time. He therefore suggests that the Code should emphasize the need for early preparations for gratuitous relief and considers that to achieve this, it is necessary to give discretion to Collectors to appoint temporarily Revenue Inspectors as the preparation of the list will come at a time when the Revenue department, with its extra azmoish work, will not be able to attend to it. He also suggests that gratuitous relief should be given on a test work as a temporary expedient for persons requiring gratuitous relief who come to a test work because gratuitous relief at that time had not been organized in the village till the Taluk Officer has made the necessary arrangements to give gratuitous relief in the village. He suggests that necessary provision should be made in the Code.

Chapter IV—Section 58.—(1) Khan Sayyed Buden Sahib Bahadur wants the establishment to be cut down to the minimum and suggests that except at the top, mostly non-officials should be utilized, and men to fill up places like maistries and guards, etc., must be indented upon the neighbouring offices.

(2) Mr. Balraj suggests the following as an additional sub-paragraph under this section on the ground that nothing has been stated for arranging the staff required in the Public Works Department for carrying out the relief work.

“(i) Inform the Chief Engineer about executive staff required for carrying out Public Works.”

(3) Sri Devendra Nayudu suggests that if the officer holding charge of the district is new, a Collector, having previous experience of the conditions of the district, should be posted forthwith.

(4) Sri Chendan Venkoba Rao suggests that as far as possible non-officials should be given the role of supervising, etc., and that the subordinates of the Government should be expected to satisfy the Government that they discharged their duties faithfully and truly according to the letter and spirit of Chapter II of the Famine Code, on pain of punishment.

(5) Sri J. Sreenivasa Sastrulu suggests the appointment of an independent official of the Engineering department in the place of the Executive Engineer, for each district to look after the famine work to avoid delay in the starting or opening of famine camps, kitchens, etc.

Chapter VI.—Sri Bhima Rao considers that the present measures of relief involve a colossal waste of human energy without any tangible benefit to the public at large, that the manner in which the relief works are conducted and especially the breaking of stones in the hot sun detract from humanitarian considerations and that therefore the relief works to be undertaken should be conducive to yield the highest amount of benefit to the public. To this end, he suggests the following measures:—

- (1) Construction of wells in villages where supply is insufficient and deficient.
- (2) Construction of vakkarnies in suitable places.
- (3) Spinning of yarn and weaving of cloth in their homes in villages.
- (4) Construction of roads where it is possible to consolidate them efficiently and properly and where they could be maintained in proper repairs during succeeding years.
- (5) Aid to industries in the villages.

Chapter VI—Section 75 (b).—(i) Sri Bhimasena Rao says that assistance to weavers referred to in this section was given only once or twice till now. He wants the assistance to be given not only to weavers of cloth but also to spinners of yarn and weavers of cumblies and cottage tanners.

(ii) Sri V. M. Giri suggests the preservation of cattle by the Government and their return to the ryots after the famine, as the ryots very often sell them to butchers owing to their inability to maintain them and as they cannot be expected to maintain them during the period of distress. Sri C. Gopalam (work agent) also considers that special attention should be paid to the preservation of cattle.

(iii) Sri Ramanathan suggests that provision should be made for gosha ladies who know weaving and spinning. He also suggests that women as a class should not be taken to field work but confined to villages and given such work as pounding rice, spinning, carding or any other kindly labour as the work of breaking stones will impair their health.

Chapter VI—Section 75 (e) and (f).—Sri Chendan Venkoba Rao recommends (i) that district orphanages have to be established as permanent institutions and the local boards be obliged to maintain them and (ii) that the Forest department may be entrusted with the duty of maintaining the cattle in times of distress and harnessing the supply of milk at that time and making it useful to the needy public.

3. *Miscellaneous suggestions.*—Sri Mrithyanjaya Sastri says that (1) the distinction between 'scarcity' and 'distress' should be abolished, (2) that, immediately rains fall and the expected outturn is poor, it is advisable to declare distress and (3) that the conditions of test work if found necessary need not be different from relief work especially in the Ceded districts.

Sri J. Sreenivasa Sastrulu says that provision should be made in Chapter VI for giving necessary assistance to weavers and such other skilled craftsmen, who can turn out better wages than in the ordinary famine camps. He also suggests the increase in the wages to 3, 2½ and 2 annas to men, women and children respectively.

SECTION III—SCALE OF WAGES AND ALLOWANCES AND THE DIET SCALE.

Question 7: Do you suggest any modifications of the classification of workers and dependants prescribed in sections 97 and 116 of the Code? If so, for what reasons?

Sections 97 and 116.—Messrs. Viswanatha Rao, Javad Hussain, Pritchard, Kudva, Hejmadi, Bhaskara Rao, Ramachandra Ayyar, Tirunarayanacharya and Akbar Ali Khan, among officials and Messrs. Sayyed Buden, K. Rami Reddi and Krishnamurti among non-officials, consider that no modification to sections 97 and 116 is necessary. Messrs. Sivasankaran Pillai, B. R. Venguswami Ayyar and C. V. Rangachar have no suggestions to make.

Section 97.—Mr. E. C. Wood suggests that the men should be classified according to their age, those above 20 being put into class I. Sri K. Ramanathan (non-official) and C. Gopalam (official) also suggest the classification according to age. Sri Ramanathan would have adults between 18 and 40 and adults between 41 and 60 classified with varying wages. He suggests that the wages of skilled workers and that of class I should be greater. Sri Gopalam suggests that class I should include adults and boys above 16 who are able to turn out good work; class II women and girls of and above 13 capable of turning out work as adults; class III boys and girls between 10 and 12.

He states that experience is that boys and girls above 10 are used to work in those parts. Messrs. Rahmatulla, T. R. Subramanya Ayyar, G. Rami Reddi, Amanuddin and Alagiri Rao, among officials, and Lakshminarayana Rao, among non-officials, also suggest

the minimum age of class III workers to be reduced to 10 for the same reason. They suggest no change in the maximum age of 14 fixed in the Code. Sri Devandra Nayudu (non-official) would, however, have class III to consist of those between 14 and 16 years of age able to work; Sri Sitarama Reddi (non-official) would have class III from 12 to 18 years and Messrs. Smyth and Davis (officials) would fix the age of class III at 12 to 16 years. Sri Sitarama Reddi is of opinion that children below 12 cannot be expected to work. Mr. Unnithan suggests that class III may be abolished altogether and included in V (a). He points out that due to eagerness of parents to earn extra wage, boys who cannot work are often included in class III it being very difficult for the charge officer to distinguish between classes III and V (a).

Sri T. R. Subrahmanya Ayyar (official) and Sri Lakshminarayana Rao (non-official) consider that only males should be included in class I. Sri Sitarama Reddi suggests all adults capable of hard labour, excluding the special class, to be shown as class I. He also suggests that males above 45 years and females should be classed as class II with their work fixed at two-thirds of class I. Sri Lakshminarayana Rao also agrees that class II may consist of both males and females. Sri V. M. Giri would have the difference between classes I and II done away with, in view of the recommendation that there should be equal wages.

Mr. Balraj says that there is an impression that class III workers when employed on carrying, etc., can be classed under class II. He, therefore, suggests that class II may be defined as "Adults above 14 years of age employed on carrying, etc." Sri Pullayya points out that 'special gangs' on a work consists of skilled workmen, who are paid the wages of the special class and also workers of classes I, II and III employed on special duties as water carrying, etc., who are paid their respective wages according to classification. To avoid this anomaly he suggests that 'special gang' used in the section may be changed into 'people classified as special.'

Sri Y. S. Arantarajah suggests that old men and old women who cannot do full task and who are at present included in classes I and II may be included in classes II and III respectively, as they do not consume so much of food, as workers of class I and in view of other difficulties explained by him elsewhere.

Section 116.—Dr. Passmore after inspecting the kitchens in some of the works in Bellary district observes that it is a practical impossibility to separate the dependents into six classes and serve six separate rations, without an enormous increase in organizing staff and that this was not done in the camps visited. He therefore suggests the reclassification of dependents into four classes as follows:—

IV. Male and female adults and all children over 9 years.

V. (a) Children between 5 and 9 years.

(b) Children between 1 and 5 years.

(c) Children below 1 year.

This subdivision could and should be enforced with reasonable accuracy. The Surgeon-General agrees with Dr. Passmore.

Messrs. Smyth and Davis consider that no modification is necessary in the section if the charge officers use a little discretion in classifying the children as for example putting a big healthy boy of 7 or $7\frac{1}{2}$ years of age able to eat more than the ration for V (c) in class V (b) instead of V (c).

Mr. Balraj suggests that class IV should be defined as "adults including hospital patients and persons attending them over 14 years of age" to avoid children below 14 being included in it. Sri Pullayya considers that a woman in advanced stage of pregnancy who under section 132 should be considered as an infirm person and given gratuitous relief in her house, has to be treated as a dependent in the camp if the supporting husband, father, or mother is a worker and suggests that class IV may be defined as "Adults including infirm persons, hospital patients, etc." so as to include such cases. Sri C. Gopalram suggests that classes IV (a) and (b) may be conveniently clubbed into one as the eating capacity of both these classes is the same. Sri K. Sitarama Reddi would have in class IV adults including hospital patients and parents of workers who are either too old or disabled. Sri Mrityanjaya Sastri is of opinion that there should be no difference between male and female in the matter of wages. The following modifications in class V have been suggested:—

Sri T. R. Subrahmanya Ayyar.—Class V (a)—Children between 10 and 14; class V (b)—Over the ages of 8 and 10 years.

Sri Rami Reddi.—V (c)—Children over 4 years and below 8 years; V (d)—Children over 2 years and below 4 years; V (e)—Children up to 2 years. Children below 2 years may be given cash doles as they cannot go to the kitchens.

Sri Rajagopala Ayyangar.—Existing V (a) to be abolished and classified as IV (c).
V (a)—Children between 5 and 12 years. V (b)—Children between 1 and 5 years. V (c)—Children below 1 year.

Sri Alagiri Rao.—V (a)—Between ages 10 and 14 who are able to work. V (b)—Over 5 and under 10 years of age.

Sri Mrityanjaya Sastri.—V (d) and (e)—To be one class.

Sri Lakshminarayana Rao.—V (a)—Children between the ages of 10 and 14. V (b)—Children over 8 years and under 10 years. V (c)—To be omitted altogether unless provision is made to supply milk for babies below 1 year.

Sri K. Sitarama Reddi.—V—Children between 6 and 12 and another class VI—Children below 6 years.

Amanuddin Sahib Bahadur.—V (e)—To include children up to 2 years as children up to 2 cannot go to kitchen and the meals served in the kitchen are not suitable to them.

Sri C. Gopalam.—V (a)—Children between 10 and 12 years. V (b)—Children above 6 and below 10. V (c)—Children above 3 and below 5. V (d)—Children below 2 years.

Mr. Arunachalam.—V (a)—Children between 10 and 14 years. V (b)—Children between 7 and 10 years. V (c)—Children between 3 and 7 years. V (d)—Children between 1 and 3 years. V (e)—Children below 1 year. He considers the difference in the requirements of children between 1 and 5 to be great.

Sri S. Sankaran.—V (b)—To consist of children over 8 and under 10 years.

Sri K. Ramanathan suggests that the dependents should be retained in their respective villages and employed on such domestic work as found at present in poor houses, blind houses and orphanages.

Sri Y. S. Anantarajah.—Children between the ages of 1 and 3 years may be formed into a separate class so that they may be given cash dole as they cannot attend kitchen.

Sri A. Padmanabhan suggests the division of the existing classes IV (a) and (b) as follows:—

IV (a).—Cripples and the lame—Hospital attendants of the male sex—Young.

IV (b).—Cripples and the lame—Hospital attendants of the female sex—Young.

IV (c).—Hospital patients, etc., of the male sex—Old persons—Old.

IV (d).—Hospital patients, etc., of the female sex—Old persons—Old.

He also suggests that dependents (children) can be encouraged to learn takli and charka and to spin certain quantity of thread so that it might be useful for them in after life.

Mr. John A. Zaccheus suggests the deletion of class V (a) with a view to support class III in section 97 of the Code.

Sri J. Srinivasa Sastrulu says that better discrimination is to be used in admitting workers to different classes on which their wages mainly depend.

Question No. 8 (a): What modifications, if any, do you suggest in the scale of wages and allowances and the other provisions in Chapter VIII of the Code? On what grounds do you suggest the modifications?

Messrs. E. C. Wood, Kudva, Javad Hussain, Arunachalam, Smyth, Davis, Hejmadi, M. Rahamathulla Sahib (Famine Charge Officer), Sankaran (Tahsildar), P. Pullayya (Famine Charge Officer), T. Bhaskara Rao and Y. S. Anantarajayya among the official witnesses, and Khan Sayyad Buden Sahib among non-officials, consider that the existing scale requires no modification. Mr. Wood considers that if the principle in section 127 is accepted, then the wages according to the table in section 128 (a) as last revised are not only adequate but actually too high, being for most classes about 3 pies above the wages which would be in accordance with the principle in section 127. His reasons are: (1) before the wages were increased this year, workers were maintained in health on the lower wages, (2) every woman spent nearly quarter of an anna on betel, and (3) persons who came to the work in an emaciated condition owing to the starting of the work late, became fully nourished on famine wages. [Please see item 1 under notes of reference.]

Mr. Kudva considers the wages adequate particularly as there is provision to vary them on any particular kind of work. Mr. Javad Hussain comes to the same conclusion considering that generally practically entire families get relief either in the shape of wages, gratuitous relief or at kitchens.

Mr. Smyth suggests that an average family of five could earn, in the last famine of 1934-35 according to the scale then in force with the addition of 1 pice for all classes except V (c) and (d) sanctioned by the Government then, an income of As. 6-9 a day or Rs. 12-8-0 per mensem which is equivalent to the pay of a peon in Government service who was expected to be able to maintain his family on this pay. He therefore considers that the wages paid in 1935 are adequate.

Mr. Arunachalam considers that the allowance of 1 pice to mothers for children in V (e) is not used to their advantage and that experiments on korra or ragi gruel mixed with some milk powder should be tried by diet experts to ensure a cheap way of feeding them.

2. While not suggesting any radical changes to the existing scale in section 128 (a) Messrs. V. N. Viswanatha Rao, Unnithan, Pritchard, Balraj, Nightingale, Alagiri Rao, T. R. Subramania Ayyar, C. Gopalam (work agent), W. Tirunarayanacharya (Famine Charge Officer) and Janab Akbar Ali Khan (Famine Charge Officer) among officials and Messrs. A. Ranganatha Mudaliyar, K. Rami Reddi, D. Chandramouli Rao and Madduru Nagi Reddi among non-officials suggest certain modifications. [Please see item 2 under notes of reference.]

Sri V. N. Viswanatha Rao considers the addition of an equivalent for buttermilk necessary as buttermilk has been allowed even for prisoners. In view of this and of the complaint about inadequacy of wages and because of the need of some margin for individual necessities not taken into account he suggests an increase of 1 pice in the present wage of each class of worker. Messrs. T. R. Subrahmanya Ayyar and K. Rami Reddi of Kodumur also suggest an increase of 1 pice for all classes of workers. [Please see item 3 under notes of reference.]

Messrs. Unnithan, Balraj, Alagiri Rao (Subdivisional Officer) and Pritchard point out that the grain equivalent allowed in the case of classes V (c) and (d) in the table in section 128 (a) is not sufficient to purchase grain and other items according to the scale in the table as the grain equivalents in these cases were not increased when the "other items" were increased. It is suggested that it is necessary to increase the grain equivalent by 5 tolas in each of these two classes and also to increase the corresponding money rate in table X at page 134 of the Code.

Mr. Pritchard also states that amendment is necessary as regards supply to dependents at kitchens as the present instructions are obscure and impracticable as it is not possible to prepare seven different kinds of soups for the seven classes of dependants. He therefore suggests that the grain item for each class which is adequate should remain as it is and that one scale only for the other items should be worked out. The needs of the different classes will be met by varying the quantity of the soup supplied. He also suggests that the provision limiting the amount to be spent on other items to the difference between the grain equivalent and the grain item should be abolished and the kitchen superintendents required to provide the actual quantities of the other items subject to a maximum according to a price list of various items to be fixed by the Collector. [Please see item 4 under notes of reference.]

Sri Gopalam considers that an increase of one pice will be useful. The wages of headman may be increased by half an anna over class I in view of the responsibility they undertake. [Please see item 5 under notes of reference.]

The provision in the diet scale is sufficient if it is closely followed irrespective of any increase of total cost over grain equivalent.

Sri Thirunarayanacharya considers that an all round increase of 1 pice will be sufficient while Mr. Akbar Ali Khan would restrict this increase to classes I to III and double the provision for salt.

Sri D. Chandramouli Rao suggests that the distinction in wages between men and women should be abolished as there is no difference in the cost of their living. [Please see item 6 under notes of reference.]

Sri Madduri Nagi Reddi suggests that as the wages are insufficient, enough grain sufficient for an ordinary meal should be given to such workers.

3. Radical changes are advocated by Dr. Passmore, whose opinion has the support of the Surgeon-General (Lieut.-Col. Shortt), Sri S. Rajagopala Ayyangar (Revenue Divisional Officer, Gooty), Janab Amanuddin Sahib (Famine Charge Officer), and Mr. P. Ramachandra Ayyar (Famine Charge Officer), among officials, and Messrs. Bhimasena Rao, Lakshminaravana Rao, Chidanandam, V. M. Giri, C. V. Rengacharu, N. Mritvanjaya Sastri, M. Narayana Rao, M. Devendra Nayudu, K. Sitarama Reddi of Gudur and B. Bhima Rao, among non-officials.

Dr. Passmore inspected works. He examined only dependants fed at kitchens. The grain ration was sufficient but not other items. One thousand one hundred and seventy-five children were examined. Thirty-four per cent had xerophthalmia, a disease caused by severe prolonged deficiency of vitamin A. No evidence of lack of vitamin B. Food was served under conditions which were not satisfactory. No attempt was made to divide children into their different age groups. Dr. Passmore considers that famine relief is not only an emergency measure to save life but also a system of relief which is frequently in action for long periods. An infant in the famine area has the prospect of facing three or four famines of about six months duration each before reaching adult life. The diet should therefore be adequate for growing children. He recommends that dependants be divided into four classes :—

Class IV—adults and children over 9.

Class V (a)—children between 5 and 9.

Class V (b)—children between 1 and 5.

Class V (c)—children under one year. [Please see item 7 under notes of reference.]

The grain equivalent should be abolished. The table in section 128 (a) should be modified as below :—

					Items in tolas.					
					Grain.	Pulse.	Oil or ghee.	Salt.	Vegetables including onions.	Condiments, etc.
IV	..	..	..	..	40	5.0	1.25	1.25	10.0	1.25
V (a)	..	..	..	..	30	3.0	1.00	0.75	7.5	0.75
V (b)	..	..	..	..	20	2.0	0.75	0.75	6.0	0.75
V (c)	..	..	..	..	Cash dole.					

[Please see item 8 under notes of reference.]

One quarter of the vegetable ration should be in the form of green leafy vegetables.

[Please see item 9 under notes of reference.]

Sri S. Rajagopala Ayyangar, Revenue Divisional Officer, Gooty, states that a healthy adult labourer has three meals a day in each of which he consumes a minimum of one-fourth seer of food-grain. Sixty-three tolas of grain are required, while only 55 tolas are provided. The other items need not be increased proportionately but some provision may be made for buttermilk for which 15 tolas of grain may be allowed. The wages for a class I worker may thus be fixed at 120 tolas and for the other classes of workers and dependants, it may be fixed at one and one-fifth times that now prescribed.

Mr. Amanuddin Sahib considers that the reason for too many women and children resorting to the works is due to the low wages paid to the men, that it is only the adult males who turn out the hard and difficult portion of the work, that when wages are reduced for low percentage of outturn it is only class I that suffers and that there is therefore no "attraction" for men to resort to famine works. Hence he suggests that the wages for men may be increased slightly keeping the differences between classes I and II constant at 2 pice.

He further suggests that the cash dole system may be substituted by a system of doles in kind. In villages, labourers are paid only in kind. This system will not attract people who are not in danger of starvation as the present cash dole system does. The existing evils of corruption and fraud may be minimised. Grain and pulse may be distributed according to the scales fixed and to compensate for other items each worker may be paid one pice.

Scale of grain items provided for dependants—classes IV (a), IV (b), V (a) to (d)—require some change. The present system of preparing food-cakes for each class separately and the calculations involved therein are confusing and difficult. Food-cakes for classes IV (a), IV (b) and V (a) are not sufficient and those supplied to V (c) and (d) are a little in excess. The scales may be revised as follows :—

Dependants.	Grain equivalents.	Grain item.	Dependants.	Grain equivalents.	Grain item.
IV (a)	90	60	V (b)	60	40
IV (b)	90	60	V (c)	30	20
V (a)	60	40	V (d)	30	20

This table will avoid the necessity of preparing separate cakes for each class if the cakes are prepared to a standard size of 20 tolas each. Three of these may be served to classes IV (a) and IV (b) and two to classes V (a) and (b).

Further advantages of this system are that the total quantities of grain equivalent and grain item can be calculated easily as also the number of cakes to be prepared and the increased difference between the grain equivalent and the grain item will enable the purchase of other items as prescribed in the scale.

Sri P. Ramachandra Ayyar recommends that instead of grain equivalent for workers, 2 annas, As. 1-6 and As. 1-3 may be given to classes I, II and III workers, while the existing rations for dependants are adequate.

Sri M. Bhimasena Rao considers that in view of the facts that in factories the wages are 6 annas for a man and 4 annas for a woman and that an agricultural employer pays in off-season 3 seers, 2 seers and 1 seer respectively for a man, woman and child, the wages may be increased to 3, 2½ and 2 annas for a man, woman and child respectively. Sri Lakshminarayana Rao suggests an all-round increase of 10 per cent to the grain equivalents for wastage and for necessary addition of dhol, etc., and another 10 per cent for supply of butter-milk. For classes V (c) and (d) no provision for oil or ghee is made. Necessary provision should be made. [Vide item 10 under the notes of reference.]

Sri Chidanandam would have 6 annas for a man and 4 annas for a woman.

Sri Giri considers that the wages are antiquated and should be raised to the level of Public Works Department wages. The Government should institute a system of equal wages for all adults for a eight-hour day which should replace the present task system. The grain equivalent system should be abolished. [Please see item 11 under the notes of reference.]

Sri Rangachar considers that the wages should be doubled as the average consumption of staple food by an adult is about 120 tolas.

Sri Mrityanjaya Sastri considers that the scale is not suited to the Ceded districts, that the grain item is insufficient for classes I and II and that the distinction between men and women is unnecessary.

Sri Narayana Rao considers that the wages offered are not "attractive" and suggests the increase to annas 3 and 2 for a male and female respectively.

Sri Devendra Nayudu considers that owing to change in condition, the scale has to be half as much again as the present scale.

Sri Sitarama Reddi suggests wages ranging from 1½ measures to 1 measure.

Sri B. Bhima Rao considers that the diet scale should be in accordance with present standards and they should be enhanced to be not less than the wage and diet given to prisoners in jails. [Vide item 12 under the notes of reference.]

Sri P. Pulla Reddi, President, Panchayat Board, Pagidyala, says that the minimum living wage for a man would be 4 annas and 3 annas for a woman.

Sri K. V. Krishnamoorthy says, that the wages paid in cash in the famine camps are quite insufficient to procure grain, pulses and other items fixed under section 128-A and accordingly suggests an all-round increase of 6 pies to cover the actual requirements.

Sri A. Padmanabhan says, that on rest days, wages should be paid to the workers of the class to which they belong immaterial of the sex.

4. Certain miscellaneous suggestions have been made by witnesses under this question as follows:—

Section 129.

Sri Devendra Nayudu suggests that the basis of conversion should be the price in the nearest market but should be fixed at a reasonable figure.

Section 130.

Sri M. Devendra Nayudu suggests that the power to alter wages should be vested in the Collector who should be free to use his discretion.

Section 131 (b).

Mr. Pritchard suggests that the cash allowance for children up to two years of age instead of only children in arms as at present should be given to the mother as it is difficult for such young children to attend dining sheds.

Section 132—Pregnant women.

Mr. E. C. Wood considers that the provision in the note is necessary to prevent a rush of pregnant women who will take Rs. 2 and absent themselves immediately after enrolment. [Please see item 13 under the notes of reference.]

Mr. Balraj considers that in cases where delivery is prolonged beyond the three weeks' period, full wages may be given for each day in excess of three weeks before delivery subject to a maximum of one week.

Mr. Pritchard suggests that when delivery is prolonged beyond the three weeks, charge officers, may be permitted to allow them further absence for a reasonable period without examination by a Medical officer on a certificate from the village munsif.

Sri Gopalam (work agent) considers that such women should be allowed rest till delivery on the basis of the first certificate without asking them to appear before the Medical officer again. [Please see item 14 under the notes of reference.]

Sri M. Devendra Nayudu suggests that pregnant women should be permitted to absent themselves after sixth month and at least two months after delivery.

Section 135.

Mr. Unnithan suggests that the section may be amended so as to make the attendance of the recipient of gratuitous relief compulsory on the day of distribution. [Please see item 15 under the notes of reference.]

Mr. Balraj suggests that the wording of the last paragraph under the section may be altered to the following :—

“The allowance shall not be given to those who have been less than three days on the works in that week including the day previous to the rest day, etc.”

Sri Gopalam (work agent) suggests that it may be modified as follows :—

“Workers who attend the work for three consecutive days prior to the day on which rest day allowance falls due should be made eligible for the rest day allowance.”

Sri Devendra Nayudu suggests that rest-day allowance should be abolished and they should be paid at the same rate on the rest day as on the working day. [Please see item 16 under the notes of reference.]

Mr. T. Bhaskara Rao wants that provision should be made in the Code for the payment of wages to workers who cannot be safely admitted to camps by reason of any members of their families suffering from any infectious or contagious disease.

Sri J. Srinivasa Sastrulu wants better discrimination to be used in the admission of workers to different classes on which their wages mainly depend.

Major E. M. Sewell has no remarks to offer on the question of wages. On the question of diet he thinks that the diet scale as at present laid down is adequate. He suggests that in future in the case of camps supplying a long “work front” there should be subsidiary kitchens as well as dining halls, as it would ensure the dependents receiving their foods reasonably hot.

5. The following suggestions and observations have been remitted to the Committee for examination :—

- (1) The representation of Sri Suryanarayana Rao based on the evidence of Dr. Aykroyd that the existing wages are inadequate.
- (2) The question of allowance payable to workers during illness. Sections 116, 134 and 140 (vii) read together indicate that workers, absent owing to illness, should be treated as dependents. The Government require that the question of making a specific provision to cover such cases should be considered.

Notes of reference.

1. Statistics relating to scale of wages of skilled and unskilled labour in different periods are enclosed. [Vide item 17 below.]

The paragraph headed “the scale of wages and allowances and the diet scale” in the note furnished to members deals with this question. The origin of the policy laid down in the introduction to the Code and in section 127 that the duty of the State is only to save life and maintain people in health has been traced in that note. Appendix VIII to that note contains the different scales of wages fixed at different times in accordance with the above principle.

In that note it was mentioned that the Collectors were asked to report—

- (1) Whether the difference between the grain equivalent and the grain item was sufficient to purchase the “other items.”
- (2) What vegetables are ordinarily available in markets in the area and at what price.

On point (1) the Collectors' reports show that the variations of the actual prices of all items as compared with the wages are as under :—

	Anantapur.			Bellary.			
	Kurnool. PIES.	Gooty.	Tadipatri.	In works where the price basis is			
		PIES.	PIES.	11½ seers. PIES.	12 seers. PIES.	12½ seers. PIES.	13 seers. PIES.
Class I	— 1½	+ 2-20	+ 1-48	+ 2-66	— 0-87 — 0-48	+ 0-45 + 1-95	— 2-14 — 1-02 — 4-62
Class II	— 5	+ 2-62	+ 2-97	+ 0-04	— 0-17 + 0-09	— 2-16 — 0-88	— 1-83 — 2-38 — 4-26
Class III	— 3½	+ 2-31	+ 1-84	+ 0-61	+ 0-96 + 1-16	— 1-28 — 1-92	— 0-88 — 1-43 — 2-28
Class IV (a) ..	— 3½	+ 2-31	— 1-16	+ 0-61	+ 0-96 + 1-16	— 1-18 — 1-02	— 0-88 — 1-43 — 2-28
Class IV (b) ..	— 2	+ 0-56	+ 0-16	— 0-15	— 0-64 — 0-56	+ 0-07 + 0-15	+ 0-29 — 0-11
Class V (a) ..	— 2-3/5	+ 1-87	— 1-51	+ 0-54	+ 0-82 + 0-82	— 1-66 — 1-57	— 1-44 — 1-69 — 2-24
Class V (b) ..	+ 1-9/20	+ 1-03	+ 0-70	— 0-10	+ 0-13 — 0-78	+ 0-61 + 0-68	+ 0-81 + 0-65 — 0-62
Class V (c) ..	— 1-17/20	— 0-88	— 1-14	— 0-90	— 1-55 — 1-68	— 1-27 — 1-28	— 1-09 — 1-17 — 2-06
Class V (d) ..	— 1-7/20	+ 1-57	— 1-59	+ 0-96	+ 1-11 + 1-12	— 1-68 — 2-54	— 1-56 — 1-84 — 2-28
Class V (e) ..	+ 2/5	+ 0-15	+ 0-03	+ 0-04	+ 0-16	+ 0-26	+ 0-36 + 0-37

2. The Collector of Anantapur says that the deficiency is in respect of Class V (c). The Collector of Bellary observes that the grain equivalent intended to cover the cost of other items is sufficient when the price basis is at 12 seers and is more than sufficient when it is below 12 seers; it is adequate for some classes at 12½ seers but inadequate for nearly all at 13 seers.

The reply on point (2) is summarized under question 8 (b) below.

3. An increase of 1 pice over the wages as they stood, prior to the revision recently made has been sanctioned by the Government in the case of those who are paid the famine allowance in money.

This deficiency was also pointed out by Sri S. R. Rao in the meeting on 13th June at Bellary. The Government were addressed and an increase of 5 tolas in the grain equivalent has been sanctioned recently in respect of classes V (c) and (d).

4. The Collectors of the three affected districts were asked to report how things were arranged in the kitchens to ensure that the different classes of dependents get only the proportion of grain and other items specified in the table. The Collectors report that so far as the grain item is concerned the use of moulds ensures the several classes getting the correct quantity but that no arrangement is possible to ensure that each class gets the "other items" in the proportion laid down.

5. Sri R. Suryanarayana Rao, a member of the Committee, has also made the suggestion that the wages for the headman should be greater in view of the responsibility he has to shoulder.

6. The distinction between men and women with regard to wages derived from the Provisional Code, 1896. Even in ordinary work the distinction exists. Further women cannot, except under exceptional circumstances, be placed in class I (diggers). Vide paragraph 31 of Appendix D, pages 115-116 of the Code.

7. The present classification is based on the recommendations of the Famine Commission of 1898 (paragraph 456, page 273) and of the Commission of 1901 (paragraph 120, page 43) as slightly modified subsequently.

8. The grain-equivalent system derives from the provisional Famine Code, 1896—Vide section 120 at page 24 of the Code. The wages of the different classes were expressed in terms of the grain equivalents and it was explained that so much was included in the grain equivalent for pulse, salt and other items.

9. In the meeting held at Bellary on 13th June 1938 Dr. Adishesan gave figures which he had collected during his inspections. These showed that there was considerable deficiency in other items. In one camp the deficiency was 40 per cent in the pulse item, in another 75 per cent in oil and ghee. He suggested that a mixture of white and yellow cholam could be provided ($\frac{3}{4}$ white and $\frac{1}{4}$ yellow). An elaborate note was promised by him but has not yet been received.

Sri Suryanarayana Rao has referred to a report of Mr. Ayakroyd published in the *Indian Journal of Medical Research*, Volume XXIII, page 741. The opinion was that the famine diet was entirely devoid of vitamin A and there was also carotene deficiency.

10. Dr. Adishesan is of the view that the omission of oil or ghee is a mistake.

11. Sri R. Suryanarayana Rao also suggests the abolition of the system and fixing the wages and allowances by obtaining weekly prices for all items.

12. The jail diet for class 'C' prisoners is—

	TOLAS.		TOLAS.
Flour—(Ragi, Cholam, Cumbu)	37½	Tamarind	1.25
Rice	12½	Salt	2.50
Dholl	12½	Curry powder	0.62
Vegetables	20	Onions	1.25
Oil	1.25		

13. In the meeting held on 13th June 1938 at Bellary Dr. Adishesan has expressed the opinion that the diet for an infirm person is insufficient for a pregnant woman. Sri Koti Reddi considered that the maternity benefit should be increased from Rs. 2 to Rs. 4.

The general sense of the Committee (meeting at Bellary on 13th June 1938) was that pregnant women who have not delivered within the period of three weeks need not return to the works for a second certificate from the Medical officer and that a certificate from the village munsif giving the actual date of the birth of the child was enough.

Section 134 (b).

14. Sri R. Suryanarayana Rao has suggested that the section requires alteration providing for payment of full wages if work is unavoidably stopped after the midday interval and dependents' allowance may be paid only in cases where the work is stopped before the interval.

15. Sri Suryanarayana Rao pointed out that sub-paragraph 3 was not clear as it was not definitely stated whether three consecutive days or three days' presence at work will qualify for rest day allowance.

16. Sri Koti Reddi made a similar suggestion in the meeting of the Committee on 13th June.

The other miscellaneous suggestions made at the meeting were:—

(a) Sri Koti Reddi said that there were boys at works who should be attending schools. (Mr. E. C. Wood has suggested the opening of schools on the works.)

(b) Sri Koti Reddi was in favour of a creche at the works so that the small children could be removed from the mothers' care and looked after.

(c) Sri Koti Reddi considered that there were many instances of children who were not brought to the work and therefore not being fed because of the distance of their village from the works. He considered that some cash allowance should be given when any worker declared that he had children whom he could not bring to the works. (It was pointed out that this suggestion appeared impracticable.)

Sri Sankara Reddi said that girls attaining puberty should be allowed to absent themselves for three days and draw the workers' allowance.

Sri R. Suryanarayana Rao has suggested that all workers who fall ill and are certified by the Medical officer as unfit for work should be given full wages during the period of authorized absence and also that persons whose presence is necessary to attend on the sick should be paid dependents' allowance.

17. The following statement shows the average daily wages of agricultural labourers in the Presidency (skilled and unskilled) during the quinquenniums ending 1921, 1926, 1931 and 1936 as furnished by the Commissioner of Labour:—

(1) Average wages of agricultural labourers in the Presidency.

	Quinquennium ending—											
	1921		1926		1931		1936					
	per day.		per day.		per day.		per day.					
	Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.			
Men	0	7	1	0	6	5	0	5	3	0	4	3
Women	0	5	1	0	4	1	0	3	5	0	2	10

(2) The average wages of skilled and unskilled labourers in each of the Ceded districts.

Skilled labour—Artisans.												
Anantapur	0	10	3	0	11	1	0	12	10	0	9	2
Bellary	0	10	0	0	13	5	0	8	7	0	9	11
Cuddapah	1	2	0	0	14	11	0	15	3	0	11	8
Kurnool	1	4	0	1	0	2	0	14	5	1	0	5
Chittoor	0	12	0	0	11	9	0	12	5	0	9	4
Unskilled labour—Agricultural labourers.												
Anantapur—												
Men	0	5	11	0	4	2	0	4	7	0	3	0
Women	0	5	7	0	3	2	0	3	3	0	2	2
Bellary—												
Men	0	5	1	0	4	7	0	3	6	0	3	2
Women	0	4	4	0	3	4	0	2	3	0	2	2
Cuddapah—												
Men	0	8	2	0	6	6	0	5	2	0	3	9
Women	0	7	4	0	5	2	0	3	10	0	3	0
Kurnool—												
Men	0	8	1	0	5	11	0	4	2	0	3	7
Women	0	6	0	0	4	9	0	3	1	0	2	8
Chittoor—												
Men	0	5	8	0	5	0	0	4	8	0	3	7
Women	0	4	7	0	3	7	0	3	7	0	2	9

The Collectors of Bellary, Anantapur and Kurnool were asked to make enquiries and report the wages paid to agricultural labourers at various stages of the year and for the various agricultural operations. Copies of the statements furnished by the Collectors are enclosed.

Statement showing the agricultural wages paid to labourers at various stages of the year and for the various agricultural processes in the Bellary District in wet and dry tracts.

Taluk.	Workers.	Wet tracts.				Dry tracts.			
		January to March— Sugarcane harvest and plantation.	April to June— Harvest of second crop paddy.	July to September and October— Trans- plantation of paddy weeding.	November and December —Harvest of paddy.	January to March— Ploughing ricking of cotton.	April to June— Sowing of mungari crops.	July to September —Plough- ing and sowing of hingari crops.	October to Decem- ber— Harvest of mun- gari crops and picking o cotton.
		90 (3)	60 (4)	90 (5)	40 (6)	60 (7)	20 (8)	60 (9)	90 (10)
		A. P.	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.
Bellary	Men .. .. .	..	..	..	..	3 0	2 0	2 6	2 6
	Women .. .. .	..	..	..	..	2 6	1 9	2 0	2 0
	Children .. .. .	..	..	..	..	1 6	1 0	1 0	1 0
Rayadrug	Men	4 0	3 0	3 0	4 0	4 0	2 0	3 0	4 0
	Women	3 0	2 0	2 0	3 0	3 0	1 6	2 0	3 0
	Children .. .. .	..	1 0	..	..	..	..	..	..
Siruguppa	Men	3 6	2 9	4 0	2 9	3 6	2 9	4 0	3 9
	Women	2 9	2 0	3 6	2 9	2 9	2 0	3 6	2 9
	Children	1 6	1 6	2 0	1 6	1 6	1 6	2 0	1 6
Hospet	Men	4 0	4 0	4 6	5 0	4 0	4 0	3 2	4 0
	Women	3 0	2 6	3 6	4 0	2 9	3 0	2 0	3 0
	Children .. .. .	..	..	..	..	..	..	..	..
Harpanahalli	Men	4 0	..	..	..	4 0	4 0	5 0	6 0
	Women	2 0	..	..	..	2 0	2 0	4 0	2 0
	Children .. .. .	..	..	..	..	..	..	..	..
Hadagalli	Men .. .. .	..	..	..	..	3 0	3 0	4 0	4 0
	Women .. .. .	..	..	..	..	2 0	2 0	3 0	3 0
	Children .. .. .	..	..	..	..	..	..	..	..
Kudligi	Men	4 0	3 0	4 0	4 0	4 0	3 0	4 0	4 0
	Women	3 0	2 0	3 0	3 0	3 0	2 0	3 0	3 0
	Children	2 0	1 6	2 0	2 0	2 0	1 6	2 0	2 0
Adoni	Men .. .. .	..	..	..	..	2 6	3 0	2 6	3 6
	Women .. .. .	..	..	..	..	..	2 0	2 0	2 0
	Children .. .. .	..	..	..	..	..	..	..	..
Alur	Men	Dry tracts. No appreciable wet ayacut.				3 0	3 0	3 0	2 6
	Women					2 0	2 0	2 6	2 0
	Children .. .. .					..	..	..	1 6

GENERAL REMARKS.—(1) One and a half times the usual rate will be paid in big wet villages which have urban character and are declared as towns.

(2) The number of days for which employment is available for men in each quarter is noted in the columns of heading. The figures for women and children may generally be taken to be about two-thirds and one-third respectively, of those for men.

Statement showing the particulars of agricultural labour available and the amounts of wages paid at various stages in a normal year in the Anantapur district.

Month.	Kind of labour available in		Wages paid in					
	Black-soil areas.	Red-soil tracts.	Black-soil areas.		Red-soil tracts.			
			Male coolie.	Female coolie.	Male coolie.	Female coolie.		
AS.	P.	AS.	P.	AS.	P.			
April	.. Removal of nuth grass and boulders, putting up kattavas, etc.	Harvest of paddy, sugarcane and cholam; sowing sugarcane in limited areas.	2	6	..	..	to	to
							4 0	3 0
							1 6	1 6 *
							to	to
							2 0	1 9 *
May	.. Do.	Harvest of paddy and sugarcane; transplantation of ragi; weeding ragi, ploughing and manuring; sowing mungari dry crops such as cholam, castor, sadda and gingelly.	2	6	..	..	2 0	2 0
							to	to
							4 0	3 0
							1 6	1 6 *
							to	to
							2 0	1 9 *
June	.. Ploughing, manuring and sowing.	Same as in May and also weeding ragi and sugarcane.	2	6	2	0	2 0	2 0
							to	to
							4 0	3 0
July	.. Do.	Transplantation of ragi and chillies; harvest of short ragi; weeding ragi; ploughing wet lands and sowing paddy; sowing dry crops; korra and groundnut.	2	6	2	0	2 0	2 0
							to	to
							4 0	3 0
August	.. Do.	Harvest of ragi; ploughing wet lands, transplantation of ragi, paddy and chillies; weeding and sowing dry crops.	2	6	2	0	2 0	2 0
							to	to
							4 0	3 0
September.	Weeding and sowing.	Sowing and weeding paddy; sowing horsegram and harvest of ragi.	2	0	2	0	2 0	2 0
							to	to
							3 0	3 0
October	.. Do.	Harvest of ragi, cholam, korra, sadda and groundnut; sowing and weeding paddy and cholam.	2	0	2	0	2 0	2 0
							to	to
							3 0	3 0
November	.. Harvesting	.. Harvest of paddy and ragi; transplantation of ragi and paddy; weeding paddy; harvest of groundnut and korra.	3	6	2	6	2 0	2 0
							to	to
							4 0	3 0
December	.. Do.	.. Harvest of paddy and ragi, ploughing wet lands for paddy; transplantation and weeding paddy; sowing paddy and cholam; harvest of groundnut, korra, castor and gingelly.	3	6	2	6	2 0	2 0
							to	to
							4 0	3 0
January	.. Do.	.. Picking cotton and chillies; harvest of horsegram, castor and pulses; sowing paddy.	3	6	2	6	2 0	2 0
							to	to
							4 0	3 0
February	.. Picking cotton	.. Harvest of paddy, horsegram and pulses; sowing and weeding paddy.			2	6	2 0	2 0
							to	to
							4 0	3 0
							1 6	1 6 *
							to	to
							2 0	1 9 *
March	.. Do.	.. Harvest of paddy, cholam and sugarcane; weeding paddy; picking chillies; sowing sugarcane.			2	6	2 0	2 0
							to	to
							4 0	3 0
							1 6	1 6 *
							to	to
							2 0	1 9 *

* In parts of Tadpatri, Hindupur and Madakasira taluks.

Statement showing the normal wage of agricultural labourers in an ordinary year and at various seasons of the year in the Kurnool district

Season.	Description of agricultural processes.	Wages obtainable for					
		Males.		Females.		Boys.	
		In kind.	In cash (converted). RS. A. P.	In kind.	In cash (converted). RS. A. P.	In kind.	In cash (converted). RS. A. P.
June and July	.. Ploughing and sowing.	2 seers of korra.	0 1 9	1½ seers of korra.	0 1 4	1 seer of korra.	0 0 11
August and September.	Weeding	..	Not usually employed.	Do.	0 1 4	Do.	0 0 11
June	.. Manuring	..	Do.	Do.	0 1 4	Do.	0 0 11
Red-soil areas— October to the end of January.	} Harvesting and thrashing.	3 seers of korra.	0 2 8	2 seers of korra.	0 1 9	1½ seers of korra.	0 1 4
Black-cotton soil areas— October to the end of March.							

Question 8 (b) : Do you consider that the existing allowance for vegetables in the table under section 128 (a) as last revised, is sufficient? If not, what increase do you suggest? Is it normally possible to obtain vegetables on the existing scale or on the scale that may be proposed by you during the hot weather when famine works are in operation? Is the type of individual who resorts to famine works accustomed to obtain this quantity of vegetables at that season in normal years?

Messrs. Kudva, Javad Hussain, Arunachalam, Balraj, Alagiri Rao, Sankaran (Tahsildar), Rajagopala Ayyangar, Rahamatulla Sahib (Famine Charge Officer), Pullayya (Famine Charge Officer), P. Ramachandra Ayyar (Famine Charge Officer), Amanuddin Sahib (Famine Charge Officer), C. Gopalam (work agent), T. Bhaskara Rao, Y. S. Anantarajah and A. Padmanabhan (work agent), among officials, and Messrs. G. Rami Reddi and Devendra Nayudu, among non-officials, consider the allowance sufficient and that no increase is necessary. Messrs. Kudva, Javad Hussain, Balraj and A. Padmanabhan, among officials, and Rami Reddi and M. Devendra Nayudu, among non-officials, consider that the type of men who resort to famine works, which includes small landholders also in years of severe famine as at present, are accustomed to take vegetables. Mr. T. Bhaskara Rao considers that the type of men who resort to works is not generally accustomed to obtain this quantity of vegetables at that season in normal years.

Sri Y. S. Anantarajah says that in normal years the labouring classes do not generally consume the required quantity of vegetable in the hot season.

Mr. Wood considers that so far as the workers are concerned the proportion which they spend on each item has no close relation to the scale in the table, that it is useless to criticise the wage on the ground that it is insufficient for any individual item and that there is no ground for supposing that if the wage is increased more vegetables will be bought. As regards persons fed in kitchens he could not find evidence of any deficiency as they appeared well nourished and said they had sufficient.

Sri Rajagopala Ayyangar says that only greens are used. Mr. Kudva considers that as the people fed in kitchens in 1935 markedly improved in health the inference is that they had better food than what they were accustomed to but he has no objection to include more vegetables provided the total cost does not exceed the scale fixed by the Government.

Mr. Balraj recommends that cart-hire may be paid separately for importing vegetables into remote camps.

Sri Viswanatha Rao has no data for suggesting an increase for vegetables. The Kurnool ryot seems to thrive on his cholam and korra with little or no vegetables. Sufficient scope for varying the standard is provided in section 130.

Mr. Nightingale would leave the question of dieting to experts. There was tremendous improvement in the appearance of people fed in the kitchens.

Sri J. Sreenivasa Sastrulu considers that ordinary cheap vegetables like onions, brinjals, green leaves, can be supplied on a smaller scale as the ryot is accustomed to these things only and that the vegetables can be had locally. Major E. M. Sewell considers the allowance adequate. He has also mentioned the suggestion of his Assistant District Medical Officer regarding the use of four ounces of either germinated greengram or chena dal for four days in a week as a substitute for the stated allowance of pulse and vegetables and for the remaining three days the same plus half the quantity of allowed vegetables (keri).

2. Increase in allowance for vegetables is suggested by Messrs. Davis, Smyth, Unnithan, T. R. Subrahmanya Ayyar, W. Tirunarayanacharya (Famine Charge Officer) and Janab Akbar Ali Khan (Famine Charge Officer), among officials, and Khan Buden Sahib, Lakshminarayana Rao, Sivasankaran Pillai, Venguswami Ayyar, C. V. Rangachari, N. Mrithanjaya Sastri, Chendramowli, Seetharama Reddi, K. V. Krishnamurthi and John A. Zaccheus, among non-officials. They consider that vegetables will be available and the workers are used to it.

Mr. Smyth considers that the extra allowance of 1 pice given in 1935 for deficiency in the allowance for vegetables should be maintained and that it should not be amalgamated in the scale of allowance. Mr. Davis states that the extra pice gave excellent results.

Mr. Unnithan recommends the increase of grain equivalent by 5 tolas in the case of V (c) and (d) to remove the difficulty now felt.

Sri T. R. Subrahmanya Ayyar considers that it is not possible to exclude oil or ghee from the diet of classes V (c) and (d) and that the table may be amended. He also recommends 30 per cent increase for vegetables.

Sri W. Tirunarayanacharya says that the allowance is not sufficient and that the increase of wages by 1 pice which he has recommended under question 8 (a) will cover this deficiency also. Janab Akbar Ali Khan would increase the allowance by 5 tolas for classes I, II, III, IV (a) and IV (b), by 4 tolas for V (a) and V (b) and by 2 tolas for V (c) and (d).

Sri G. Rami Reddi, who considers that no increase for vegetables is required, states that workers are accustomed to take meat and buttermilk also and that provision may be made under "other items" for these items, meat once a fortnight. Sri C. V. Rangachar says that mutton is used once a week.

Sri Sivasankaran considers that the vegetable scale may be brought into conformity with the jail diet and with the increase in bus communication there will be no difficulty to procure them. He recommends tender tamarind leaves.

Messrs. Venguswami Ayyar and Rangachar consider that the allowance for vegetables should be doubled while Sri Sitharama Reddi would raise it by 50 per cent.

Doctor Passmore has recommended an increase for dependants as shown in the table proposed by him under question 8 (a).

3. As regards the availability of vegetables during the hot weather the majority of the witnesses consider that onions, brinjals and greens will be available.

Notes of reference.

On the question about vegetables the Collectors report that the vegetables noted below will be available during non-famine years at the prices mentioned:—

Vegetables.	Kurnool per viss.	Anantapur per seer.		Bellary per seer.	
		Non-famine times.	In famine times.	From	To
		ANNAS.	PIES.	A. P.	A. P.
Brinjals	3 to 6	3	3	0 2	0 3
Onions	3 to 4	2	2	0 2	0 3
Green chillies	3 to 8	..	..	0 4	1 0
Beers	3 to 8	..	..	..	..
Benda	3 to 12	..	..	..	..
Country beans	3 to 6	..	..	0 6	..
Potato	3 to 6	8	8	0 8	0 10
Greens	Generally bartered for grain such as cholam, korra, etc., in villages.	2	2	0 1	..
Cucumber .. .. .	.. .. .	..	..	0 6	..
Green plantains .. .. .	.. .. .	..	..	1 0	..
				for 1 small bundle.	
				for six.	

Most of the above vegetables will also be on sale in a famine year. In Bellary, onions, green leaf and chillies will be the only vegetables available in any quality and in some places it is difficult to get even brinjals and they are of poor quality. Except potatoes the others are grown locally. The prices are liable to fluctuation from market to market, and from season to season.

As regards consumption of vegetables by the classes that resort to famine works, the Collector of Kurnool says that generally the labouring classes prepare a chutny made of tamarind, onions, chillies and salt, and that occasionally, i.e., twice or thrice a week, they make use of greens or other vegetables. Potatoes are not taken owing to the high cost. For an average family, vegetables worth 3 to 6 pies will be required. The Collector of Anantapur says that a normal family will consume brinjals, onions and greens worth 6 pies a day. The Collector of Bellary says that brinjals, onions, green chillies and green leaf worth 6 pies will be consumed by a normal family during the season when they are more readily available but practically none during the period from March to September.

An economic survey of a single village in the famine area made by Mr. R. Galletti is contained in B.P. Mis. No. 1762, dated 10th June 1932, which also contains an investigation by him of the income and expenditure of his daffadar.

Question 8 (c): What measures, if any, do you suggest for ensuring that the worker spends his entire wage on procuring the articles?

Messrs. V. N. Viswanatha Rao and Hejmadi, among officials, and Lakshminarayana Rao, K. Rami Reddi Chandranouli, M. Devendra Nayudu, among non-officials consider that the wage is hardly sufficient to meet the necessities of the workers and that they can have nothing to spend on luxuries. Messrs. C. Gopalam (work agent), W. Tirunarayanacharya (Famine Charge Officer), and G. Rami Reddi (Famine Charge Officer) state that the workers spend their entire wage on purchasing the necessary articles of food.

Messrs. Smyth and Kudva consider it difficult to suggest any measures to secure the object. Mr. T. Bhaskara Rao does not consider that any measures are necessary.

Distribution of the whole or part of the wages in kind is suggested by Messrs. V. N. Viswanatha Rao, Unnithan, Balraj, Pullayya (Famine Charge Officer), and Amanuddin Sahib (Famine Charge Officer) among officials and Messrs. Khan Sayyad Buden Sahib, Bhimasena Rao, K. S. Raghavacharlu and Reddi Venkoba Rao, among non-officials. Sri V. N. Viswanatha Rao suggests that part of the payment may be made in kind once a week through contractors. Mr. Unnithan, however, considers that payment in kind will involve so much labour that it is well nigh impossible. Mr. Pullayya (Famine Charge Officer) suggests the payment of the grain item in kind and cash for other items.

Mr. Sayyad Buden Sahib recommends that food may be given or rations for food only in works where it is apprehended that workers may spend money in luxuries.

"Feed them in the kitchens" is the solution offered by Messrs. Pritchard and Davis but the former points out that it would involve larger staff and would be unpopular.

Closure of liquor shops is recommended by Messrs. Javad Hussain, S. Rajagopala Ayyangar (Revenue Divisional Officer), Rahamatulla Sahib (Famine Charge Officer), T. R. Subrahmanya Ayyar (Sub-Magistrate), G. Rami Reddi (Famine Charge Officer), P. Ramachandra Ayyar (Famine Charge Officer), A. Padmanabhan (work agent) among officials, T. Sivasankaran Pillai, B. R. Venguswami Ayyar, Lakshminarayana Rao, Bhimasena Rao, V. M. Giri, C. V. Rangachar, Chandramouli, M. Devendra Nayudu, J. Sreenivasa Sastrulu and K. V. Krishnamurti among non-officials. Sri A. Padmanabhan also suggests that it is necessary to cease licences from those who sell intoxicants.

As regards the shops to be closed Mr. Javad Hussain recommends that those within a radius of five miles from the *famine area* and not the *camp* only should be closed. Sri G. Rami Reddi suggests closure in the famine area and the adjoining villages while Mr. Rahamatulla Sahib (Famine Charge Officer) suggests such closure within the *firka* where famine is declared. Others suggest closure of shops from 3 to 9 miles of the *camp*.

Messrs. Sivasankaran Pillai and Venguswami Ayyar also suggest the closure of cinema shows. Sri S. Rajagopala Ayyangar suggests that sale of betel and tobacco in the grain-dealers' shop may be prohibited.

Messrs. Bhimasena Rao, V. M. Giri and A. Padmanabhan recommend that co-operative stores should be opened while Mr. Arunachalam suggests the provision of shops near the camps where foodstuffs can be bought. Mr. Smyth states that the provision of grain dealers' shops in the camp was found to be very useful.

Mr. Arunachalam also suggests propaganda while Janab Akbar Ali Khan (Famine Charge Officer) will leave it to the good sense of the worker.

Messrs. V. M. Giri, and Mrityanjaya Sastri also recommend that (1) money-lenders, especially Pathans, should not be allowed to harass the workers, (2) announcement of a moratorium for the debts of the labourers might be considered by the Government.

Sri K. Sitharama Reddi suggests that tickets or cheque forms may be issued production of which at authorized shops might enable the workers to get foodstuffs. Such forms may be retained by the shop-keepers.

Sri Y. S. Anantarajayya considers it advisable to give wages in cash only.

Mr. John A. Zaccheus suggests the arrangement with the shop-keepers for supply of the articles and for deducting the wages of individuals and paying them to the shop-keepers.

Sri J. Srinivasa Sastrulu wants to close ganja and opium shops and also to open grain depots in the villages for the benefit of these workers, to avoid middleman's gains.

Question 8 (d)—Chapter IX—Gratuitous relief: What modifications, if any, do you suggest to the provisions of this Chapter? Please state your reasons.

Messrs. K. Alagiri Rao (Subdivisional Officer), Balraj, Hejmadi, Amanuddin (F.C.O.), T. R. Subrahmanya Ayyar, S. Rajagopala Ayyangar (Revenue Divisional Officer), P. Ramachandra Ayyar (F.C.O.), W. Tirunarayanacharya (F.C.O.), Akbar Ali Khan (F.C.O.), Sankaran (Tahsildar), T. Bhaskara Rao, and A. Padmanabhan (work agent) among officials, and Messrs. T. Sivasankaran Pillai, Khan Sayyad Buden, B. R. Venguswami Ayyar, K. Rami Reddi, K. V. Krishnamurti and John A. Zaccheus, among non-officials, consider that no amendments are necessary.

Suggestions for modifications are made by Messrs. Javad Hussain, E. C. Wood, Kudva, Arunachalam, A. A. Smyth, J. W. Pritchard, G. Rami Reddi and C. Gopalam, among officials, and Messrs. V. Chidanandam, C. V. Rangacharlu, N. Mrityanjaya Sastri, V. M. Giri, S. Muthuswami Ayyar, Lakshminarayana Rao, K. Sitarama Reddi and D. Chandramouli Rao, among non-officials.

Mr. Wood thinks that in the early stages the arrangement for gratuitous relief lag behind test work with the result that persons who should be getting gratuitous relief come to test works. Charge officers should give particulars of such persons to the appropriate Tahsildar and when the Tahsildar reported that he was ready to give them gratuitous relief the relief on test work should be stopped.

Section 137 of the Code.—Mr. J. W. Pritchard says that it was doubted whether children or wards of persons themselves on gratuitous relief are also entitled to the same kind of relief. He considers that they are so entitled under section 137 (e) but suggests that the section should be amended to make the position clear.

Section 138 read with section 131.—Mr. Smyth considers that gratuitous relief in the form of cooked food is far and away the best form of gratuitous relief next to which comes payment in the shape of grain or food-stuffs. He thinks it difficult to prevent abuse or petty fraud in the distribution of the cash dole which should not be resorted to until either of the two suggestions above are found not practicable. Mr. Arunachalam suggests that in the case of villages close to camps and temporary dining sheds, cooked food should be preferred to the cash dole. Sri C. Gopalam, Supervisor, Public Works Department suggests that it will be better to give cash doles to children up to 2 years of age at the rate of one-quarter of an anna as is done for babies in arms as it would prevent the mothers very often absenting themselves from work on the plea of giving food for them at the dining sheds.

Sri G. Rami Reddi (F.C.O.) on the other hand does not consider it desirable to grant relief to dependents in the form of cooked food at the kitchens and is in favour of the abolition of kitchens and for the grant of cash doles instead, the main reasons being (1) children of the villages at or near the kitchens are unduly benefited while those in distant villages are not appreciably benefited, (2) that food and grain may be misappropriated in spite of Charge officers' care, (3) that the children are a hindrance to the workers and (4) that there is considerable expenditure on the establishment of kitchens.

Sections 140, 141 and 147.—Sri Lakshminarayana Rao suggests the preparation of the lists of persons eligible for gratuitous relief and the payment to them by a village committee which may be formed for the purpose as he finds the payment of gratuitous relief in villages not satisfactory. Sri Mrityanjaya Sastri wants the Revenue department to prepare an annual list of persons who may have to depend on gratuity in times of distress so that when famine is declared they may get immediate relief.

Sri V. Chidanandam suggests that children and old and disabled people should be supplied with food and clothing.

Section 145.—Messrs. Javad Hussain and Unnithan say that details for the practical application of this section which provides for giving light work to recipients of gratuitous relief such as spinning cotton and winding silk may be filled in with advantage.

Sections 151–158 and Appendix H.—Mr. V. N. Kudva considers that the provisions in these sections and the Appendix H are unnecessary and may be deleted, as communications have considerably improved and as the policy of the Government is to open relief works within easy access of the village in distress.

Sri P. Rama Reddi, President, Panchayat Board, Veldurthi, says that any attempt to liberalize the existing rules would be committing an error but, however, considers that in the application of the existing rules the authorities should not narrow down their operation lest the very object of gratuitous relief is lost.

Sri Y. S. Anantaraiah (Tahsildar, Bellary) makes the following suggestions:—

- (i) Relief workers stopping away on account of sickness should be paid on the work only on the certificate of the medical officer and not in villages as it is at present done, as the procedure is cumbersome and as some days elapse by the time the worker is relieved in the village.
- (ii) Pregnant women should be paid only in villages in order to make sure that the amount reaches them.
- (iii) Women who are not in need of relief offer themselves for work when in advanced stage of pregnancy knowing that they would get some amount. To prevent this abuse only those that offer themselves for work within one month from the starting of the work may be given allowance.

- (iv) Section 132 read with section 135 says that pregnant woman should be given dependent's allowance on rest days which is at present given in the Famine Camps. They should however be given full wages throughout the period prescribed.
- (v) It has to be made clear if the pregnant women according to the note under section 132, are to be paid gratuitous relief irrespective of the fact whether they have relatives to support them or not, and for how long they have to be paid gratuitous relief.

SECTION IV.—THE SIZE AND NATURE OF THE TASK IN FAMINE WORKS.

Question No. 9: What is your opinion on the task work system explained in Chapter VII and Appendix D to the Code? Do you suggest any modifications and if so, what?

Messrs. Wood, Viswanatha Rao, Smyth, Davis, Pritchard, Subrahmanya Ayyar, Venguswami Ayyar, Unnithan, Rengachar, Rajagopala Ayyangar, Balraj, Nightingale, Pullayya, Ramachandra Ayyar, Tirunarayanacharya, Arunachalam, T. Bhaskara Rao, K. V. Krishnamurti, A. Padmanabhan, Zohn A. Zaccheus and Y. S. Anantarajayya consider that the task work system is good and satisfactory and tasks are well calculated and that no modifications are necessary to the system. Messrs. Wood and V. N. Viswanatha Rao also point out that metal breaking is more popular with workers than earth work.

Sri Venguswami Ayyar, however, suggests the desirability of withdrawing from Collectors the power to raise the task from time to time.

Task work system, abolition or modification required.—Messrs. Mrithyanjaya Sastri, Lakshminarayana Rao and B. Bhima Rao say that the task work system should be abolished. Messrs. Mrithyanjaya Sastri and Chandramouli Rao suggest fixed wages for eight hours work at 2 annas for men and women and 1½ annas for workers between the ages of 12 and 14.

Mr. Kudva considers that local officers should have the discretion to regulate the task taking all circumstances connected with a particular work into consideration. Sri K. Sitharama Reddi who suggests a reduction is of opinion that a Collector should raise the task only in consultation with a small advisory committee of local non-officials appointed by the Government.

Reduction of task.—Messrs. Janab Akbar Ali Khan, Alagiri Rao, Khan Sayyed Buden Sahib, Chandramouli Rao, K. Seetharama Reddi, Devendra Nayudu and Sankaran (Tahsildar), suggest that reduction in the task to be done by labourers may be considered. Messrs. Alagiri Rao and Gopalam (work agent) consider that in the case of earthwork the task should be reduced. Sri Alagiri Rao recommends reduction of the full task from 75 to 70 per cent of the task in ordinary times. Messrs. Sitarama Reddi and Devendra Nayudu suggest reduction of task for class I to half the normal task.

Reduction of working hours.—Messrs. Devendra Nayudu and Amanuddin Sahib suggest that the working hours for coolies may be reduced. Sri Devendra Nayudu suggests 9 a.m. to 12-30 and 2 to 5 p.m. Mr. Amanuddin Sahib (Famine Charge Officer) also says that if the working hours are reduced to six, the full task laid down in section 103 of the Code may be reduced to two-thirds of the normal task.

Piecework system.—Messrs. Smyth, Balraj and Sitarama Reddi say that the piecework system is not practicable and may be abolished. It is cumbersome to work out. But Sri Muthuswami Ayyar considers that the piecework system is better suited to work out than the task work system.

Miscellaneous.—Sri Viswanatha Rao suggests the consideration of the question whether earthwork and gravel collection could not be made more remunerative.

Sri A. Ranganatha Mudaliyar says that the classification of metal for task purposes is arbitrary.

Mr. Rahamatulla Sahib suggests the reduction of task for new-comers contemplated in section 106 should be extended to test works also.

Messrs. K. S. Raghavachari and Giri consider that works of benefit to the community may be undertaken in preference to stone-breaking.

Messrs. Giri and Devendra Nayudu say that hand-spinning and weaving may be introduced as relief works.

Sri Rami Reddi points out that the recognized coolie load of 50 lb. on page 132 of the Code, Appendix D, may be modified in the case of the Ceded districts where the stature of persons is stunted.

Amendments to the Code.—Mr. Balraj says that item 10, section 88, relating to the adjustment of the task by the charge officer should be deleted. They will then be in conformity with the correction slip to section 105. But Sri Sankaran is of opinion that the substitution of the words "work agent" for charge officer in section 105 should be omitted.

Section 99 (b) and Appendix D, paragraph 5.—Mr. Balraj says that the necessity for a new Public Works Department subdivision should be based on the number of charges and the distance between each charge and the jurisdiction. He also suggests that the number of workers should not be taken as the criterion for an additional charge.

Appendix D, paragraph 34.—Mr. Balraj suggests that the hours of work may be altered from 7-30 a.m. to 8-30 a.m. with rest for two hours, from 12 noon to 2 p.m. as it is difficult to muster the coolies by 7-30 a.m. He also suggests (1) the Collector should have power to alter the hours of rest period, (2) a clause must be added that checking officers when they find coolies absent can mark them absent from the work for the full day. He asks whether gangs which finish their task earlier than sunset and refuse to do further work may be marked absent for the full day.

Paragraph 83 (a) of Appendix D.—The headmen of gangs may be made primarily responsible for the payments to the coolies and the words "if the headmen are incapable of doing it . . . , to pay the wages" may be deleted. The note under the paragraph should also be omitted.

Mr. Smyth suggests the addition of a provision to section 112 to the effect that the wages paid should never be less than the rest-day allowances.

SECTION V—THE POSSIBILITY OF PROVIDING FAMINE RELIEF BY WORKS OF MORE APPRECIABLE BENEFIT TO THE COMMUNITY THAN STONE-BREAKING, E.G., IRRIGATION WORKS OF SUITABLE SIZE.

Question No. 10: What suggestions can you make on this point? Please correlate your answers with those under section I.

Mr. E. C. Wood disagrees with the suggestion that the breaking of stones is not of appreciable benefit to the community but that it is desirable to avoid making new roads which will not be maintained. He thinks that other works such as construction of wells, vakkaranis, etc., will not engage the entire famine labour. Messrs. Nightingale, V. N. Viswanatha Rao and Sankaran are also of the same view. Mr. Nightingale says that in his opinion the construction and improvement of roads remain the best type of work for famine labour.

Sri C. V. Rangachar, on the other hand, is definitely against stone-breaking. Messrs. S. Rajagopala Ayyangar and Muthuswami Ayyar also consider that road work should be regarded as the last measure of relief and Sri N. Mrithyanjaya Sastri is of the same view. Mr. Kudva states that in view of the fact that means of communication are now adequate it is a matter for serious consideration whether road work should continue to be the basis of famine relief. Sri K. V. Krishnamurti considers that road-laying is the best thing to engage one and all of the people during famine times.

Spinning.—Messrs. Javad Hussain, Viswanatha Rao, Chidanandam, Mrithyanjaya Sastri, Seetharama Reddi, Reddi Venkoba Rao, Arunachalam, and K. V. Krishnamurti consider that spinning may be taken as part of the famine programme. Steps may be taken to absorb the output of cotton and to find a market for it. Sri K. V. Krishnamurti considers that for a successful working of the spinning, the representatives of the "All-India Spinners' Association" must be entrusted with the task.

Public Works of utility, e.g., irrigation works, repairs or improvements to irrigation sources, construction of tanks, restoration of abandoned tanks.—Messrs. Smyth, Davis, Khan Sayyad Buden Sahib, Unnithan, C. V. Rangachar, Rajagopala Ayyangar, Kudva, Muthuswami Ayyar, Ramanathan, Chandramouli Rao, Narayana Rao, Sitarama Rao, Bhojappa Sowcar, Pullayya, Ramachandra Ayyar, Tirunarayanacharya, Janab Akbar Ali Khan, T. Bhaskara Rao, P. Rama Reddi, Y. S. Anantarajayya, and J. Srinivasa Sastrulu suggest that schemes of public utility such as irrigation works, etc., may be taken up. The programme of public works may be scrutinized completely every year and revised according to rules. The execution of such works in the affected locality not only fortifies one against famine but also lessens the possibility of future famines. The State itself may take up the execution of such works by the employment of both the skilled and unskilled labour, the unskilled labour being purely famine labour. The scheme left so

unfinished may be continued and finished after the famine period is over. Mr. Balraj considers that small project works are not suitable because (1) they will not be within five miles of villages, (2) accurate working levels will have to be given and when a large number of workers do the work it will not be possible to mark out the work with levels unless the maximum number in charge is reduced to 1,000 and the work is under a Subdivisional Officer and not a charge officer and the task for earthwork prescribed in the Code is reduced by 50 per cent. He also considers that the flat undulating nature of the country and the scarcity of rain do not permit of formation of any new tanks of useful capacity. Messrs. Rahamatulla Sahib and Pritchard consider that irrigation works of suitable size are not available and the starting of new ones may not be possible. Mr. Kudva is of opinion that restoration of abandoned tanks require a certain amount of skilled labour and it is therefore not desirable to take it as a measure of famine relief.

Formation of new roads.—Messrs. Rahamatulla Sahib, Pritchard, Balraj, Venguswami Ayyar, Tirunarayanacharya, Sankaran, Wilson and Nightingale suggest that the construction of new roads may be taken up. Definite provision should be made for future maintenance of such roads. Mr. Nightingale also says that roads with under-gravelled berms and reasonably passable nullah crossings is a useful famine work.

Mr. Javad Hussain recommends the opening of new village roads, that is to say, roads from each village to the main or trunk road. Mr. Balraj also suggests a definite programme of new cart-tracks.

Mr. Pritchard suggests the deletion of the suggestion in the Code that consolidation should be tried only failing other work.

Works connected with rural development, e.g., remodelling of villages, village sanitation, village roads and cart-tracks, construction of drinking water wells and ponds for people and for cattle.—Messrs. Vijayaraghavan, Sivasankaran Pillai, Pritchard, Subrahmanya Ayyar, Venguswami Ayyar, Rama Reddi, Rangachar, Rajagopala Ayyangar, Kudva, Mrithyanjaya Sastri, Balraj, Wilson, Lakshminarayana Rao, Ramanathan, Sitarama Reddi, S. K. Bhimasena Rao, Gopalam, Sitarama Rao, Bhojappa Sowcar, and B. Subbanachar are of opinion that works connected with rural reconstruction may be usefully taken up as famine work. It may be possible to organize such works only when a large number of non-officials are willing to take up these works under the control and discipline of public servants.

Mr. Pritchard points out that village works pure and simple are not suitable for times of widespread distress but that they can easily be taken up as minor departmental works in conjunction with major road works and that provision should be made for it in the Code.

Sri P. H. Rama Reddi, Director of Agriculture, suggests that the sinking of deep wells on tank-beds and construction of ponds to provide water for men and cattle may be provided for. He also suggests that large-scale anti-soil erosion works would be of benefit to the community if Government engage famine labour for these purposes.

Removal of silt from tank-beds and repairs to spring and river channels.—Messrs. Rangachar, Kudva, Lakshminarayana Rao, Sitarama Reddi, and T. Bhaskara Rao suggest that works relating to the removal of silt from tank-beds, repairs to spring and river channels improving of feeder channels may be taken up.

Mr. T. Bhaskara Rao further suggests the sinking of new wells and deepening and repairing the existing wells.

Miscellaneous.—Mr. Nightingale says that in course of time coolies can be employed on contour-bunding and on the construction of small bunds across scours but before doing so much has to be studied and ascertained.

Sri A. Padmanabhan suggests the construction of tube wells at the cost of the Government in the famine area and the recovery of the cost from the ryots thereafter. He also suggests contour-bunding in preference to stone-breaking.

Mr. Wilson considers that reforestation may be taken up. He also suggests that making silages from the supplies of grass available in the Kurnool, Cuddapah and Anantapur forests. This is being done as a forest operation on a small scale and if the suggestion is approved, results will be reported to the Famine Committee in due course. He also suggests the provision of watering places for cattle in forest, grazing grounds and the construction of famine roads. Sri Chidanandam recommends tree plantation.

Sri Ramanathan says that the labour spent on stone-breaking may be more profitably spent on constructing rest-houses, choultries and schools in villages.

Messrs. Sitarama Rao, Bhojappa Sowcar and Pullayya consider that Government wastes may be made ready for plantation of topes and fruit-trees as soon as the rainy

season commences. Sri Vijayaraghavan states that large-scale anti-soil erosion works may be undertaken by the State and that famine labour will come in handy for such works near the villages.

Mr. Arunachalam attaches much importance to the bunding of vagus.

Mr. Zohn A. Zaccheus suggests cultivation in irrigated areas and small works of importance such as construction of roads, formation of paths, etc.

SECTION VI—EXPANSION OF THE ORDINARY PROGRAMME AS A NORMAL PRELIMINARY TO THE PERIOD OF TEST AND OBSERVATION.

Question 11 : Please see sections 33 (a) and 212 and offer your opinion on the necessity or otherwise for expansion of ordinary works.

Messrs. Unnithan, Arunachalam, Javad Hussain, M. Rahamatulla, Smyth, Pritchard, T. R. Subrahmanya Ayyar, G. Rami Reddi (F.C.O.), S. Rajagopala Ayyangar (Revenue Divisional Officer), Stewart, Kudva, Balraj, Nightingale, Pullayya (F.C.O.), C. Gopalam (Work Agent), Tirunarayanacharya (F.C.O.), Akbar Ali Khan (F.C.O.), and P. Bhaskara Rao, among officials, and Messrs. B. R. Venguswami Ayyar, T. Sivakaram Pillai, V. M. Giri, M. Narayana Rao, Lakshminarayana Rao, K. Sitarama Reddi and K. V. Krishnamurti, among non-officials, consider that the expansion of ordinary works as a preliminary to opening test or relief works quite necessary. Besides being an index of the acuteness of distress, it mitigates the distress when it is not so severe as to call for test or relief works. This avoids the premature opening of test works and wasting money over it. It also gives the necessary time to the authorities for the preparations such as staff, etc., for the opening of test and relief works, preventing at the same time a large amount of distress.

Mr. Nightingale points out that in Bellary this time, great and unnecessary risks of a breakdown were taken by the omission of this step. He suggests that the words in the introduction to the Code that official routine in all departments should be relaxed should be emphasized in connexion with the posting of staff.

Messrs. E. C. Wood, Viswanatha Rao and Sankaran, among officials, and Messrs. C. V. Rangachar, K. Ramanathan and Devendra Nayudu, among non-officials, consider these provisions unnecessary. Mr. Wood considers that the provision in section 33-A asking the Collectors to expand ordinary works only if they are satisfied that the opening of test or relief works will not be necessary unless the next monsoon fails, is dangerous. He points out that it is difficult to gauge the distress so early and to say that test works will not be necessary and cites the instance of Anantapur this year where famine works were found necessary though ordinary works were first thought enough. Mr. Wood would have test works to gauge the distress. He considers the attendance of men on the works a good guide as even in slack seasons the women may attend works in large numbers. He suggests that the Code might draw attention to this circumstance.

Sri Viswanatha Rao suggests the expansion of ordinary works only in the very rare cases when a small area is affected for a comparatively short time. He points out that big ordinary works are local board road works. He does not think it desirable to undertake such works and to add to the "other roads" under local boards which are kept in a poor condition. He also suggests that in the case of these road works, whether done under an expanded programme or as test or relief works, it is essential to allot sufficient funds after the closure of famine for spreading and consolidating as otherwise the roads go to ruin.

The objection raised by Sri Devendra Nayudu is that unskilled labour will be totally excluded by contractors in the ordinary works. This will defeat the purpose of expansion. He does not consider that this evil can be remedied even if the Government execute the works direct.

Sri Sankaran says that expansion of ordinary works has not been found practicable as the local boards have not sufficient funds. He therefore suggests the deletion of these provisions and Government taking up the initiative from the outset.

Sri P. Rama Reddi, President, Panchayat Board, Veldurthi, says that the expansion of the ordinary programme as a preliminary to opening test or relief works should not be prolonged lest the very object of relief in the areas affected by famine will be defeated.

Sri A. Padmanabhan, Work Agent, Bhatrahalli, states that, if the number of unemployed is such that they can be completely absorbed by the expansion of ordinary works by Public Works Department, local boards and municipalities, there will be no necessity for the opening of test works. He further considers that test works will have to be started only when the number of unskilled unemployed is such that they cannot be completely absorbed by the expansion of ordinary works.

SECTION VII—REDUCTION ON EXPENDITURE OF FAMINE ESTABLISHMENT.

Question No. 12 : Appendix D to the Code gives detailed particulars of the organization of relief works. Do you consider that the system is unduly costly? If so, what cheaper agency or method can you suggest?

Messrs. Diwan Bahadur V. N. Viswanatha Rao, Rahamatullah Sahib (Famine Charge Officer), Smyth, Davis, Pritchard, T. R. Subrahmanya Ayyar, Venguswami Ayyar, Unnithan, Alagiri Rao (Subdivisional Officer), V. M. Giri, Balraj, Nightingale, Rao Sahib Muthuswami Ayyar, Hejmadi, Sitarama Reddi, Devendra Nayudu, Amanuddin Sahib (Famine Charge Officer), C. Gopalam (work agent), P. Ramachandra Ayyar (Famine Charge Officer), Akbar Ali Khan (Famine Charge Officer), S. Sankaran (Tahsildar), N. S. Arunachalam, and T. Bhaskara Rao, consider that the present system is not unduly costly. The evidence of Mr. E. C. Wood also shows that he is inclined to this view. Sri A. Padmanabhan says that the system is not unduly costly but is inclined to suggest an increase in the existing establishment as it has to work at present just like a coolie about 9 to 10 hours of outdoor work and 4 to 5 hours of indoor work per day. The following are the suggestions or observations made regarding the possibility or otherwise of effecting a reduction and they are detailed below.

Messrs. V. N. Viswanatha Rao, Smyth and Devendra Nayudu say that the present system is essential in order to prevent fraud and corruption and to see that work is done on proper lines.

Mr. Pritchard suggests that some expenditure may be saved by allowing camp officials to occupy houses in villages where available, instead of in sheds specially constructed.

Sri K. V. Krishnamurti considers that if zinc or asbestos sheets are used for the hutting of quarters instead of thaties, they will minimize the expenditure as when they are sold after the closure of the camps, they will fetch back the amount spent on them.

Messrs. Unnithan and Balraj consider the appointment of an officer of the superior Engineer establishment to assist the Executive Engineer in the famine area in his audit and other duties as provided for in section 255 of the Code unnecessary and consequently want the deletion of the section. Sri K. Alagiri Rao (Subdivisional Officer) wants to reduce the expenditure on providing shelter to the workers. Sri V. M. Giri on behalf of the District Congress Committee, Bellary, suggests (i) the practice of appointing low-paid clerks on Rs. 50 or so as charge officers on Rs. 150 or so should cease, and (ii) the services of a lady doctor are necessary to certify in the case of pregnant women to the period of three weeks prior to delivery.

Sri Rao Sahib S. Muthuswami Ayyar suggests that instead of road works, village works may be taken up even at the outset with the kitchens attached to them for the weakly and the disabled to serve for a group of villages within a radius of three or four miles. Each work may be in charge of a maistri under the supervision of a village works inspector in charge of two or three groups. A charge officer may be put above two such inspectors. Village headman may supply tools. Payment may be made twice a week. If there are too many works a Special Tahsildar or Taluk Relief Officer may be appointed. By following this method he considers that not only can economy be effected but that the ryots may be induced to revert to agricultural operations as soon as rains fall. He also says that the method suggested will obviate the necessity for the appointment of a special staff of an Executive Engineer and Assistant Engineer. It will prevent large sums of money being spent on the collection of metals to roads which lie unused for years and which gives room to the remark that the State money could have been more usefully spent. By the adoption of the method, much village improvements could be done during a famine, which were not possible for want of funds during normal seasons and the activities of the Rural Development Boards will be greatly helped thereby.

Sri K. Sitarama Reddi says that some retrenchment can be made with regard to cashiers and other establishment in the famine camps by adopting the cheque system. Sri C. Gopalam (work agent) considers that management of a famine-relief camp by the Public Works Department alone and not by both the Revenue Department and the Public Works Department under a supervisor with two overseers to assist him in the conduct of his work, will be more economical than the present "charge" system. He considers that the officers of the Revenue Department are not well conversant with the details of the work and the upkeep of the accounts connected with the tools and the consequent audit, etc. He also suggests that a clerk from the permanent staff can be posted to each charge as sub-cashier to look after the counting and the proper distribution of money and that the rest of the establishment can be retained as at present. He also says that the difficulties in the present arrangement will be explained by him orally at the time of the personal hearing.

Janab Akbar Ali Khan would like to enhance not only the strength but also the pay of the famine establishment as they have to do hard work while Sri Sankaran (Tahsildar) wants to add a note under paragraph 2 at page 108 of the Famine Code to the effect that the minimum staff should be employed at the outset and that it may be increased to the maximum laid down as numbers on works, if necessary.

Mr. Javad Hussain suggests (1) that the Collector's sanctioning power under section 274 of the Code, i.e., Rs. 150, may be raised to maximum pay in the cadre of a Deputy Tahsildar so as to enable him to sanction the posts of all charge officers; (2) that the scale of pay of Rs. 12 to 17 sanctioned for peons under the village works manager may be made applicable to all peons on famine duty; (3) that the appointment of Taluk Relief Officers seems unnecessary; and (4) that the work of the Circle officers may be checked by the Tahsildars and Revenue Divisional Officers.

Mr. Wood suggests the following: (1) that the Collector should be allowed to call upon the other Collectors for charge officers; (2) that the Public Works Department should provide a list from which the Collector may appoint a work agent under section 274 of the Code; and (3) that the number of Medical officers can be reduced provided they are given a conveyance.

Khan Sayyed Buden Sahib Bahadur wants the creation of non-official agencies with a bare minimum of official supervision. He also says that details of retrenchment may be left to the Committee which he has suggested. Sri G. Rami Reddi suggests (1) the adoption of piecework system, which will reduce the expenditure considerably on the establishment; (2) the management can be entrusted to either Public Works Department or the Revenue and not to both as it is at present done; (3) the appointment of L.I.Ms. in the place of L.M.Ps. on comparatively low salaries; (4) the abolition of kitchens and the strengthening of the staff of circle officers; and (5) the location of camps in the villages themselves whereby the available building may be taken on small rent and the heavy expenditure on the construction of sheds for housing the establishment, etc., can be avoided. Sri C. V. Rangachar is also for the abolition of the dual control of the management of the works. He suggests also: (1) the adoption of a system of village works in view of the large scale concentrated relief works; (2) the grant of subsistence loans liberally to all those who possess an acre of wet land or 5 to 10 acres of dry land; and (3) hand-spinning on a wide scale to employ all adult women and children above ten years. Sri Rajagopala Ayyangar is for the adoption of village works under the control of managers or work agents as he sees that these works will be done more economically and will be more useful. He wants that resort should be had to Public Works Department only for exceptional causes. Mr. V. N. Kudva is also of the same view, while Sri Narayana Rao is also for giving preference to village works as he considers that such works may with advantage be entrusted to village panchayats. Sri Lakshminarayana Rao wants only one Public Works Department Subdivisional Officer to manage the whole work and considers the appointment of a separate Executive Engineer or Superintending Engineer for famine works is unnecessary. He also considers that the appointment of a Public Works Department Inspector for inspecting famine works is unnecessary. He suggests that the ordinary staff may exercise general supervision over the Subdivisional Officers and that piecework system may be adopted instead of task work system. Sri Ramathan considers the organization of non-official agencies to co-operate with the special bodies in cutting short the expenditure of famine establishment and to harness the panchayat in the affected area with some responsibilities in the matter to be essential. Sri S. K. Bhimasena Rao would like to make use of the non-official agencies to minimize expenditure and to inculcate the spirit of co-operation and work for general good in the minds of the villagers. Sri P. Pullayya (Famine Charge Officer) suggests the appointment of overseers in the place of supervisors as work agents and handing over the management of the Famine works to the Revenue Department while B. Bhimasena Rao (non-official) suggests the appointment of upper division clerks as charge officers instead of men of the rank of a Sub-Magistrate or Deputy Tahsildar.

Messrs. V. Chidanandam and W. Tirunarayanacharya (Famine Charge Officer) do not state definitely whether the present system of management of works is unduly costly or not. Sri V. Chidanandam, however, suggests the employment of non-officials under the supervision of a Government gazetted officer. The Famine Charge Officer suggests (1) the purchase of bamboo thatties of stouter quality for the workers and (2) the use of asbestos and cement sheets for the hutting of the famine establishment.

Mr. John A. Zaccheus considers the establishment referred to in Appendix D to be superfluous and wants a reduction either by a reduction of pay or by the abolition of some of the posts. Sri B. Subbanachar suggests for consideration the desirability of appointing young, intelligent and energetic men who are in the list of Deputy Tahsildars or who are likely to be included and who draw Rs. 50 to Rs. 60. He also suggests that if

non-official members who would be willing to work without any remuneration offer their services, the question of appointing them as charge officers may also be considered.

Sri J. Srinivasa Sastrulu considers that (1) the appointment of a highly paid officer of the Engineering establishment is not necessary; (2) that the department itself should undertake to supply thatties and bamboos for the construction of famine camps; and (3) that the Government themselves should undertake to supply the necessary provisions to the kitchens, so as to have economy in the establishment of famine camps.

Sri Y. S. Anantarajah has made the following suggestions:—(i) The number of cooks provided in paragraph 11 of Appendix G may be minimized and provision may be made to entertain workers on famine wages to prepare moulds and for serving food. (ii) When the work covers a greater distance sub-dining sheds should be opened near to the work spots. (iii) To supervise the feeding and to check the attendance of the dependents a maistri on a pay of Rs. 15 is necessary, and provision in the Famine Code should be made for this. (iv) For the post of kitchen superintendent one from the Revenue Department should be selected. (v) When the work is spread over a wide area, an upper division clerk as an assistant to the charge officer is necessary. (vi) As the work advances more than one storekeeper will be necessary.

Question No. 13: Have you any further suggestions to make on any of the other chapters or provisions of the Famine Code? Please give reasons for your suggestions.

Messrs. V. N. Viswanatha Rao, C. Vijayaraghavan, Rahamatullah, Javad Hussain, A. A. Smyth, S. Rajagopala Ayyangar, V. S. Hejmadi, Ramachandra Ayyar, W. Thirunarayanacharya, Akbar Ali Khan, N. S. Arunachalam and T. Bhaskara Rao, among officials, and Messrs. T. Sivasankaram Pillai, B. R. Venguswami Ayyar, Sitarama Rao, Bhojappa Sowcar, K. V. Krishnamurti and Zohn A. Zaccheus, among non-officials, have no suggestions to make.

Mr. Javad Hussain, however, suggests that specific provision should be made in the Code for declaration of famine.

Mr. Wood points out that the famine programme is of very little use, and suggests that the Collector should be required to examine in great detail at least, one taluk for each division each year and that the Board should examine one or two specimen taluks in a district each year.

Sri Ranganatha Mudaliyar suggests that small village works may be taken up in the initial stages and that the services of the village officers may be freely utilized as also the services of a revenue inspector for a group of villages, the wages of workers being fixed according to the Code allowing a sufficient margin in favour of the workers for supporting their dependents.

Sri M. Bhimasena Rao suggests that section 166 (d) with slight modifications may be applied to each village, viz., a group of 100 or 200 workmen should be made to attend to the following, utilizing the services of the village officers and other honorary workers:—

- (a) Construction of village wells and tanks,
- (b) repair of old wells and tanks,
- (c) making and raising embankments,
- (d) clearing fields of stones and stumps,
- (e) bunding the fields,
- (f) removal of nattu from the fields,
- (g) laying down village road,
- (h) improvements in sanitation and
- (i) spinning of yarn.

The same gentleman says that famine relief works are under dual control and that the services of the Public Works Department may be dispensed with, so that much of the friction will be avoided; fully qualified work agents may be safely depended upon.

Mr. W. J. Davis suggests that the Collectors should issue orders to the charge officers only through the Executive Engineer and not direct and that the Collector should be reasonable in the matter of Executive Engineer's travelling allowance bills and should not treat him as a Tahsildar.

Sri K. S. Raghavacharlu suggests that grain stores should be encouraged and established in almost every village containing foodstuffs sufficient for six months and that during famine the needy people should be advanced grain to be recovered in the next prosperous season.

Mr. Pritchard suggests that the best possible people should be selected for charge officers, work agents and kitchen superintendents. He very strongly recommends that service as charge officer should count for probation, that the age-limit for inclusion in charge officers' list should be fixed at 42, that the kitchen superintendents should as far as possible be men in permanent employ of Government, that permanent clerks on pay up to Rs. 50 should be allowed to be employed and that service as kitchen superintendents should count for probation, that the school-going children fed at kitchens should be given cash doles and the Code should be amended suitably, that Form D-VIII should contain information as to what work is going on and at what places so that Executive Engineer and Collector may have up-to-date information, that sections 160 to 163 do not describe the conditions in Bellary properly, Appendix 39-I that a rough daily card should be kept so as to show inspecting officers where each gang is working. (93-III) that enquiry regarding absentees after morning muster should be started before actual checking; Appendix G, that it is useless to supply tickets to children attending kitchens and that the Collectors should be directed to make and retain for use in future a note on practical difficulties they encounter and how to deal with them, etc.

Sri T. R. Subrahmanya Ayyar suggests that the number of constables for each charge may be raised to four and they may be supplied with fire-arms, that a security of Rs. 500 either in cash or in immovable property may be demanded from store-keepers to whom tools worth Rs. 3,000 to Rs. 5,000 are entrusted and that higher pay may be allowed if necessary.

Khan Sayyed Buden Sahib Bahadur suggests that considerable retrenchment in the number and emoluments is both feasible and absolutely necessary, details of retrenchment being left to the committee; that non-official agencies may be created with a bare minimum of official supervision, care being taken to get those whose reputation is above board and whose property qualification is not less than Rs. 50,000 preferably those who have had experience of famine relief organization.

Sri G. Rami Reddi suggests that provision should be made in the Code for paying dependents' wages to workers when they fall ill and that the large number of women with babies in arms (hardly 2 to 6 months' old) and unable to do the full task may be brought to the gratuitous list or treated as weakly gangs.

Sri K. M. Unnithan suggests that the necessity to create additional subdivisions should depend upon the number of charges and the area over which they are located and not on the number of workers as in section 99 (b) and that the section in the Code and paragraph 5 of Appendix D should be amended suitably, that the rest period between 12 to 2 may be extended by one hour during hot weather, i.e., in April with a corresponding reduction in the task and that the Collectors may be authorized to do this: that the maistris need not make payments even though the gang headmen are illiterate and the latter should disburse the wages and that the paragraph in the appendix should be amended suitably; that the Collectors' powers to sanction appointments (under section 274) carrying more than Rs. 150 salary may be increased to the maximum in the cadre of a Deputy Tahsildar, as sometimes approved probationers are appointed as charge officers; that the scale of pay of peons, i.e., Rs. 12—17 should be made applicable to all peons on famine duty so as to allow permanent men being appointed.

Sri K. Alagiri Rao suggests that as the Deputy Tahsildars appointed as charge officers find it difficult to exercise control over Public Works Department and as they lack knowledge of Public Works Department accounts, a senior supervisor may be appointed and the whole subdivision manned by the Public Works Department subject to the control of the Collector or revenue officers of other districts may be appointed in preference to local men and that head clerks of Taluk offices should on no account be appointed as charge officers as they are lacking in executive experiences, that the Accountant-General should be asked to depute trained accounts clerk immediately after the opening of a subdivision, as posting of raw clerks with no experience throws much strain on the Subdivisional Officer; that the Subdivisional Officer should be given a responsible permanent clerk to attend to accounts work, the pay being suitably raised; that the travelling auditor must be appointed even at the opening of the first charge so that the accounts may not go into chaos; that special emphasis should be laid on paragraphs 65 and 67 which lay down that the charge officers are direct subordinates to the Executive Engineer and the Subdivisional Officer; that permanent men alone should be appointed as kitchen superintendents and the pay should be attractive; that the subordinates selected for famine duty should be given one month's notice and asked to study the Code and come prepared and a note should be made in the Code to this effect; that an increase of one pice may be made to workers so as to allow them to purchase fuel, betels, etc.; that children of 10 years and above may be admitted as class III workers; that the preparation of an indent may be illustrated by an example;

that the period absolutely necessary to entitle one for a rest-day allowance may be made clearer; that the three days' attendance need not be insisted upon in the case of dependents fed at the kitchens; that those who attend the kitchen on the last day should be paid cash doles for the rest day; that only undisbursed wages should be kept in the amanath register and not the rest-day allowance to workers and cash doles to dependents; that the D-IV statement should be signed or initialled by the work agent and a column may be provided for the purpose; that even for new-born babies one pice may be paid to the mothers; that in D-III women now shown under classes I and II should be shown under classes II and III respectively; and that a book of forms in the Code with examples worked out should be prepared and supplied to all so as to serve as a guide.

Sri Mritanjaya Sastri suggests that a provision be made for payment of compensation in cases of accidents applying the Workmen's Compensation Act; that the method of constituting non-official committee referred to in section 40 has been found unsatisfactory and that some rules may be framed to make the Committee more useful and representative.

Mr. V. N. Kudva suggests that as the famine nowadays is one of money only and as many of the provisions in the Code such as those relating to poor houses, protection of deserted children, establishment of cattle camps, preservation of cattle are unnecessary, the question of deleting these sections may be considered with a view to make the book less voluminous.

Sri V. M. Giri suggests that the mode of nominating members to the non-official committee referred to in section 40 should be changed and the system of election at a public meeting held by the Collector for the purpose should be adopted.

Mr. S. J. Balraj has made a variety of suggestions mostly of a technical nature on the sections dealing with accounts. These will be summarized separately and a note circulated. The Committee may perhaps content itself with the suggestion as in most cases that the Board of Revenue should consider these on their merits at the end of the present famine.

Mr. A. W. Nightingale points out the interference by Revenue Divisional Officers by issuing orders direct to charge officers and work agents and thus interfering with the administration by the Public Works Department and suggests that section 67 may be made clearer so as to avoid dual control; that the Revenue Divisional Officers should give their suggestions, if any, to the Executive Engineer or to the Subdivisional Officer, that the type of men appointed as charge officers is not ideal but he is unable to make any suggestion without additional expense; that a senior permanent clerk in Government service should be selected as kitchen superintendent; that the charge officers should arrive several days before the starting of works; that when the number of works are likely to be increased, two supervisors and two overseers should be posted under the Executive Engineer to learn their new work; better to have two ahead of postings and kept as reserve.

Sri Narayana Rao suggests that in addition to the relief now existing the question of imparting education to the children may also be considered.

Sri Lakshminarayana Rao points out that the object of appointing a charge officer from the Revenue Department, i.e., to serve as a check on Public Works Department is frustrated by making him directly subordinate to the Public Works Department, i.e., Subdivisional Officer.

Sri K. Sitarama Reddi suggests that in summer the working hours may be fixed as from 6-30 a.m. to 11-30 a.m. and from 3 p.m. to 5 p.m. and that some concession should be shown to those coming from distances of more than five miles; that the Collectors should be guided by the advice of the non-official committee appointed, in matters relating to fixing up of kinds of relief that are to be taken, the wages to be paid and the closure of the relief works and that the committee should visit each camp and report the conditions to the Collector from time to time.

Sri Reddi Venkoba Rao suggests that in order to have a correct crop estimate small committees consisting of three to five members from each important centre may be constituted with the local member of the Legislative Assembly as the president; this committee should give the statistics and make recommendations to the Revenue authorities every quarter; that the coolies should not be paid in cash; and that the Famine Code may be revised every five years in consultation with the committee.

Mr. F. W. Stewart, Member, Board of Revenue, suggests that Chapter XV and Appendix K should be rewritten so as to be understandable even in a hurry.

Sri Pullayya (Famine Charge Officer) suggests that the prefixes "men" and "women" before classes IV (a) and IV (b) may be deleted in Form D-III; that provision may be made in the nominal muster roll for including the headings V (a), (b), (c), (d) and

(e) in respect of the dependents so that the number of present and brought to the kitchens will be known : that in column 6 of the form G-I the name of the worker on whom the dependent is depending may be entered instead of the father's or husband's names as it is now, i.e., the name of the worker with the number in D-III.

Sri Madduri Nagi Reddi suggests that if in every village the village officers and presidents of panchayat boards send monthly reports to taluk office regarding rainfall and availability of labour famine conditions can be easily ascertained and no relief work will be required : that special arrangements may be made for gosha ladies, i.e., they may be provided with work in the villages itself such as weaving, pounding rice, etc. ; they should not be given difficult work outside the village ; that work to the blind and the aged should be given in the village and not outside ; stone-breaking having been found injurious, construction of drinking water-wells, chatrams schools, may be taken up.

Janab M. Amanuddin Sahib (Famine Charge Officer) points out that check is not possible in the following cases : (1) worker coming late and marked late, gets admitted as new comer, (2) workers of gangs working far away from villages get recruited in gangs near the village ; (3) workers given earthwork get admitted in gangs doing metal collection and so on. He therefore suggests that a recruiting register may be maintained in which the names of all persons may be entered under classes I, II and III which will facilitate detection of the irregularities noted above ; that disciplinary measures may be provided against headmen and workers ; that the D-IV statement must be signed by the work agents in token of accuracy ; that the payment to the gangs must be made independent of the maistris the sub-cashier of the charge can directly pay the amounts to the headmen and obtain acknowledgment ; that provision should be made for relief to workers temporarily rendered unfit on account of injuries, etc., such persons may be exempted for at least three days in a month ; that the Famine Code may be included as a book for the Government Test Examination for Deputy Tahsildars.

Sri C. Gopalam suggests that the period of service of all officers in famine duty should count for probation ; that charge allowance or famine allowance should be paid to all officers, temporary or permanent ; that conveyance allowance should be paid to all officers according to the nature of the conveyance they maintain and prescribed for their grade ; that the works section and the accounts or cash section should be separate and independent of each other ; that control over maistris and headmen should vest in the work agent as also control over stores and tools ; that recruiting should be done both by the work agent and charge officer.

Lieutenant-Colonel Shortt suggests that a supervisor of the rank of civil surgeon may be appointed to advise the charge officers and to be responsible for the actual regulation of diets.

Sri S. Sankaran suggests that pregnant women unfit for travel and work should be sent home on the advice of the Medical officer and brought on to the village gratuitous relief. The allowance should be paid to them till two months after delivery or such time she is considered fit for work by the Medical officer.

Mr. Stewart has pointed out in connexion with the closure of liquor shops in the vicinity of famine works that the people themselves stop drinking as a matter of routine ; they live on one meal a day and that the tendency to increase the wages is likely to lead to the increase being spent on liquor if it can be obtained readily ; that the numbers on works have increased in late years as the people who finance agriculture have been able to transfer the burden of supporting the labourers to the Government in times of scarcity ; that there is every prospect of closure of liquor shops leading to extension of illicit distillation of arrack which the Government have failed to prevent, with the result that the Government will lose the revenue.

He does not therefore propose to lay down a rigid rule in the matter but would just remove the shop which is too tempting to some other place under close observation or too far to be a great temptation.

Sri Y. S. Anantarajayya has made the following suggestions :—

- (i) Attendance on the last day of the week should be taken into consideration when calculating rest-day allowance for a worker.
- (ii) The system of issuing tickets to the dependents is to be abolished as it is not workable.
- (iii) The desirability of serving food to children according to their needs rather than classifying them into suitable messes according to their ages, which is found to be impracticable.
- (iv) The taking of attendance of the dependents in the evening may be dispensed with.

REPORT OF THE FAMINE CODE REVISION COMMITTEE

- (v) The question of calculating the rest-day allowance for the children and of its distribution.
- (vi) The desirability of inducing the weavers of the villages adjacent to the famine works to prepare thatties and baskets at the work spot in order to avoid expenditure under this head and paying them for the work turned out.
- (vii) The provision in the Famine Code for a sketch showing the location, measurements of dining sheds, hospitals, quarters for officers, etc., as it will be useful in laying out a camp and as it will save unnecessary wastage of materials.

Sri A. Padmanabham suggests: (1) the entries in the nominal muster roll may be made in pencil as it is not possible for each maistri to carry an ink bottle and pen to the work spot; (2) the famine establishment can be divided into the executive staff and the office staff, the one looking to the giving the full task to the workers and getting the work done from them and measuring the quantity of work done by each gang and the other to verify the correctness of the totals of the musters, to calculate the work done, etc.; (3) the question of allowing the gang to go home even before the prescribed time if the task given has been completed; and (5) the question of appointing young men eligible for ministerial services as maistris on Rs. 30 in the place of those at present who very often quit the jobs, and who are very often tempted to earn more by wrong mustering.

APPENDIX X

THE WRITTEN AND THE ORAL EVIDENCE OF THE WITNESSES EXAMINED.

The Famine Code Revision Committee assembled at 10 a.m. on Monday, the 15th August 1938, at the Board's Office with Mr. C. A. Henderson in the Chair.

PRESENT:

Mr. F. M. Dowley.
 „ H. R. Dogra.
 Sri Diwan Bahadur N. Swaminatha Ayyar.
 „ T. A. Ramalingam Chettiyar.
 Dr. R. Adishesan.
 Sri K. Koti Reddi.
 „ Kallur Subba Rao.
 „ R. Suryanarayana Rao.
 „ H. Sitarama Reddi.
 Mr. D. I. R. Muir, the Secretary to the Committee, was also present.

Mr. E. C. Wood, I.C.S., Collector of Malabar, was examined.

Written evidence.

I give below such opinions as I am able to offer on the matters mentioned in the questionnaire. These opinions are based entirely upon my experience in Bellary from the beginning of November 1937, up to the end of March 1938. As I have no figures with me or notes made at the time, I am obliged to rely entirely upon my recollection, which, however, I think, is correct in the matters I mention. I have separately submitted some proposals to the Board of Revenue in my letter, dated 12th April 1938; some suggestions which I now make cover the same ground.

SECTION I.

2. (b) (iii) Minor irrigation sources failed this year although the quantity of rain was not very far short of the normal. It seems to me that in any year in which famine would come these minor irrigation sources would be of little assistance. The plain fact seems to be, as pointed out by Sir Thomas Munro, that, where rainfall is little and also distributed over a long period, rain-fed tanks cannot be a success. It is certainly unlikely that they will be useful in years in which a scanty rainfall is reduced below the normal.

2. (b) (iv) Wells in the black cotton soil produce almost invariably brackish water, which is unsuitable for irrigation.

2. (c) *Contour bund*.—The bunding of the catchment of a tank will certainly diminish, the supply to the tank. This is a fact which is made plain in the Ganjam district. But in Bellary, where tanks are few, the areas, in which bunding would have to be prohibited on this ground, would form a small proportion of the lands in the district.

SECTION II.

Purposes of famine operations and principles of famine relief.

I entirely agree with the principle laid down in section 127 of the Code. The section, however, contains a sentence which is not quoted in the question "Persons, who are not in health when they come on the works are treated specially," and I think this is an important sentence.

There is a good deal of talk about generosity in connexion with famine operations. This appears to me to introduce sentiments which are out of place. Generally speaking, no person connected with famine relief gives anything that is his except his labour and thought and except with regard to these matters, reference to generosity appears to be out of place. The money spent is taken from the people generally and is spent upon one section of the people. Those who have to control famine operations have to decide how much they will so take. And for this decision the section seems to me to provide the only sound basis. It is to be remembered that an increase in wages increases, not only the rate of wages, but also the number of persons who come for relief.

5. *Chapter III—Period of observation and test*.—(a) & (b) I think that the opening of test works is a necessary preliminary to the grant of relief. On the one occasion on which I arranged for the opening of a relief work without a preliminary test work

I found that I had made a mistake, which could have been avoided if a test work had been opened. I think that the criticisms of test works are generally due (1) to delays to open test works, and (2) to delays to come to a decision to convert them into relief works. There is a temptation to allow the test work to carry on and to postpone the decision on the issue which it is intended to test. If test works are opened promptly and continually watched, and if the decision to convert a test work into a relief work is not unduly postponed, there should be little ground for complaint. I think, therefore, that test works are a necessary preliminary, but should be used, subject to the precautions which I have mentioned.

Section 50 of the Code.—I am opposed to the instructions that the earlier stages of distress should be met by an extension of ordinary works and that test work should be opened only if such measures seem incapable of meeting the situation. *Ex hypothesi* the situation is at this stage obscure and the test work is a means of elucidating it. At this time it is not ordinarily practicable for the Collector to decide whether such expansion of ordinary works would be capable of "meeting the needs of the situation." From the press reports of operations in Anantapur district it appears that this method was first attempted and then found to be inadequate. Then test works were opened at a late stage, when they are a much less efficient indication of the extent of any distress which exists.

As the Collector of Vizagapatam, I had experience in 1936 of the closing stages of the quasi-famine relief operations in the southern parts of the old Ganjam district. These took the form of an "expansion of ordinary works." I found it extremely difficult to decide how far relief was necessary and I think it likely that money was spent, which would have been saved, if test works had been used in order to gauge the situation and had been followed by relief works. Having seen both systems in operation, I have no doubt that it is much easier to understand the situation and to avoid excess or deficiency of relief, when the normal method of test work and relief work is followed.

Late in the season workers would in normal years have little employment. It is at this time difficult to judge from the numbers attending the test works how far distress exists. I found that in this season the proportion of women is very much greater than the proportion of men, on some works the number of women being five times as great as the number of men. It was clear that the men did not need to work themselves, but had no objection to their womenfolk working in order to add to their income. In such circumstances the number of men appears to be the proper criterion. I suggest that this should be mentioned in the Code.

6. I found that the arrangements for providing work proceeded much more quickly than the arrangements for providing gratuitous relief in the villages. During the earlier part of the test works stage the arrangements for providing gratuitous relief were not complete. A number of persons, who should have got relief did not get it. The principle that work is provided for those, who can work, and gratuitous relief for those, who cannot, failed to some extent. I suggest that the Code should emphasise the need for very early preparations for gratuitous relief; i.e., that the Collector should begin his arrangements and preparation of lists, as soon as he thinks it possible that test works may be necessary and while he is still in doubt whether they will be necessary. As the preparation of these lists, etc., will come at a very busy season, when the Revenue department will have extra *azmoish* work to do in connexion with famine, it may be necessary to add to the staff of Revenue Inspectors temporarily for this purpose and the Collector may be given discretion to do so.

The second suggestion I make is that gratuitous relief should be permissible on a test work as a temporary expedient. I found that persons, who *prima facie* needed such relief used to come to a test work, because gratuitous relief at that time had not been organized in their villages. Charge officers generally turn such people away, and the result was that those, who were most in need of relief, were denied any relief at all. I made arrangements that charge officers should give gratuitous relief to such persons and simultaneously make reports to the taluk officers. When the taluk officer had completed his arrangements in the village concerned he informed the charge officer and took these persons over for gratuitous relief in their villages. Some such arrangement is necessary in order to prevent real hardship and I suggest that it should be mentioned in the Code.

SECTION III.

Scale of wages and allowances and the diet scale.

7. In practice in Bellary the classification was as follows:—

Special class.—Gang headmen and special gangs.

Class I.—Men of more than 20 years of age.

Class II.—Men of ages from 18 to 20 (I forget the exact ages.)

Class III.—Children between the ages 12 and 14.

This classification seems to me very suitable.

I found, however, that some charge officers were putting weakly men in class II. This seems to be in accordance with the intentions of the Code. But it caused much heart burning and some hardship. It is accepted that women require less wages and nourishment than men; but it is not accepted that weakly or old men require less than able-bodied men; at any rate such a classification was a common cause of bitter complaint. I think it more suitable that men should be divided according to their age and all those who are above the age of, say, 20 should be put into class I. It is moreover a classification which is much easier to make.

8. (a) I think that the wages now given are too high, being for most classes about 3 pies above the wages which would be in accordance with the principle of section 127. About the beginning of March, as Collector of Bellary, I submitted a report to the Board of Revenue on this point criticizing a suggestion that the wage should be raised, and gave my reasons in detail. I invite reference to that report. The more important reasons were, according to my recollection, the following:—

- (1) The increase was introduced late in Bellary and before it was introduced, people receiving the lower rate of wage were maintained in health.
- (2) Nearly every woman spent a quarter of an anna per day on betel and yet remained in health; the provision of money for betel is not, I consider, justified as part of famine relief, and the wage of women could therefore be reduced by a quarter of an anna and yet be sufficient to maintain them in health.
- (3) I found persons, who came to a work emaciated because the work had started late, became fully nourished on the famine wage, i.e., the wage was sufficient to restore to health a person who had been seriously emaciated.

In this matter I think the best evidence is the condition of the workers. There is a tendency to criticise the famine wage with reference to laboratory tests regarding nutrition and other outside experiments. But, so long as famine workers are healthy on the famine wage, it is impossible to say that it is insufficient to keep them in health. So far as the increased wage is concerned it is possible even now to see the condition of the workers. So far as the earlier period is concerned I suggest that the evidence of Major Sewell, I.M.S., District Medical Officer of Bellary, and of charge officers, who were in charge of the works in the earlier stages, should be taken. My impression is that the condition of workers improved after they had been at work for some time. A striking example up to the end of March (I have no later experience) was provided by the workers in the Moka-Gulyam road, where the lead was long and a greater proportion of the workers were engaged in earth work or carrying. Their condition appeared to me to show the results of adequate food combined with regular exercise.

8. (b) *Vegetables*.—It has to be remembered that the workers are paid in cash and there is not the slightest reason to suppose that the proportion which they spent upon each item on the table has any close relation to the proportion given in the table. So far then as money relief is concerned, it appears to me fruitless to criticise the wage on the ground that it is insufficient for any individual item. It can only be criticised as a whole and on this basis it seems to me for the reasons which I have suggested above to be more than sufficient. There is not the slightest ground for supposing that, if the wage is increased by a small amount, more vegetables will be bought.

As the rations given in the kitchens are expected to approximate to the proportions given in the table, criticism of the individual items is more relevant so far as gratuitous relief in food is concerned. I am not able to give any opinion on this matter. But in my experience the persons fed in the kitchens, mostly children and the very aged, had the appearance of being well-nourished and always said that they had sufficient. I suggest that persons who criticise the adequacy of any item in the rations should be asked to find in the persons who eat the rations symptoms, which would result from deficiency during the last two or three months. I can say that these persons themselves were not aware of any deficiency.

8. (d) *Chapter IX—Gratuitous relief*.—I have no suggestions beyond these already mentioned.

SECTION IV.

The size and nature of the task in famine work.

According to my experience the calculation of the task has been excellently done. I saw works scattered over a considerable area. In stone breaking there are great variations in the length of the leads. But the results appear to be uniform. Generally during the first two or three days a gang found difficulty in doing, or at any rate did not do the full task. It then began to do the full task and generally continued to do it regularly. Sometimes it would again fall below the full task; but, soon after the wage was cut, it began to do the full task again. It has to be considered that a gang does not wish to do more than the full task and tends to cut the margin as fine as possible; and sometimes

it makes a miscalculation. I found, for example, on the Nandavaram work, that even after the task had been reduced by over 25 per cent and during the period when the workers were in good health, there were occasional failures to do the task. So far as I remember, these failures were not less frequent than at a later stage when the full task was executed, a fact which is suggestive.

Ignorant well-wishers of the distressed frequently complain about the hardness of the task in metal breaking and suggest that more earth work should be provided. This however is not the view of the workers themselves. They prefer metal breaking. Any one, who has seen both classes of work, will understand the point of view of the workers. It is much easier to sit and hammer a stone, generally in the shade, than to break up black cotton soil; and the carrying of stones is no harder than the carrying of earth.

SECTION V.

10. I disagree with the suggestion that the breaking of stones is not of appreciable benefit to the community. Nearly all the roads, for which stones were broken, were already metalled and the breaking of stone to metal them confers great benefit to the community. It is of course desirable to avoid making of new roads which will not thereafter be maintained. But this criticism cannot apply to the breaking of stones for existing roads.

In making these suggestions I assume that the absurdity will not be committed of paying for the breaking metal and then omitting to provide whatever funds may be necessary for spreading it.

Other suggested forms of work were the following:—

- (1) *The digging or repairing of vakkaranis.*—I rejected these suggestions, because skilled stone work seems to me to be necessary and this could not be provided.
- (2) *The digging of wells.*—In a black cotton soil wells are not generally useful, as the water is generally brackish. Moreover the digging of a well is a work upon which it is difficult to engage a large number of unskilled people. The repair of one well was actually carried out and provided work for a few people.
- (3) *The construction of new roads.*—These are often suggested. I nearly always rejected such suggestions, because there were already as many roads as can be maintained. Unless definite provision is made for future maintenance it seems imprudent to build a new road.

SECTION VI.

Expansion of the ordinary programme as a normal preliminary to the period of test and observation.

I have already given my reasons for holding that this procedure is harmful.

SECTION VII.

Reduction of expenditure on famine establishment.

12. So far as the charge officer and work agent are concerned the number is not excessive. It is important to remember that famine works differ fundamentally from ordinary works. Ordinarily the workers are employed in order that the work should be done; on a famine the work is done in order that the workers should be employed. And this makes necessary a quite different standard of supervision. In the workers' interests it is necessary to spread the work over as wide an area as possible. One charge officer and two work agents can, for example, cover about eight miles of road as a maximum. If there is only one work agent, the charge officer and work agent will cover only four miles, not an economical arrangement. I find, however, that the medical officer generally has very little to do. Provided that he is given a conveyance, one medical officer could probably attend to two works, if they are fairly close together. If an emergency occurs, as for example an outbreak of cholera, medical officers would have to be drawn from other works or from the ordinary district supply.

Adequate supervision is necessary in the interests of the workers for the following reasons:—

- (1) It is necessary to arrange that tasks, money, food, medical supplies, etc., are always available. If the charge officer is overworked, a breakdown at once occurs with serious results. It is a serious matter, for example, to omit to pay starving people, because money is not at hand or the officer is incapable of providing and measuring the task.

- (2) Constant supervision is necessary to see that the wages actually reaches the workers and that there are no malpractices on a large scale.
- (3) It is necessary to enforce stringently the task. Otherwise the number of workers will rapidly increase and the expenses will increase considerably.

13. *Famine programme.*—I found this not as useful as might be expected. The preparation of the programme involves a large amount of detail and there is a tendency to leave this to subordinates. I suggest that the Collector should be required to examine in great detail the programme for at least one taluk in a division each year in order to see that Divisional officers are giving proper attention to the preparation in their divisions as a whole. I would suggest also that the Board should similarly examine a specimen taluk or two in each district in order to see what the district standard is.

Oral evidence.

Sri H. SITARAMA REDDI: Q.—In your evidence (question No. 6) you say that "the arrangement for providing work proceeded much more quickly than the arrangements for providing gratuitous relief, in the villages," and you suggest that early preparations for gratuitous relief are necessary. What is the basis for people to come in on gratuitous relief at present?

A.—Gratuitous relief is provided for those who cannot work. Arrangements for providing work are completed more quickly than arrangements for providing gratuitous relief. My suggestion is that the arrangements and the preparation of lists for gratuitous relief shall be made as soon as the Collector thinks it possible that test works may be necessary.

Q.—You say that Special Revenue Inspectors are necessary for this purpose?

A.—Yes. The Collectors should be authorized to appoint them.

Q.—In your evidence (question No. 7) you say it is accepted that women require less wages and nourishment than men. May I know the reasons for your arriving at such a conclusion?

A.—The practice of the people themselves. It is accepted by the people who do manual work that a man requires greater nourishment than women.

Q.—Do you mean to say that, because women receive less wages, they require less nourishment?

A.—No. I think that in all working-class families it is generally agreed that a man wants greater nourishment than a woman.

Q.—I may tell you that among Indians there is a belief that a woman requires double the quantity of food than that required by a man?

A.—I am guided only by the practice of the people.

Q.—Please state whether your opinion is based on any particular data?

A.—It is based on the practice among the working-classes as I understand it. I believe that my statement applies equally to non-famine years as well.

Q.—In question No. 8 (a) you say that the wages now given are too high. May I know the reason why you say so?

A.—(The witness in reply referred to his letter, dated 12th April 1938.) I found that the health of the workers did not deteriorate on the old wage. It was sufficient to keep the workers in good health. (He read out the reasons given in his letter quoted above in support of his opinion.) I also found that every woman spent quarter anna on betels and so much less on food. To that extent the wage is high.

Q.—That is why you think that a quarter anna should be reduced in the wages of women?

A.—The wage is high in that a woman can spend quarter anna on betels and yet remain in good health.

Q.—Is it not possible that some people have acquired a particular habit for a long time and would rather forego their food than the habit?

A.—If a woman spends quarter anna for betels, and yet maintains good health then, a wage less by that amount should be sufficient for her to live in health. There is another point. A typical labouring-class family consisting of, say, a man, his wife, and three children get a wage of 5 annas per day for earthwork or ordinary works, 3 annas for the man and 2 annas for the woman. But during the famine period they will get about 6½ annas in all,

the value of the gratuitous relief for the children being included. Hence wages earned by an average typical family will be greater on famine works than on ordinary works. Moreover wages paid on famine works are regular in payment and employment is guaranteed. Hence such employment is more beneficial than seasonal employment on higher wages. In this view the wages paid during famine are higher than that required by the standard set up by the Code and higher than the wages on ordinary works.

Sri R. SURYANARAYANA RAO: Q.—You know that there are a large number of minor irrigation tanks in Bellary?

A.—There are few in the black cotton area.

Q.—You make an observation supported by the opinion of Sir Thomas Munro that during periods of slight rainfall, rain-fed tanks cannot be a success.

A.—Yes.

Q.—I would like you to consider whether these tanks were not constructed by ancient rulers merely for the purpose of conserving the little rainfall. Your suggestion seems to be that these tanks are useless and hence may be abandoned.

A.—If the rains fail, or are below the normal, and the tanks are not filled up, then they are useless.

Q.—From my study of the area I think that these ancient rulers built these tanks at a considerable cost knowing full well that the rainfall is precarious and that the little rain they get will be conserved, and Vakkaranis are some of the means for conserving the little rainfall they get, at least for the cattle and for drinking purposes. Have you received any complaint that the supply channels have been neglected by the department?

A.—You mean river channels.

Q.—I am talking of supply channels which feed tanks?

A.—I do not remember of any such channel-fed tank.

Q.—When you had to consider the opening of relief works did the officers of the Revenue or Public Works department bring to your notice the need for taking up the clearance of supply channels instead of road works?

A.—I do not think they did. All the tank-bunds had already been raised to more than the standard height.

Q.—There is a general feeling that money is wasted and that instead of repairing supply channels, you have merely raised the bunds by putting some earth around it but that no silt clearance work was done?

A.—The earth for raising the bund comes out of the tank-bed and thereby silt is also cleared.

Q.—The report on test borings indicates that the prospect of getting good water in Bellary firka is not rosy?

A.—In the black cotton soil area, the water is almost invariably brackish.

Q.—Do you think the borings were deep enough to come to that conclusion?

A.—I cannot give an expert opinion. I think the Agricultural Chemist who took test borings found the water brackish.

Q.—Do you think a geological survey of the area with special reference to the underground water resources will be useful?

A.—I cannot give an opinion.

Q.—In section 11 of your evidence you are pleased to draw the attention of the Committee to a sentence in section 127. Do you think that any attempt was made during the recent famine to give any special relief to those who came to the works and who were not in good health?

A.—Such relief was given only in the Yemmiganur-Nandavaram work.

Q.—Do you think that reduction in the task is one of the means of showing this concession to these workers?

A.—Yes.

Q.—As regards the opening of test works you draw the attention of the Committee to section 50. It must be read with section 33 (a). Did you find any difficulty in opening test works where you felt there was need for it?

A.—I did not get them opened as quickly as the situation required.

Q.—Why do you think the expansion of ordinary works does not satisfy the needs of the situation?

A.—A test work is a means of elucidating the situation, when the situation is obscure, whereas the expansion of ordinary work makes, in those circumstances, the situation more and more obscure, resulting in excess or deficiency of relief.

Q.—So you think that test works give a better idea of the existence of distress than expansion of ordinary works?

A.—Yes. Ordinary works obscure the situation and give no assistance at all.

Q.—Does not section 50 give adequate powers to the Collector to start gratuitous relief along with test works?

A.—Test works can be opened quickly, but arrangements for gratuitous relief cannot be completed as quickly. The result is that the provision of gratuitous relief lags behind the provision of work.

Q.—You suggest that the Collector may be empowered to employ the necessary staff for preparing the list?

A.—Yes.

Q.—You are not in favour of giving gratuitous relief to dependants of workers during the test stage?

A.—No.

Q.—Is there anything to prevent women being put in class I?

A.—Nothing, if they could dig earth as laid down for workers in class I.

Q.—Have you any objections to treat workers irrespective of sex on equal terms with reference to their task? Women need not always be carriers; they break stones and all other work as men do. Why should there be any distinction between men and women?

A.—The task is apportioned to the gang as a whole and no one gets a wage for what he individually does. If women are in the gang, the task exacted is less and the wage paid is also less. The reasons are that a woman cannot do as much work as a man and does not require as much nourishment as a man.

Q.—Do you think it would be rash to say that the workers in famine camps maintain apparently good health and it is difficult to say whether it is normal or below normal health which is only a matter for experts to say?

A.—No. I don't. The very good impression created by the workers is a proof of this.

Q.—Don't you also think that the impression you get that they were in good health might also be due to the psychological factor and the assurance of getting work, whatever may be the wages, and that this must have had the effect of improving their health?

A.—The fact that their work is ensured.

Q.—Do you think the earthwork is healthy for workers in the famine camp?

A.—Yes. The workers looked very healthy.

Q.—Do you consider the desirability of village road works being undertaken as relief works?

A.—I think road works are useful.

Q.—In your experience as Collector were you satisfied that the wages were properly disbursed?

A.—Except in two or three rare cases the wages were disbursed properly.

Q.—Do you think any pilfering is possible under the present system?

A.—I don't think so. If the charge officer and others give proper supervision, it is impossible.

Q.—Wells. Supposing it is suggested that encouragement should be given for digging more wells wherever possible to get water both for irrigation and drinking purposes, do you think that the Government should dig wells and charge water-rates or give loans to pattadars for digging wells as you are doing now?

A.—Digging of wells in black cotton soil produces brackish water and it is unsuitable for irrigation. Hence there is no point in digging wells for the purpose of irrigation.

Q.—If a man is in a state of starvation and is given food according to the famine scale, it does not mean that the man's food is adequate and that he is in good health?

A.—They look healthy and the District Medical Officer used to say that they were in good health.

Q.—Do you think that green leafy vegetables are not easily available in the famine area and these are necessary for the workers' nourishment?

A.—I cannot say anything about this.

Sri Diwan Bahadur V. N. VISWANATHA RAO was then examined.

Written evidence.

GENERAL.

I was Collector of Kurnool from 11th November 1935 to 21st April 1938. I had experience of famine work mainly in 1937-38.

1. I suggest—

- (1) The completion of the Tungabhadra project.
- (2) The investigation of underground supplies of water at the foot hills of the Nallamalais, and their utilization by means of bore-holes, etc., at likely places, even proceeding to great depths.
- (3) The investigation of a hydro-electric scheme at Patalaganga near Srisailam, utilizing the fall in the Kistna river between the points at which the river first turns north to the west of the Srisailam plateau and at which it turns north-east at Patalaganga.
- (4) The multiplication of subsidiary industries based on the industrial crops, cotton and groundnut.
- (5) The increase, to the previous proportion prevalent before the introduction of groundnut, in the area and production of food crops by compulsory restriction of industrial crops, mainly groundnut, if necessary; the revival of the habit of

storing grains which used to be prevalent but which has been increasingly given up in recent years owing to the ready convertibility of produce into money and vice versa, and to the increased cultivation of industrial crops, such as groundnut.

The fact that in the Ceded districts the produce of good years is an insurance against bad or indifferent years has been more and more forgotten by the ryots in recent years. It is necessary both for the ryots and for the Government to keep this in the foreground. The ryots should have a greater reserve of stored grain. Government should increase co-operative godowns at which grains can be stored on purchase for longer periods.

- (6) The possibility of excluding some of the large blocks of cultivable land from the extension reserves of Kurnool East division which hardly contain timber trees of any value. There is great pressure on land in the villages adjoining. It would appear that some populous villages once flourished in these areas.
- (7) The possibility of colonising the Guttalachennu plateau, in the Kurnool East division, which consists mainly of good arable land.
- (8) The re-investigation, on a standard of lesser returns, of projects investigated and given up in the past such as the Velgode project, Owk project, as not being remunerative.
- (9) The possibility of damming and utilizing to the best advantage the waters of unfailing streams, such as the Gundlakamma, the Bhavanasi, the Vokkileru and the Handri.
- (10) The improvement and maintenance of the supply channels to big tanks such as the Badvid tank in Markapur taluk and the tanks in Rudravaram village of Sirvel taluk which have deteriorated by neglect.

2. (a) (i) I have some practical knowledge of irrigation under the Kurnool-Cuddapah canal only in the Kurnool district. The only tracts where paddy cultivation under the canal is popular is the belt of land between the canal and the river in Kurnool taluk near Kurnool town and the land under the canal-fed tanks near Nandyal town. The limiting factors to the spread of paddy cultivation appear to be the following:—

- (1) Paddy is not a staple food crop, even with superior non-Brahman castes; cholam and korra are the staple food crops. The demand for rice is localized near the big towns, as Kurnool or Nandyal, and with limited classes of the people.
- (2) Paddy is a crop which connotes and goes with density of population. There are not enough labourers available in the Deccan villages, for the operations connected with the cultivation of paddy except in certain favourable tracts.
- (3) Sugarcane cultivation implies the existence of capital and the Deccan ryot is notoriously poor in capital resources. It is grown to some extent only under the Cumbum tank.
- (4) In areas where dry crops cannot be readily grown, under tanks owing to poverty of dry soils, as, e.g., under the Cumbum and Markapur tanks, paddy is generally grown and rice is the staple food of the locality served by them.
- (5) The holding of the Deccan ryot is large in extent and is suitable for extensive-cultivation rather than intensive cultivation.
- (6) The net yield on good black soil dry lands, when dry crops are raised on them in a good season, is little less than the net yield of the same land cultivated as wet.
- (7) The sale value of wet land in Sirvel taluk was found to be not much more than the sale value of good black soil dry land, in enquiries conducted by the Special Deputy Collector for loans in 1937-38. This is an index of the relative value of the net yield on the two kinds of land.
- (8) If Tungabhadra water is taken through the dry uplands of Kurnool taluk more largely than now, under the Tungabhadra project, I anticipate that its use will differ according as it flows through black-soil villages or red-soil villages. It will be largely used for watering the ordinary dry crops in years of deficient rainfall, in tracts of black-soil dry land. I anticipate the cultivation of good paddy crops if its course runs through inferior red soils, which can be flooded, and in respect of which the ryots do not encounter the alternative temptation of raising good dry crops in a year of ordinary rainfall, making use of the canal water as a reserve against bad or indifferent seasons.

(9) I am of opinion that the Kurnool ryot, unlike the Cuddapah ryot, is generally a good dry land farmer and an indifferent wet land farmer. The Nallamalais running across the district ensures a normally heavier rainfall than in Bellary and Anantapur, and this rainfall ordinarily suffices for the raising of fairly good dry crops except in some years, in most parts of the district except (i) the Owk sub-taluk which lies under the rain-shadow of the Yerramalais and (ii) the western parts of Pattikonda taluk.

(10) If the Tungabhadra project materializes, I anticipate prevention or mitigation of famine in the parts affected by it. Such a result will follow both in a direct and indirect way.

Directly it will help to irrigate and thereby save the dry crops sown on lands under it, in times of deficient rainfall. Such use appears to me to be very important and in fact remunerative even on the basis of sale value of water, as it involves a very high duty for the water so consumed. Such irrigation, though it consumes little water, means all the difference between the life and death of the crop; and so long as the full water-rate is paid for such use, it cannot be labelled as uneconomic if the surplus waters released thereby can be utilized in the lower reaches for purposes of irrigation of wet or dry crops.

Indirectly, the project will serve to raise the subsoil level of water throughout the tract benefited by it.

The areas in Nandikotkur, Nandyal, Sirvel and Koilkuntla taluks through which the Kurnool-Cuddapah canal flows are beyond the reach of famine. There are many wells in the area used for irrigating fruit gardens. Dry crops are rarely allowed to die, as canal water and wells are used to benefit or keep alive the crops when the rainfall is inadequate. A similar result may be anticipated in the case of the Tungabhadra project.

2. (a) (ii) No.

2. (a) (iii) Rainfed tanks west of the Nallamalais are failures. Tanks and wells in Markapur taluk are worth attention. I suggested to the Executive Engineer the investigation of the restoration of a ruined tank named Gondicheruvu between hills north-west of Venkatadripalem in Markapur taluk.

The construction of the Venkatreddicheruvu tank at Edavali, and the construction of the tank at Bommalapuram are also recommended. The formation of a supply channel from the Thigaleru to the big tank at Dupad, Markapur taluk, may also be investigated.

2. (b) (i) *Tanks*.—I do not agree that the *number* of these sources is decreasing. The area irrigated by them is often less than before as the tanks have got more or less silted up; and as the specifications of the Tank Restoration Scheme have not been suitably altered subsequently in the direction of strengthening bunds and raising sluices, weirs and calingulas.

There are many tanks which are purely rainfed. Tanks fed by canals or perennial streams as, e.g., Cumbum, Markapur, etc., are as well utilized as such tanks in other districts. Purely rainfed tanks cannot be and have not been properly or profitably used, for raising irrigated crops. Unless there is certain and assured 4 or 5 months' supply in the tank, ryots are unwilling to indulge in what they consider the gamble of raising a wet crop, as it may involve their seeing them perish while in the ear or about to ear, for want of water at the nick of time. In cases where the tanks are small and the ayacuts can be raised with wet or dry crops, dry crops are raised and irrigated with tank water when necessary. Most tanks are precarious and tank irrigation is charged for only when it actually takes place. The ryots are not inclined to consider unutilized tank-water as wasted. It is considered as a reserve for men and cattle to drink from in the hot months of the year. The main difficulty in the way of the upkeep of the minor irrigation tanks is the low revenue they bring to Government which hardly justifies their maintenance and repair, if looked at as revenue-producing units. They have to be conserved, however, as they serve the direct needs of man and beast and also are indirectly useful as keeping up subsoil supplies in wells. Their protective aspect is more important, in other words, than their productive aspect.

2. (b) (ii) *Tanks*.—Further deterioration can be prevented only in the direction of preventing the silting up of these tanks. Silt traps may be constructed at the inlets of supply channels to the bigger tanks.

Ryots should be exhorted to remove silt from the tanks periodically and use them for manurial purposes. Such silt should of course be given free of cost.

The question of making silt removal a kudimaramat item of work may also be considered.

In the case of the smaller minor irrigation tanks the system of maintenance may perhaps be altered altogether. There are some tanks such as the tanks at Bandi Tandrapad and Kuruva Nagalapuram in Kurnool taluk, and Gundla Singavaram in Koilkuntla taluk, where the entire tank-bed is patta land. I have noticed in these cases that either the tank-bed or the ayacut is being raised with dry crops almost all the year round except in the very hot and dry months of the year. The stirring up of the tank-bed by the plough is ordinarily considered to make the tank-bed porous and thus diminish the storage in the tank. The tanks referred to above appear to show that there may be cases of soakage of the water into the tank-bed, which is not entirely or even largely lost. In these cases, the soaked water appears to be the reason why the wells in the ayacut are full of water, almost to ground level, almost all the year round. With the help of the rainfall, supplemented by the ayacut wells, good irrigated dry crops are raised in the ayacut almost all the year round, and the tank-bed is cultivated and raised with crops as soon as the late south-west monsoon rains are over and no more supplies in the tank are expected. When the rainfall is heavy and the tank gets really filled up, the tank-bed cannot be cropped, of course, but then the ayacut is sure of bumper crops.

In the case of the smaller precarious tanks, I see no sufficient reason to conserve the tank-bed, especially as the ayacuts are allowed to remain uncultivated or only partially cultivated, even when tanks contain two or three months' supplies. Where there is a demand for tank-bed land, sale of it to the ayacutdars appears to be not so objectionable as is ordinarily supposed.

2. (b) (iii) *Tanks*.—The answer to (ii) is a means of making tanks more useful. Another way is to give compulsory powers to senior responsible Revenue officers to limit the irrigation to portions of the ayacut which can be effectively irrigated with the amount of water received. At present, the Revenue officers have only powers of persuasion. Their advice is always suspect. The ryots prefer to leave the ayacut waste as they cannot or will not agree as to the lands to be irrigated. I see no reason why, when less than the full water is received in the ayacut, and the ryots hesitate to raise any crop, a responsible Revenue officer should not be empowered to do what the ryots never do themselves. I was up against this problem in regard to both precarious and non-precarious tanks. In regard to even the latter, tanks with three months' supplies were left unutilized within my knowledge.

It is true that in seasons of distress, such sources will fail. In fact, the recurrence of such failures is the reason why the population of the Ceded districts is almost stationary. The increase of wells in the ayacut may mitigate famine in cases of the kind referred to in (ii) above.

2. (b) (i) *Wells*.—I see no noticeable decrease in the number of wells. Well irrigation is popular in Cumbum and Markapur taluks, where subsoil water is high, and where but for wells, the yield of dry crops is poor owing to the poverty of the soils.

Well irrigation is less popular in the tract between the Yerramalais and Nallamalais, as the Kurnool-Cuddapah canal supplies the needed water when the season is adverse, and as the dry lands which are mainly black soil are ordinarily very fertile. Wells are often used to good purpose for gardens however. In the tracts west of the Yerramalais, wells for irrigation are possible only along the courses of springs and channels or in the ayacuts of tanks. In the rolling black-soil uplands, well irrigation is almost impossible. Even wells for drinking water are difficult to find in some villages, but the villages are populous as the crops are luxuriant even with a limited rainfall, provided it is well distributed.

2. (b) (iii) & (iv) *Wells* are an insurance against famine. I do not agree that they are useless in seasons of distress. They stave off the period of distress and tend to shorten it. The increase of wells in suitable areas is highly necessary. There ought to be good scope for sinking good wells in the Cumbum and Markapur taluks, and in the areas adjoining the Nallamalais. Systematic investigation of underground supplies or reservoirs of water near the hills will have great possibilities in this area.

In the rolling uplands of black soil, wells may be possible only in the valleys, but the water in them is too scanty for use as irrigation. The water may not be always brackish as the lower strata may be of different quality and may cover fresh water supplies, but the quantity is almost always small, except of course near tanks, in tank ayacuts and near channel or river beds. There is everything to be gained by an increase of wells in these favourable areas as the increase of the protected area tends to reduce the severity of famine.

The terms on which loans for sinking wells are granted may be further liberalized by lowering the rate of interest and spreading the recovery of the loan over a larger period.

In suitable localities, wells or a series of wells may be sunk at the cost of Government and provided with pumping machines. The water may be issued from them on a basis of rates corresponding to wet rate minus dry rate.

2. (c) *Contour bund forming*.—The suggestion which emanates from the Agricultural department is a sound one. Its possibilities are perhaps overestimated, as there is not much run off, except when the rains are more than saturating rains. A too thoroughly efficient bund may cause stagnation in times of heavy rainfall in strips adjoining the bund and thereby spoil the crops therein. I do not think that this bunding up will materially diminish the supplies to the minor irrigation sources. Such diminution as already pointed out is hardly likely to affect for the worse the already inadequate irrigation under precarious tanks.

2. (d) Nil.

2. (e) *Afforestation*.—The rolling uplands of black soil are usually bare of trees. Owing to the scanty rainfall, only certain classes of trees thrive. On black soils, trees are not popular, as their shade is injurious to the crops near them. Also few trees other than tamarind or babul flourish in them. Forests thrive only on and near the Nallamalais; elsewhere, on the lower ranges, greater afforestation can be usefully tried but forests are unpopular with the ryots of the villages which adjoin them, who want them to be thrown open for grazing of cattle, and even goats, without grazing fees, and cutting and removing their requirements free of cost. In panchayat forests, attempts to grow trees are ignorantly made by indolent watchers and do not generally meet with success. Only shade trees and margosa appear to thrive therein under artificial conditions of rearing. In all forests, trees useful for agricultural implements such as yepi and yegi and trees yielding minor forest produce may be more largely tried.

The increase in the area under topes and the plantation of useful trees in them may be encouraged. Such useful trees as, e.g., mango, lime, tamarind, margosa and babul, may be planted.

2. (f) (i) *Large-scale industry*.—Such industries can concern the main industrial crops as, e.g., cotton and groundnut. Cotton ginning and pressing factories are common, but there is no spinning mill. Groundnut decorticators and oil expressers are also fairly numerous. Cholam is largely grown. A concern for preparation of cholam malt as a large-scale industry may have a good future.

The slate industry round about Markapur may be encouraged. The cultivation of trees from which slate frames can be made may be taken up in the reserve forests of the Nallamalais, trees being planted in areas wherefrom transport to Markapur by road or by rail may be easy and cheap. At present frames are imported from outside for want of suitable local timber for making them.

Lime stone is available in large quantities. It may be possible to prepare cement.

2. (f) (ii) *Cottage industries*, such as spinning and weaving, were once fairly prosperous. The competition of mill-made yarn and cloth has gradually killed them. I came across good weavers in Kodumbur and Gudur, who found their occupation gone. The revival of these industries may be encouraged by bounties. It is doubtful whether mere patriotism will create and sustain a large market for khaddar cloth and even handwoven cloth of mill yarn. The former is in worse predicament than the latter. There is an active demand for handloom cloth of mill yarn and handloom weavers can be encouraged by loans for the purchase of handlooms. Genuine khaddar is much more costly than handwoven cloth of mill yarn and the demand for khaddar is therefore liable to flag when the patriotic impulse to buy it passes away. It is for consideration whether, at least in famine times, steps cannot be taken to absorb the khaddar cloth and handwoven cloth produced by the poorer classes in famine camps making use of them in Government departments even as jail manufactures are used at present.

2. (g) *'Sparked' water treated with electricity*.—I have no practical experience of the use of such water. I have read that it has been found successful in the United Provinces. I learn that experiments are being tried with it in this Presidency. As regards the bearing of 'sparked water' on the problem of famine, I doubt whether it will be possible to 'spark' the large volumes of water which have to be applied to crops after sowing and before ripening. It may be possible to treat seed with sparked water before sowing or to use 'sparked water' in nurseries. If it is found that such processes yield favourable results, there may be a future for 'sparked water' in connexion with the problem of preventing or mitigating famine.

SECTION II.

3. I agree with the statement of policy laid down in the Introduction of the Famine Code and section 127 thereof. Famine operations are very costly. It is primarily the duty of the individual to make provision against the vicissitudes of the season, especially

when they can be anticipated. If the duty of the State is conceived on a large basis than at present, viz., as requiring the maintenance of people in normal level of comfort, it can hardly be restricted logically to periods of famine and tracts affected by famine. It will undoubtedly be impossible for any State to undertake the almost superhuman task of ensuring a normal level of comfort to all citizens at all times.

4. Many of the warnings of possible distress in section 34 were not noticeable in the recent famine; e.g., (1) contraction of private charity; (2) contraction of credit (it was not easy to state whether such contraction as there was was due to the Debt Relief Bill or to possible distress); (3) increase of crime. Some of these items are less important than others. Also owing to the greater mobility of food crops, the rise in price of food-stuffs tended to be less pronounced than in the famines of former decades.

Section 33-A.—An expanded programme of ordinary works was tried at first. It is required in paragraph 2 (a) that the Government should be satisfied that if the next monsoon is normal, it will not be necessary to open test works. It will generally be difficult to guarantee such satisfaction. The procedure adopted in this direction was different this year in the three districts affected by famine. In Kurnool district, an expanded programme of ordinary works of the local board preceded test works. In Anantapur district the expanded programme was followed generally by relief works straightaway. In Bellary district, test works were commenced straightaway, without an expanded programme of local fund works. It appears to me on the whole that the Bellary method is generally the best of the three and saves time when there is real famine to be tackled. It should, I think, be made clear that, except when the distress is confined to a small area and is likely to last only a short period when the expanded programme of local fund works may be tried, test works should, as a rule, be the starting point of famine operations. This is all the more necessary as great divergence of view was noticeable as to the extent and severity of famine or scarcity in many of the areas affected by famine.

5. (a) Yes.

5. (b) In section 50 (1) it is suggested that "the Collector should deal with the earlier stages of distress, through the expansion of ordinary works, etc." This is somewhat inconsistent with section 33 (A) (2) (a) which requires the Collector to satisfy the Government first that if the next monsoon is normal it will not be necessary to open test works, etc. It is desirable to clarify the position.

6. No.

SECTION III.

7. No.

8. (a) I would suggest the addition of an equivalent for buttermilk as famine coolies need not be denied what has been conceded to prisoners. In the Deccan districts, the use of buttermilk is not uncommon, and in the hot summer months when famine operations generally take place, will be welcome.

The labourers on test works complained that wages were inadequate. My cross-examination of them elicited that they were considered inadequate as dependants and others could not come on the test works and had to be maintained out of their wages of the labourers.

The complaint of inadequacy usually fades away at the relief work stage. It is no use making test-work wages too attractive as test works have usually to be opened in months in which, even in normal or good years, agricultural operations are not in progress.

Attractive wages will not then be a test of distress but a lure for seeking employment for all and sundry and will fail of their purpose.

I suggest that owing to the foregoing considerations and because of the need of some margin for individual necessities not taken into account, the present wages may be increased by one quarter anna to each class of workers.

8. (b) I have no data for suggesting an increase in the allowance for vegetables in the table under section 128 (a). Vegetables are not as regular or substantial a part of the dietary in the Ceded districts as in the coastal districts. Vegetables are rarely grown in the black soil villages. It will be useful to examine the ryots' diet with a view to see the proportion of vegetables entering into it, especially as the Kurnool ryot, who is

one of the sturdiest of his kind in any district, seems to thrive on his cholam and korra, with little or no vegetables except chillies. Chillies often do duty as appetisers and onions and greens and only a few vegetables enter into his diet. Also sufficient scope for varying from the standard scale in special circumstances is provided for in section 130.

8. (c) The wages paid to workers are so small that there is hardly any margin to spare on luxuries. It may ensure that the entire wages or at least the bulk of the wages are spent on procuring the articles, if instead of cash payment in full, part of the payment is made in kind through contractors once a week. This will mean a considerable addition to work but it may be feasible if reliable contractors are available.

8. (d) Nil.

SECTION IV.

9. The task-work system explained in Chapter VII and Appendix D is the result of long experience applied to practical problems on the spot. It is undesirable to modify it in parts. I noticed generally that stone breaking was considered easier than earth work and more 'wage earning' and metal collection was considered easier than gravel collection. It may be considered whether earthwork and gravel collection could not be made more remunerative.

SECTION V.

10. It is very difficult to think of works on a sufficiently large scale to employ large numbers of unskilled men and women. Time and again, the problem has come up on a sudden or after sufficient warning notice and each time it has been difficult to think of any large works of the kind on which large numbers could be employed, except roads and tanks. Other works, such as wells, houses, are unsuitable as they can employ only a small number of skilled workmen. In an area where cotton is an important crop hand spinning can be tried, but this can be done only provided steps are taken by Government to absorb the output and find a market for it. Assistance to weavers and other artisans is referred to in sections 172 to 178. The provisions therein appear adequate.

SECTION VI.

11. As already observed, I am for dropping the expansion of ordinary works, except in the rare cases where a very small area is affected for a comparatively short time. The local board works are mainly road works. The maintenance of third-class roads and other roads is at present so indifferently done, either due to want of budget provision or to other causes, that the addition to the length of 'other roads' serves only as a further reminder of their inadequacy.

In the case of these road works, whether done as expanded programme of ordinary works or test works or relief works, it appears essential that sufficient funds should be allotted after the closure of the famine for spreading the metal and consolidating the road work in the next rainy season. The famine areas are full of derelict masses of metal, collected at some previous famine or other and littered alongside cart-tracks or roads which hardly deserve to be called such, having been completely neglected ever since their formation at some previous famine. The expenditure on spreading the metal, or gravel and consolidating the road is money well spent. It gives a useful road instead of stacks of metal, which are not merely a public nuisance but may also become a source of double payments in future.

SECTION VII.

12. In my short experience, I found that the organization of relief works, though costly, is not unduly costly. It is so easy to go wrong and the temptation to go wrong is so great when one has to deal with large sums by way of payments to many illiterate men and women for unskilled labour, that it is worthwhile having an elaborate system of checks and counter-checks and a sufficient number of responsible officers both to get the work done and to see that the work is got done on proper lines.

13. No.

Oral evidence.

Sri H. SITARAMA REDDI: Q.—You suggest that it should be compulsory, not optional, that every ryot, if the Tungabhadra project materializes, should be required compulsorily to pay water-rate for the areas that come under cultivation?

A.—I do not follow in what sense it is optional in the case of the Kurnool-Cuddapah canal.

Q.—I am informed that ryots take water from the Kurnool-Cuddapah canal when they want and pay extra revenue to the Government. It is left to their option to use the water or not. Do you suggest that the ryot should be compelled to pay whether or not he uses the water under the Tungabhadra project?

A.—Even that is a question on which I have not any material to form an opinion. It may be that, when the Tungabhadra project materializes the lands commanded by it may have to be registered as wet and if they are so registered they would automatically have to pay wet assessment.

Q.—Under the heading afforestation, you say "in panchayat forests—meet with success." In view of your experience about them, do you think it would be better to class all these panchayat forests as reserve forests?

A.—I do not think that the Forest department wants these panchayat forests back as reserve forests. They are much more useful if they continue as panchayat forests under the management of the panchayats controlled by the Revenue department as at present.

Q.—Is it not your experience that most of the panchayat forests had once good trees in them and they have now become absolutely barren?

A.—I don't think there were ever good trees which were worth keeping, for if there were such trees, the Forest department would not have relinquished them.

Q.—If there is a possibility of growing trees worth keeping, do you like the idea of these forests being taken over by the Forest department so that they could grow useful trees and reserve them?

A.—I would much rather that the panchayats did more intelligent plantation work than now. I refer to the useless work of the watchers in this direction. This growing of trees is only a side line to their main activity, which is watching the forests and preventing offences against grazing laws and such other things. Besides they have no training for the work and also sufficient water is not available for growing trees. With sufficient guidance in the proper choice of places, and if they are made to do it under greater control, I think the plantation of trees may succeed in suitable places even in panchayat areas.

Q.—Do you think that the present panchayats have got the necessary capacity and funds for this kind of work to be undertaken?

A.—If they do not have, there are no others which I can suggest in substitution for them.

In regard to afforestation, I have also one other suggestion which I have failed to mention in my written answer. My suggestion would be that the canal A class lands along the Kurnool-Cuddapah canal might be afforested by the Public Works department or by their officers in collaboration with, and guided by the officers of the Forest department. There is a long stretch of available land which is close to ordinary cultivation and in which such plantation can be usefully made by order of the Public Works and Revenue departments. I would also suggest that the department might do something by way of turf-bunding the slopes of Kurnool-Cuddapah canal wherever such slopes are not gravelled or stoned but consist of loose soil. Such turfing will bind the soil and also conserve moisture for the plantations which might be made alongside of them in the canal A class lands.

Mr. F. M. DOWLEY: Q.—You suggest these plantations with what object?

A.—These plantations are good from the afforestation point of view. So far as B class lands are concerned we have rules allowing cultivation of such lands by depressed classes or ex-military men and there is a big demand for such lands along the Kurnool-Cuddapah canal, especially along those lengths of it which are parallel to, and near the river, between Sunkesula anicut and the neighbourhood of Atmakur.

Q.—In section IV you say that it may be considered whether earthwork and gravel collection could not be made more remunerative than stone-breaking.

A.—Higher wage was what I had in mind in the way of making it remunerative. I am not satisfied that earthwork was liked by people at all. They preferred stone-breaking.

Q.—Is it not your experience that people are not able to complete earthwork and gravel work as easily as they could stone work and that is the reason they preferred the latter?

A.—I am sorry I was not long enough in the district to make this comparison.

Q.—You say in section VI that "In the case of these road works . . . in the next rainy season." Do you suggest that the money should come from the famine fund?

A.—I do not suggest it. I had to consider this question in a practical form in 1936 when there was some scarcity in Owk in respect of which I wanted to put into force as an item of the expanded programme of local fund works the spreading of the metal which had been collected in an earlier period of distress. I asked the president, district board, to take it up. He said he had no money. The metal had been collected and was lying idle. Each time I wanted to put into force such items, I had to go up to the Government or to the Board to get Government to make a contribution. Not a pie did I get out of district board fund and that is why I make this suggestion. From whatever fund, let not these masses of metal lie disfiguring the roads as they have been doing.

Q.—In view of the poor finance of the local boards would it not be better if the funds come from the famine fund?

A.—That is a problem which I have not thought of. I have not considered the aspect of where the money should come from. It was beyond my scope. I was simply thinking of my duty to the area which I was administering and I consider that that duty requires my stating that the roads for which the metal was collected should be made and that the metal should not continue to lie on the side of roads for years.

Q.—You have suggested the improvement and maintenance of supply channels to big tanks which have been neglected. Either the Revenue Department or the Public Works Department should take up these works?

A.—Ordinary repairs to supply channels are done by kudimaramat. Some of these major tanks have been neglected by some department or other. Some of them are Public Works Department tanks and some of them are under the management of the Revenue Department. They have been neglected on the ground that they are not paying. The main difficulty in regard to supply channels is that they lie too much inside the reserved forests. Their maintenance requires co-operation between the Forest and the Public Works departments and there is also difficulty in doing the work as some of them lie in a malarial zone. Most of them have been neglected because they are not remunerative if the work is considered a productive one. They are not worth doing even with the percentage leviable on protective works. From the nature of the country, considerations of revenue yield should be given up altogether in order that the people may have the benefit of these tanks. In my answer to question No. 1, item 8, I have stated this view.

Q.—The Kurnool-Cuddapah canal is not paying because the taking of water is optional and the water-rate is perhaps lower. In any scheme of irrigation that is started in the Ceded districts, there is the fear that when water is supplied, the same fate as that of the Kurnool-Cuddapah canal may overtake it. Do you suggest a compulsory levy of water-rate?

A.—I think the Collector is not concerned with it.

Q.—What do you mean by compulsory registration and why before taking up a project do you want to have an Irrigation Act?

A.—Ryots would not object under ordinary conditions to take water if the land is registered wet. No such project can actually be safely taken up without an Irrigation Act.

Q.—I think it is sufficiently well established that unless you can compel the ryots to declare their intention to take water it is not worthwhile spending crores of rupees in projects?

A.—I agree. My view as to compulsory powers to Revenue officers to restrict irrigation in seasons of short supply is based on Board's Standing Order No. 84 (3) where it is said that Revenue officers have not got the power to restrict field distribution of irrigation water. I raised this question in respect of certain tanks in Pattikonda taluk. In that taluk there are three or four tanks which are non-precarious. There was water for raising wet crops, there being three to four months supply of water, but the ryots would not cultivate their lands and they simply wasted the water and I could not prevent it. The instructions in the Board's Standing Order do not give power to the Revenue officers to fix any particular portion of the ayacut to cultivate. That was the question which I had to consider. The whole ayacut lay waste, because the portion to be cultivated could not be restricted and defined by the Revenue officers.

Q.—Do you think legislation or an amendment of the Board's Standing Orders will help you?

A.—We tried the method of persuasion and did not succeed. The question whether the Revenue office can be considered to have the right to fix the portions of the ayacut to be cultivated is one to be examined by the Board of Revenue or other superior authority.

Q.—You prefer the method of the Government digging the wells and collecting the cesses from the ryot. In course of time he becomes the owner just like the co-operative union societies?

A.—I would consider it only with reference to suitable localities. By suitable localities I mean lands where there are large supplies of subsoil water which no single ryot can possibly develop but which can be made use of by hydro-electric schemes, etc. The Government can finance the scheme by a system of rates for water. I had in mind what I learnt from an officer of the Electricity department that in certain portions adjoining the Nallamalais the subsoil supplies could be developed by hydro-electric boring.

The Committee rose for the day.

16th August 1938.

The Committee reassembled at 10 a.m. in the Board's office with Mr. C. A. Henderson in the Chair.

The following members were present:—

Mr. F. M. Dowley.
Diwan Bahadur N. Swaminatha Ayyar.
Sri T. A. Ramalingam Chettiyar.
,, K. Koti Reddi.
Dr. R. Adishesan.
Sri Kallur Subba Rao.
,, R. Suryanarayana Rao.
,, H. Sitarama Reddi.

Mr. D. I. R. Muir, the Secretary to the Committee, was also present.

The oral examination of Sri Diwan Bahadur V. N. Viswanatha Rao was continued.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—You have dealt at some length about the minor irrigation tanks and wells. You think that there is much chance for the ryots to take to well-digging?

A.—There is in certain areas in the district.

Q.—You say in two taluks they have already got wells?

A.—In every taluk they have wells but in these two taluks there are a large number of wells and a large proportion of them are good irrigation wells.

Q.—Why is it in other taluks you have not got so many wells?

A.—The agricultural practices in the other areas and the nature of the soils in those other areas are such as to make wells difficult to dig and the supply of water in such wells as are dug is either so poor in quality or so limited in quantity as to make profitable cultivation with irrigation of lands commanded by them unremunerative.

Q.—You are supposing that you want to go deeper for the purpose of getting more water?

A.—Not deeper in the areas where I consider wells unremunerative. They are mainly the rolling uplands of black-soil found west of the Nallamalais. In such areas there is no use going further down than what the ryots have already done. They have gone sometimes 70 to 100 feet deep. I have in this connexion some experience of well irrigation in Coimbatore because I started service in that district. The Coimbatore ryot feels that if he goes deep enough he gets a good quality of water and a sufficient quantity for remunerative cultivation with irrigation. The Deccan ryot has not that same confidence and there is reason for his want of confidence in the circumstances of the soils and subsoil supplies in such areas.

Q.—You have gone ordinarily up to what depth?

A.—I know many cases where for getting drinking water we have gone below 150 to 200 feet without striking water. Recently there was a boring which went down 300 feet in a black-soil village some distance from Kurnool and no water was struck.

Q.—Have there been many attempts made like that in the villages of the district?

A.—I cannot say that. There have not been many attempts because it is not in the nature of people to

attempt the impossible. Departments have made more earnest attempts in trying to find drinking water and the results that I mention are mostly departmental though in some instances those of private ryots.

Q.—Shall I take it then that if it is possible by any means to get water-supply from wells the ryots will be prepared to invest some money and take it?

A.—Yes.

Q.—Suppose the Government make a sort of survey and are prepared to say where water is available, will the ryots be prepared to dig wells in those areas?

A.—I am not sure whether Government can successfully attempt a survey. In one of my answers I have indicated the kind of localities where subsoil supplies may be expected such as the neighbourhood of channels and rivers, the neighbourhood of tank-beds and ayacuts and so forth. In other cases, the survey of the possibility of subsoil supplies in the rolling uplands of black-cotton soil, I am afraid would be a waste of money and time. Such a survey would be practicable and useful only where there are valleys in black-soil uplands or where there are, owing to the neighbourhood of hills or hill ranges, likely to be collections of subsoil water, more or less due to the configuration of the subsoil geological strata.

Q.—So you advocate a sort of subsoil survey in the areas which you mention; and in those areas you think there will be a response from the ryots if the Government advise these people to take to well digging?

A.—Certainly.

Q.—Do you think that something more is necessary than for Government to undertake to bear the cost of these failures?

A.—Something more is necessary in the case of the Deccan ryot. The Deccan ryot is more than any other ryot, with whom I have been familiar, a man who is a pessimist and having a pessimism which is born of experience; and without outside help he has neither the monetary resource nor the courage to go forward with enterprises which may ultimately ruin him if he fails.

Q.—So you advocate for instance (at any rate in the beginning) that the Government should undertake to bear the loss in cases where there are failures?

A.—If Government take up these works themselves, the loss comes in as a part of the Governmental operations. If Government advance loans and the ryots to whom such loans are advanced fail, it is up to the Government to bear some portion of the loss if the Government originally thought that the particular works taken up by the ryots were so taken up at their instance or on their account or were such as should have been taken up by themselves.

Q.—You say the position is this. Do you agree with me, for instance, that you ought to encourage the digging of these wells and that is the only way in which you can give some sort of protection?

A.—Yes.

Q.—To get over that difficulty I am asking you whether the Government won't be justified in writing off those losses in cases where there are failures?

A.—I think they will be justified provided the work was taken up at their instance or with their support. If the ryots simply want the money to take up works on their own Government would not be justified in wasting the tax-payers' money for the sake of the ryot. Of course the Government could enforce that the money should be earmarked only for reasonable irrigation schemes.

Q.—Do you mean that there should be a subsoil survey in the area which you mention? Supposing the Government make a subsoil survey and say there is water available in a particular area and the ryot is prepared to dig a well in that area and he wants a loan from the Government. For some reason or other there is a failure. I am asking whether the Government would be justified in writing off in such cases?

A.—I think they will be justified.

Q.—So such a thing is necessary?

A.—Yes, it is necessary.

Q.—It is possible also that in certain areas the Government themselves must dig wells and they must allow water for irrigation and charge some rate for the water they supply. Is that your idea?

A.—Yes.

Q.—Are there many places where this can be done?

A.—My views of course can only be of a preliminary nature. The facts must depend on a regular survey but I do think that in the tracts adjoining the Nallamalais on either side which receive a considerably heavier rainfall than any other part of the Ceded districts, there must be good subsoil supplies which can be worked only by a Government prepared to spend money and not by individual ryots.

Q.—So you think in those areas you will be able to get sufficient quantity of water?

A.—Yes, I do.

Q.—Then you speak about the tanks and the supply channels of these tanks. You say the water in the tank will help the wells also in the areas nearby. Will you also advocate the digging of wells near those tanks?

A.—That can be left to private enterprise. I do not want Government to undertake that enterprise, as private enterprise has come in wherever such wells can be dug. In tank ayacuts wells have been dug and I have referred to a few instances of such tanks where the wells in the ayacuts contain water almost flush with the ground.

Q.—I say in Bellary and Anantapur districts there is no water in such tanks and there are no wells at all?

A.—I am talking of Kurnool district.

Q.—So in a case like that the Government would be justified in giving some sort of protection for digging wells? It may be possible in the tanks that you mention. There is a possibility of subsoil supplies being available owing to the condition of the tanks and the condition of the subsoil strata below them?

A.—I am not prepared to give an opinion not based upon practical experience.

Q.—Is it a fact that in several of these tanks the supply channels have been choked up?

A.—In several tanks for some reason or other such things have happened.

Q.—Do you think the choking up is due to the fact that there was no use for the channels or due to the fact of neglect on the part of anybody?

A.—It may be due to the neglect of maintenance, not to any positive acts tending to silt them up.

Q.—Do you think there will be any substantial help by attending to these things now?

A.—In the case of some good tanks there will be. But the district is full of tanks which are almost useless, precarious sources in respect of which the ayacut is raised with crops only in the good years—sometimes there is only one year in ten or two in ten years in which such tanks received any supply.

Q.—So you want an examination of these tanks?

A.—I do not see any need for examination of every tank in detail. In the case of tanks of importance where the supply channels have deteriorated and cannot be brought to a satisfactory condition owing to kudimaramat, Government departments may foot the bill. Not otherwise. Instances of these tanks I have mentioned.

Q.—Have these canals and supply channels been encroached upon in many cases or given away in dakhast?

A.—I do not think that deterioration of the supply channels is due to such causes. It is due to sheer neglect and to the nature of the country near the supply channels which is usually bare and which washes into the supply channels whenever there are sudden bursts of rain such as happen in such areas.

Q.—You think it is possible to revive them in most cases where the tanks you say are likely to be beneficial?

A.—It would require investigation to see which channels could be kept up again in proper condition; in respect of a large number of good tanks maintenance of the supply channels and repair of them should be useful.

Q.—You say with reference to the tanks that there are so many indirect benefits. So we need not care so much for return from the direct irrigation from these tanks. Is that your idea?

A.—Yes. In fact I advocate for the minor irrigation tanks of the Ceded districts which are in the famine zone much more favourable treatment with not so much insistence on the financial aspect of maintenance and repair than in respect of tanks in other districts.

Q.—Do you say that people fear that there might be failures and hence they fear to raise a crop and if a crop is raised and they fail, they will have to pay the water charges?

A.—Yes; that is one of the fears which stand in the way of water being used.

Q.—Suppose Government relax these rules in regard to this matter, do you think it will suffice?

A.—It will not suffice for this reason. In respect of most tanks which get only two or three months supply the result of mere relaxation of the rules would be an indiscriminate scramble in the use of water with the result that almost all the crops would perish at the earning time. Restriction is the only proper mode of ensuring a correct utilization of such supplies as are received.

Q.—So, what is your suggestion?

A.—I want the power in the hands of a third party to say that such lands shall be cultivated and such lands shall not.

Q.—How can you say that? In one year there may be more water and in others less?

A.—Much of the rains is received in definite months of the year and it is very easy to say by September or October with reasonable certainty how much land can be cultivated under it.

Q.—But he has to sow earlier and prepare the ground for sowing?

A.—This can be done because there are wells near it and nurseries can be grown with the aid of water from such wells and preparatory work can be done for a certain area. Now nothing is done anywhere.

Q.—Your idea is, you will decide about giving water only when you are sure that the tank is full. Is that your idea?

A.—No. The tank is never full. You will have to wait till Doomsday for the tanks to be full. When a tank gets a certain amount of supply and when you

are reasonably certain that if restriction to a portion of the ayacut is enforced that portion of the ayacut would realize a crop. Such restriction should be rendered possible.

Q.—You get your monsoon there only in October and November?

A.—It is only the south-west monsoon that gives you rain there.

Q.—My difficulty is if you are going to wait until you know how much acreage could be served you would be able to help the agriculturist but the agricultural operations have to be begun earlier. That is my difficulty?

A.—Much of the rainfall comes in two or three months of the year July, August and September. The first rains do not fill the tanks. It is only the late July rain that fills the tank. By August you know how much supply the tanks will get. You can start with restriction and relax the restriction in case more supplies are expected and are received owing to unusual and copious rains due to sudden cyclonic conditions in the Bay of Bengal.

Q.—You make your calculation and start giving water in September. Is that your idea? That is to say, for the crop going to be grown after September, you give water, not for the earlier crop?

A.—There is no earlier crop so far as lands in the ayacuts under the tanks are concerned.

Q.—By restriction method for two or three years you can arrive at the average acreage to be restricted?

A.—Under one of these two tanks, the tank near Pattikonda town, good crops have been raised only in two years out of ten. There is no question of an average.

Q.—Don't you think that you can give preference to certain areas and option for other areas?

A.—In Pattikonda tank, for instance, there was four months' water in 1935; less supply in the next year, three months, and one month's supply in the last year. I considered it possible that the tank water could have been utilized in 1935. It was not. Not a blade of paddy was grown in the whole of the ayacut. Football could have been played in the ayacut. If the ryots knew that I could limit the cultivated area and I had the power to do so, then they would have restricted themselves to the area so delimited and raised cultivation on it.

Q.—That is what I am suggesting. That is you restrict the area under cultivation?

A.—But I have not the power.

Q.—Don't you think that it is possible to make these tanks as a sort of permanent protection in any way?

A.—There is no means of doing it.

Q.—The proposal to make rules sufficiently elastic to excuse either in part or in whole the kist, will not make the agriculturist take to any sort of agricultural growing?

A.—In fact that is the system which now prevails in the very inferior tanks which are the majority of the tanks which are called precarious sources; in respect of precarious sources it is only when you raise a crop that you need pay revenue on it.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—In 2 (a) (i) you say that "dry crops are rarely allowed to die . . . of the Tungabhadra Project." I want to find out from you whether there is any difficulty for regular irrigation of dry crops or would you make a difference between non-irrigation and occasional irrigation and occasional irrigation and regular irrigation? Non-irrigation is what the ryot probably likes if rainfall would help him. He would go in for occasional irrigation in seasons of drought?

A.—I believe he pays the same revenue whether he irrigates once, twice or thrice in the season. When he occasionally irrigates you have the advantage that the ryot uses less water. I think he would only occasionally irrigate in the case of black-soil cultivation which he now does with the help of rainfall.

Q.—Do you consider rainfall sufficient for the growing of dry crop without any irrigation?

A.—The ryot considers so, not I.

Q.—Will irrigation improve the yield or not?

A.—Continuous irrigation would not benefit dry crops where they are grown in deep black soils. They

would probably improve yields where there are black loams or black soils with an admixture of sand. I found irrigation of dry crops much more popular in the Sirvel taluk, where I consider the soil is rather more loamy than in the deep black soils in the neighbourhood of Nandyal and in portions of Kurnool and Nandikotkur taluks.

Q.—I mean by regular irrigation that the ryot should freely resort to irrigation whenever there is need for it and not try to escape the tax that is likely to be put on him on the off-chance of getting rains and raising a crop?

A.—In my opinion the ryot is not thinking so much of the escape from the imposition of water-rate as of the proper cultivation and raising of his crop. I noticed for instance, certain lands raised with dry crops in the neighbourhood of Kurnool taking water only when necessary and as little as was necessary. It was a case of cultivation of black soils with dry crops.

Q.—Did it yield good results?

A.—It gave as good results as the ryots would want.

Q.—What is the objection to that procedure being adopted if the Tungabhadra project were to come in?

A.—In cases where occasional use of water for irrigation would save a crop it would be freely resorted to but if rainfall is heavy, the ryot does not want to take water. In cases where occasional irrigation would be useful he would be very glad to take water.

Q.—That means he will regularly take it whenever there is need for it?

A.—Certainly, as in the case of the Kurnool-Cuddapah canal.

Q.—If in the experiment made in a farm it is found that irrigation of black-soil areas has yielded better results by giving better harvests, would that be a guide for the ryot to follow in his own land?

A.—If he is convinced of it by practical means and not merely by precept.

Q.—Would you like to do it in his own area?

A.—The Agricultural department should take it up and do it on demonstration plots.

Q.—Would it be correct to say that the benefits of the Tungabhadra project will be confined to the tracts commanded by it? My argument is that the tracts adjoining the area commanded by the project would also benefit by it?

A.—I agree. I can never admit that it can be a justification for the non-development of any area that some other area continues to remain undeveloped.

Q.—What is the guiding limit as regards the maintenance of the minor irrigation tanks?

A.—The Board has prescribed rules of guidance. I think one rule is that money spent on maintenance over a period of years should not exceed the revenue of the tank during certain years and so on.

Q.—Do you think that discretion should be given to the extent you consider expenditure is necessary to prevent deterioration?

A.—In the case of many of these tanks I am of opinion that a different and very much more liberal policy should be followed in respect of these famine tracts than in respect of other areas where minor irrigation tanks are looked at from the remunerative rather than the protective point of view.

Q.—As regards these minor irrigation tanks, supply channels have mostly to be cleared under kudimaramat rules; is that so?

A.—Yes.

Q.—The remoteness and the distance, in some cases involving several villages, are all factors which always militate against the work being done by kudimaramat labour; is that so?

A.—They are some of the factors but they are not the most important in areas in Kurnool, where irrigation under these tanks has been neglected by the ryots as also the maintenance of the tanks under kudimaramat or otherwise. The ryots are inclined to favour kudimaramat work being done by Government departments and they are prepared to shell out their share according to acreage rather than do the work themselves.

Q.—Do you agree to the general proposition that in cases where the supply sources are very difficult to maintain and therefore neglected, resulting in the deterioration of the supply to the tanks, Government should certainly interfere and do the needful?

A.—I think that would be right.

Q.—As regards tank-bed cultivation would you extend it to suitable cases?

A.—I would choose the cases with care. The general principle is that the non-disturbance of a tank-bed makes a kind of clayey film on the surface of the tank-bed which makes it impervious and enables it to keep up its supplies without loss by percolation. That being the general rule, there are many cases of small useless tanks under which there is not much cultivation now and (for the reasons I have mentioned elsewhere) in respect of which cultivation on portions of the tank-bed would be useful.

Q.—Under "wells" you have said that "in suitable localities, wells or a series . . . dry rate." Is it not the usual practice now to put in the wet rate in addition to the dry rate?

A.—There is no question of usualness in such matters because well irrigation is free from any kind of rate for water.

Q.—Why do you recommend wet rate minus dry rate? How do you calculate it?

A.—I did not think of any means of calculating wet rate for such cases. I did not work out the figures. But some kind of levy would be necessary when Government incur expenditure and a reasonable basis of such a levy would be the wet rate for lands with such an irrigational advantage as against the dry rate for lands without such advantage.

Q.—In certain tracts though the wet rate is always calculated by adding the water-rate to the dry rate, while in certain others the wet rate is calculated not with reference to such classification but with reference to soil condition, yield and the classifications they make as regards the area irrigated. I want to know whether you had in mind such kind of classification?

A.—I had in mind mainly this consideration that the value of the dry lands which would receive this irrigational facility is at present comparatively small because the dry lands of Cumbum and Markapur taluks are notoriously poor but at the same time such lands under irrigation turn into very fertile lands, and I don't want Government to lose the benefit of the added fertility by an irrigation scheme of dry lands which at present are very poor. If irrigation were applied for instance to a black-soil area paying Rs. 3 per acre, a corresponding wet rate minus dry rate would be very little.

Q.—As regards relief works, now the wages paid are taken away by the coolies and spent—nobody knows how? Would you recommend payment in kind instead of in cash?

A.—Yes. In certain matters which, we know, are essential for instance, the grain item. We all know that he would have to eat cereals and we can supply such cereals. In regard to the extras, tastes vary.

Q.—I have often heard that the task for earthwork is very difficult and that it should be reduced but they have not made any discrimination against earthwork in fixing the task. There is a factor that makes the task for earthwork vary under conditions relating to rainfall. If there is no moisture and no rain the soil becomes hard and the task becomes difficult. Don't you think that this important consideration should be kept in view in deciding whether the task for earthwork is to be considered light or heavy? No doubt the Code does not make any reference to this but there is an outcry against the task for earthwork being considered very heavy or very difficult. Do you think the difficulty may be met by a variation either way? If it is easy we will increase it by 20 per cent and if it is difficult we will decrease it by 20 per cent?

A.—I think it would be a valuable suggestion. Usually famine operations are begun when the ground had caked hard. After some time rains come and if earthwork was mainly done at such times probably it might be of advantage. Complaints to me were made particularly at the time of beginning the work which was a time when land had caked hard.

Examined by Sri KOTI REDDI: Q.—You say in the first page that the habit of storing grains is now practically lost. Supposing you store grain, how is it going to prevent famine in these famine areas?

A.—In famine, people suffer because they have no grain to eat and the availability of grain to that extent must help in warding off famine. Still there is a certain amount of charitable instinct in people. The rich ryot who stores grain can feed the poor and stave the famine off for some time.

Q.—Do you mean to suggest that at present in the famine areas there is no difficulty in securing grain provided you pay for it?

A.—None at all; lorry loads come from outside the district and merchants make a good profit out of it.

Q.—Do you suggest that the prices in the famine area are very much above these in non-famine areas?

A.—Not very much above. But it does not mean that the prices are the same everywhere.

Q.—Do you mean to say that the ryots in the famine area are so well-to-do that they can afford not to sell grains to meet other demands like Government kist, clothing, etc., and other necessities?

A.—I have seen underground bins in many villages and a large number would have been used for storing grains once.

Q.—What would be the percentage of people who can afford to store grain and not sell it for meeting their expenses?

A.—Every one must store according to his capacity against a bad season. It is not restricted to any percentage of the population.

Q.—You say there is a surplus for meeting necessities?

A.—There was and what was once can be again.

Q.—You say that some legislation is necessary to restrict the area of cultivation of groundnut and other commercial crops. You believe that thereby you can prevent famine?

A.—The restriction should be brought about by advice, by compulsion, by legislators who work among the people in order to secure that they husband their resources to the best advantage.

Q.—Supposing by sowing groundnut a ryot in the Ceded districts gets an income of Rs. 50 and by sowing cholam and other crops he gets an income of Rs. 35 would you advise him to grow cholam alone?

A.—Any crop except groundnut which I consider deleterious to man, beast and soil. It takes away fertility from the soil; you export the crop mostly to other countries and you lose the resources which in the case of any other crop are restored to the soil and kept within the country.

Q.—The ryot takes into account the remunerative nature of the crop he cultivates. He has taken to groundnut because it pays him more. Why should you prevent him from cultivating it?

A.—I am thinking more of the rotation of groundnut and restricting it to say, once in three years, rather than prohibition of groundnut altogether.

Q.—There is rotation of crops in the Ceded districts even now cholam, korra and groundnut. You know that groundnut provides more money than other crops?

A.—Still I hold this opinion. I am of opinion that extension of groundnut cultivation, particularly in the heavy black soils of Koilkuntla taluk, has been on the whole harmful. Rotations are neglected and groundnut often follows groundnut. The crop is more exhausting to the soil and more difficult to intercultivate and to harvest in heavy black soils than in light loamy or sandy soils.

Q.—The chief means by which famine could be prevented or at least mitigated in the Ceded districts is the large extent to which irrigation resources could be developed in those districts?

A.—You cannot create irrigation resources where there are no possibilities for it. However, Kurnool district has more possibilities in the direction of irrigational development than Bellary and Anantapur, because the backbone of the Nallamalais gives a much heavier rainfall and possibly a greater storage of sub-soil water. I suggest the development of such supplies.

Q.—Have you any idea of the Sangameswaram project and the utilisation of the Kistna waters for the Ceded districts?

A.—No.

Q.—Do you say that the Owk and Velgode projects should be taken on hand at the earliest possible time?

A.—I said that they were once investigated and given up because they did not promise return of a certain percentage. I was told that they were given up on the score of percentages. They could be re-investigated and if found practicable they would be useful.

Q.—In connexion with these irrigation projects do you suggest that if the standard rates of return are lowered, Government may be able to take up some of the projects?

A.—Yes, if the re-investigation discloses that it is worth while.

Q.—Do you agree that the basis of taking up these projects is not merely the revenue that Government derive but the economic advantage that the country derives by their construction?

A.—On that basis it would be the people who should turn out in large numbers to construct them and not the Government.

Q.—What I want to suggest is that instead of these projects being kept as unremunerative on the basis of the amount of revenue that they collect, if the Government feel that a particular project is particularly valuable (apart from the returns) and will add sufficient wealth to the country then such projects could be taken on hand. The returns should include only that interest on the capital sunk on the project plus maintenance charges?

A.—The question is how Government are going to get the money.

Examined by Mr. F. M. DOWLEY: Q.—Will the value of the lands benefited by these new projects increase owing to their having been carried out?

A.—I think they would go up after the project is completed.

Q.—Do you think Government are entitled to any of the amount by which the value is increased?

A.—So long as the land is owned by private individuals I do not think Government can claim any extra valuation. But in respect of new lands taken up for cultivation as a result of the completion of these projects and in respect of lands which have been assigned under conditions owing to the possibility of the project coming into existence, Government can collect the increased value. My recollection is that for some years at least assignments have been made on conditional pattas owing to the possibility of the project coming into existence.

Q.—You admit that the value of the land will go up. Do you think it is for the Government to recover any portion of the extra value which the lands get through irrigation?

A.—I have said that the Ceded districts in famine years would be entitled to considerate treatment and it is on that ground I have suggested the re-investigation on a standard of lesser returns. Such re-investigation on standard of lesser returns would not be permissible if we were to consider only the remunerative aspects of such a scheme. It might be that the financing might be done from the famine fund or some other fund.

Examined by Sri KOTI REDDI: Q.—With regard to tanks you say you are against constructing new tanks. In areas where there are not many tanks what objection have you to construct new ones?

A.—We cannot construct new minor irrigation tanks where they do not now exist. The Vijayanagar kings examined the possibilities of tank irrigation and probably constructed tanks where we should have never thought of doing so.

Q.—With regard to spring channels the labour involved is so much and the rates which the Government now charge are so high that in a number of cases there is no attempt on the part of the ryots to do work and get it repaired. In such cases Government should repair them. Do you agree?

A.—I think these spring channels are fairly well maintained and their heads lie in river-beds. My recollection is that the Board of Revenue has under

consideration a proposal for revising the assessment on lands under spring channels to the extent of remitting the second-crop charge when a second crop is raised, and as the Board of Revenue has got this proposal in view and as I don't know in what stage it is, I do not feel very competent to say anything further.

Q.—From your experience you say that well cultivation below a tank area will be more useful?

A.—Yes, where favourable conditions exist.

Q.—Do you suggest that some form of labour like house construction, digging of wells should be taken up?

A.—I do not consider that well digging and house construction are suitable forms of famine relief. I have a little practical experience in this matter because it was suggested to me that I should undertake some wells. I started one at Peravali and one at Ratana both in the Pattikonda taluk. About 20 people were employed and about 10 feet was dug when rock came up which required blasting. Work was held up.

Q.—Can skilled labour be employed during famine relief?

A.—Only certain forms of skilled labour can be employed on such works. In a famine we have to provide for thousands of unskilled labourers. The main object is to preserve life by a selective way, by selecting for relief those who would suffer or perish if work or its equivalent wage is not given to them. Well-digging alone will not solve the problem of famine relief.

Q.—What is your objection to the employment of skilled labour?

A.—I have no objection. The only thing is we want to give employment to thousands and you cannot give even for tens under such circumstances, if you employ skilled labour only.

Q.—Digging of wells will be useful form of employment?

A.—Not exactly so. Because a well is not had for anything less than Rs. 1,000 in those areas.

Q.—The work that is turned out by spending money on famine labour is not quite remunerative and I don't see why a ryot should not be helped and a portion of his expenses met by the Government when it increases his income by digging a well, which is really useful?

A.—If you want to give a subsidy you will have to give nearly Rs. 500. It is a sufficiently well-to-do ryot who will dig a well for irrigation purposes. Now with that Rs. 500 you can feed 4,000 people for a day. I consider it is a problem of the balance of advantage and the balance of correctness of the famine measures employed as providing relief to the largest number of those who stand in need of relief.

Q.—You also have to make a provision for the future?

A.—What! for the future of a rich man!

Q.—If the rich man is not in a position to undertake it?

A.—I do not agree.

Q.—You suggest and you think that construction of buildings is altogether unsuited?

A.—I think so.

Q.—Take for example the village-site—the rebuilding of villages. With your knowledge of the villages in the black-cotton soil, do you suggest that an improvement in the construction of houses is desirable? I think an improvement in the construction of those houses for remaking the villages is necessary?

A.—I have strongly advocated it.

Q.—You also feel, Sir, that during famine times some of the skilled labourers like the masons, the Oddas, have also to be provided for, for they have also to live?

A.—Usually they have sufficient work and they do not attend famine relief camps.

Q.—Are they paid very much less?

A.—The question is what exactly the Government are trying to do in order to afford relief.

Q.—I know that problem. I suggest methods to solve this problem. I suggest that the large sums of money which are at present spent can be spent more

usefully by undertaking construction works which are of some valuable nature?

A.—I concede that position, Sir. But at the same time I must say that it is very difficult to suggest any of these works as forms of employment for large numbers of men and women. Where thousands are concerned and where their needs are to be met, we have to take up such works as would employ very large numbers of unskilled labourers and not a small number of skilled labourers.

Q.—Taking Bellary and the black-cotton soil in Kurnool, I think the only form of supplying drinking water is by providing vakkaramies?

A.—This provides an inadequate and unprotected supply. But an inadequate and unprotected supply is better than no supply, I agree.

Q.—Have attempts been made to dig bore-wells? Have they been successful in all places?

A.—Yes. Not in all.

Q.—Do the Government fear that the cost of such wells would be high?

A.—The Public Health Department objects to money being spent on water supplies which are not considered as first-class protected and healthy supplies.

Q.—With your experience of the Tungabhadra project scheme, can you say that it is not altogether impossible to have wet irrigation in the black-cotton soil areas near the Tungabhadra project?

A.—I know areas where wet cultivation has developed successfully and I have mentioned the Nandyal tanks in my written evidence.

Q.—Can the water of Tungabhadra be utilized for wet cultivation in black-cotton soil?

A.—Yes.

Q.—Have you at any time gone through the kitchens in the famine camps?

A.—No.

Q.—You believe that hand-spinning could be developed as a form of famine relief?

A.—I think it could be. It might be useful in the case of very old and also of comparatively young people to have this form of labour which does not require so much time under the sun.

Q.—Is there any difficulty in the way of development of this industry which you have observed in Kurnool?

A.—I was told that in Gudur hand-spinning was organized by a worker from Kurnool. Unfortunately he did not meet me and on the occasions I went to Gudur, the persons who were employed thus were not brought to my notice.

Q.—The only difficulty seems to be to find sales for the cloth on account of the high price. Supposing if a portion of the cost is met by the Government, I think the cloth could be sold and then it will be attractive to the poor or the rich man. Can spinning on a large scale be developed in the famine areas in the Ceded districts?

A.—The form in which marketing can be helped is to be decided by the Government. But what I say is that without a bounty or an equivalent of a bounty, mere patriotism will not secure the sale of this cloth.

Q.—I agree with that. Since the works now taken up are unremunerative, it is well that these sums of money are spent in a wiser way for serving the needs of the people. It could be given to the people now engaged in spinning so that the cloth may be sold much cheaper?

A.—I have no objection.

Mr. T. BHASKARA RAO, I.C.S., Collector of Kistna, was then examined.

Written evidence.

SECTION I.

The Ceded districts are situated in the centre of the peninsula and theoretically they should be served by both the south-west and north-east monsoons. But experience has shown that they rarely get the full benefit of either. The soil is generally poor, rainfall scanty and river or well irrigation limited. The cultivable areas consist of extensive black-cotton soil which is heavy and requires normal rainfall for the cultivation of lands and maturing of crops. The prosperity of the crops entirely depends on timely and adequate rainfall. As the failure of the monsoons is a normal feature and as the resources of the ryot population are generally slender, these districts are frequently affected by famine. The only way of mitigating famine in these districts is by providing permanent irrigation projects which depend for their supply on rivers flowing from distant places and which are unaffected by drought in the districts.

2. (a) (1) *Irrigation—Major*.—The Tungabhadra scheme is the only major irrigation project under contemplation. If this project materializes the following taluks of the Ceded districts will be benefited:—

Bellary district.—(1) Hospet, (2) Bellary, (3) Rayadrug, (4) Alur, (5) Siruguppa and (6) Adoni including Yemmiganur division.

Anantapur district.—Gooty.

Kurnool district.—(1) Kurnool and (2) Pattikonda.

This project will protect a large area of the Ceded districts now affected by famine.

I have some practical knowledge of irrigation under canals in Kistna and Ceded districts. In this district ryots very rarely resort to irrigating dry crops with canal water. It is true that ryots under the Kurnool-Cuddapah canal in Kurnool district take water mostly for the irrigation of dry crops. This is due to the nature of the soils of lands in the Ceded districts which are more conducive for the raising of dry crops. The selection of a crop—irrigated dry or wet always depends on the yield of the crop and on the rates of assessment. A ryot prefers to use water for the most productive or profitable crop, whether it is wet or dry. If he gets more income from a dry irrigated crop than from a wet crop, he will certainly give up the latter and take to the irrigation of a dry crop. If the land is classed as dry and is charged separately for water, he will be tempted to use water only when it is absolutely necessary. But if it is classed as wet with a consolidated rate of wet assessment, the ryot will be obliged to pay at that rate, irrespective of the crop raised thereon. Like the ryots under the Kurnool-Cuddapah canal,

the ryots of Bellary, Alur and Kurnool taluks also may use water for the irrigation of dry crops as conditions in those taluks are almost similar to those under Kurnool-Cuddapah canal.

2. (a) (ii) I have no suggestions to make for making the Tungabhadra project more useful than it can be, as at present designed.

2. (a) (iii) The Siddhapuram project of the Kurnool district which was constructed by Government at a considerable cost has proved a failure. It may now be investigated as to why this project has failed and whether there is any possibility of improving it.

The Cumbum tank has silted up and it is not receiving the usual supply of water on account of breaches in the banks of the Gundlakamma river. An investigation may be made for the improvement of this irrigation tank also.

2. (b) (i) *Minor irrigation and wells.*—It is true that the number of minor irrigation tanks and wells and the area irrigated by them are decreasing. This is mainly due to the fact that these sources have not been receiving water on account of scanty rainfall. Another reason for the decrease in the number is the silting up of the tanks.

2. (b) (ii) The silting up of minor irrigation tanks can be prevented by planting trees and scrub jungle in the foreshore lands through which water flows into the tanks as such plantation checks the inrush of mud into the tank bed. The digging of pits along the supply channels will also prevent to some extent the silting up of the tanks as the mud will be collected into the pits instead of being carried into the tank.

2. (b) (iii) It is true that minor irrigation sources and wells which are dependent on the season for their supplies will fail when there is a failure of the monsoon. There is, therefore, no use in increasing the number of tanks.

2. (b) (iv) I am, however, of the opinion that an increase in the number of wells will improve the situation. In block-cotton soils, the subsoil water is no doubt brackish and deleterious to crops. But if bore-wells are sunk to sufficient depths in consultation with water diviners, copious springs of fresh water can be tapped and the water can be used for irrigation. The ryots may therefore be encouraged to dig deep bore-wells by the grant of loans.

2. (c) *Contour-bund forming.*—I recommend the suggestion for the bunding of the lands in the black-soil areas, as it will minimize the loss of rain water in run-off and will increase the moisture in the soil. In fact I learn that this has been tried in Bellary and Alur taluks of the Bellary district during the last two years and found successful. Every minor irrigation source has a catchment area which is very limited. The bunding up of lands in other areas will not diminish the supplies to the minor irrigation sources.

2. (d) *Dry farming.*—Hagari Agricultural Farm is a typical area of the black cotton soil which is generally affected in years of sparse rainfall. The results achieved by researches made at the farm may therefore be made applicable to all black-cotton soils and the methods suggested for conserving moisture may be adopted to minimize the risk of failure of crops. The suggestion for growing mixed crops instead of pure crops is commendable in areas where the rainfall is precarious.

2. (e) *Afforestation.*—The area under topes can be increased by popularizing cowle tope rules and also by encouraging ryots to plant trees on poramboke margins. I recommend 'tamarind,' 'juvvi' and 'kanuga' trees for propagation.

2. (f) (i) *Alternative or subsidiary sources of employment.*—The following large-scale industries are possible in the Ceded districts:—

(a) *Slab industry.*—This is now carried on on a moderate scale in Cuddapah and Kurnool districts by private individuals. It can be done on a large scale if a limited company is started.

(b) *Slate industry.*—This is carried on in Markapur on a small scale. The wood required for framing slates is available in the neighbouring forest. The local merchants who are running the industry are earning enormous profits. A limited company may be formed and business started on a large scale.

(c) *Mining industry.*—Iron ores and barytes are available in Kurnool and Cuddapah districts. The mining operations may be carried on on a large scale.

(d) *Fruit canning.*—This can be tried on a large scale in Paniam of Kurnool district and Kodur of Cuddapah district.

2. (f) (ii) The following cottage industries may be encouraged:—

(a) *Cotton spinning.*—Cotton is extensively grown in the black-cotton areas of the Ceded districts.

(b) *Oil pressing.*—Groundnut also is raised on extensive areas.

(c) *Carpet weaving.*—This is now done on a small scale in Adoni, and it can be improved.

(d) *Cumbly weaving*.—Flocks of sheep are reared in Kuditini and other villages of Bellary district and wool is available in abundance.

(e) *Mat making*.—There is scope for improvement of this industry in Cuddapah district.

The above industries are now carried on by persons who have no capital and who depend for their finance on the local merchants who levy exorbitant rates of interest. What is required for the advancement of the industries is the supply of capital at a reasonably low rate of interest through a central organization formed on a limited basis.

2. (g) I have no experience of sparked water.

SECTION II.

Purposes of famine operations and principles of famine relief.

3. I agree with the statement of policy contained in the introduction to the Famine Code and section 127. No modifications are necessary.

4. *Chapter II of the Code*.—I do not suggest any modifications to the measures laid down in this chapter.

5. (a) *Chapter III of the Code*.—The opening of test works is a necessary preliminary, as that is the only practical and trustworthy means of deciding whether any distress requiring relief exists.

5. (b) The task imposed in respect of earthwork may be reduced to 80 per cent of the standard task as in the case of stone-breaking as most of the workers are unaccustomed to the nature of the work and the conditions under which it is to be done.

6. *Chapters IV and VI*.—I have no suggestions to make.

SECTION III.

Scale of wages and allowances and the diet scale.

7. I have no modifications to suggest to the existing classification of workers and dependants.

8. (a) The revised scale of wages and allowances in section 128 (a) of the Famine Code is adequate.

Provision may be made in the Code for the payment of wages to workers who cannot be safely admitted to camps by reason of any members of their families suffering from any infectious or contagious disease.

8. (b) The existing allowance for vegetables is sufficient. Normally it is not possible to obtain even the existing scale of vegetables during the hot weather. The type of individual who resorts to famine works is not generally accustomed to obtain this quantity of vegetables at that season in normal years.

8. (c) I do not consider that any measures are necessary.

8. (d) I do not suggest any modifications to the provisions regarding gratuitous relief.

SECTION IV.

9. The task work system is satisfactory and may be continued.

SECTION V.

10. The following works are more beneficial to the community than stone-breaking:—

- (i) Construction of major irrigation projects.
- (ii) Removal of silt from minor irrigation tanks and supply channels.
- (iii) Strengthening the bunds of minor irrigation tanks.
- (iv) Sinking of new wells.
- (v) Deepening and repairing existing wells.

SECTION VI.

11. In the circumstances stated in sections 33-A and 212 of the Famine Code, the expansion of ordinary works is necessary.

SECTION VII.

12. The system is not unduly costly: the scales of pay of the establishment have since been reduced.

13. As a result of my experience of the famine operations in Bellary in 1935, I made certain recommendations regarding the scale of diet under "other items," wages and allowances to dependants, cash doles to babies in arms, etc., and most of them were approved by Government. I have no other suggestions to make.

Oral evidence.

Sri R. SURYANARAYANA RAO: Q.—If as you say the ryot prefers to use the water for the most productive or profitable crop and if the dry crop is equally profitable, do you think classifying it as wet and charging a consolidated rate of wet assessment would not be a hardship?

A.—As he will get an assured and better outturn it will not be a hardship.

Q.—Is the outturn so great as to enable him to pay a consolidated wet rate?

A.—As he will get a greater outturn, he must pay.

Q.—I think you agree that he ought to pay. But what is the rate? Is the rate to be a wet rate?

A.—I suggest a consolidated wet rate to be decided according to the nature of the soil.

Q.—You believe that taking all the factors into account, it is wiser to provide for dry irrigation in the black-cotton soil?

A.—We must provide water for both dry and wet crops and leave it to the ryot to choose the crop he wishes to raise.

Q.—You said in answer to a previous question that 3 to 5 rupees was a reasonable rate?

A.—I think Rs. 5 is a reasonable rate.

Q.—You know Mr. Viswanatha Rao also said that the holdings of the Deccan ryots are fairly extensive. Now a ryot who has 100 acres of land in black-cotton soil, if there is good rain, pays only the dry assessment for the crop he raises. If you are going to charge water-rate do you suggest that the charge shall be made only when he takes water?

A.—He should pay water-rate for every cultivation whether dry or wet.

Q.—Would it not be a hardship?

A.—But it is going to be a permanent relief to him, and he is assured of a crop.

Q.—So you think he must be prepared to pay a compulsory water-rate?

A.—Yes.

Q.—Do you think he will be able to pay the water-rate?

A.—It will not be the full water-rate but only a compounded rate and I think he will be able to pay.

Q.—Suppose a ryot has to pay Rs. 3 and then you want him to pay compulsory water-rate of Rs. 5 and so in all he has to pay about Rs. 8 per acre. A pattadar who has a holding of 100 acres and who was paying Rs. 300 will now have to pay Rs. 800 whether he always uses the water or not?

A.—As it will be a compounded rate, it will not be Rs. 8 but something less.

Q.—It is a great disadvantage?

A.—If we take the average it will not be disadvantageous.

Q.—In view of the bad years in those districts will not imposition of a compulsory water-rate be felt as a burden?

A.—As Government provide water in bad years the ryot is assured of the crop and he will not feel it a burden.

Q.—You have mentioned in your note on page 2 that the Siddhapuram project is a failure. You have also suggested that it should be investigated why the project failed?

A.—I did not go into the question of the causes of the failure and hence I am not in a position to say why it failed.

Q.—So you think that in future the fact that Government has spent large sums of money for benefits which have not accrued, should immediately be rectified so that the people might get the benefits?

A.—Yes, after further investigation.

Q.—I would like to ask, are not Collectors empowered to raise all these questions as heads of the departments? (I do not know the procedure in these matters.)

A.—Yes.

Q.—The breaches in the banks of the Gundlakamma river is responsible for the inadequate supply of water to Cumbum tank. I would like to say, as the Collector is responsible for the collection of revenue, he should also be expected to see that the

sources of revenue are properly taken care of and that the ryot is provided with necessary facilities in order to raise crops so that he might pay the revenue?

Is the Cumbum tank a major tank under Public Works Department? Does the Public Works Department consult the Collector whenever estimates are prepared either for repairs or for maintenance?

A.—Yes.

Q.—I want to know whether there is co-ordination between the Public Works Department and the Collector. The Collector is responsible for the collection of revenue. It is his duty to provide necessary facilities to the ryot and if it is said that facilities are to be provided by the Public Works Department, what is the co-ordination between these two?

A.—Collector makes recommendations in regard to irrigation works and they will be duly considered by the Public Works Department. The Public Works Department also consult the Collector about proposals connected with the maintenance or irrigation works. (Mr. Swaminatha Ayyar intervening said that if kudimaramat has been long neglected who is to enforce it? It is beyond the capacity of the ryot.)

Q.—Is the kudimaramat enforced in regard to major and minor tanks?

A.—Yes.

Q.—If it was not possible to enforce kudimaramat in such works as Cumbum tank, is not the Government bound to keep these tanks and supply channels in good order?

A.—The Government are always bound to do so.

Q.—Then, why was it not done? (Not answered.)

Q.—If on the report of the Collector the Government found that kudimaramat cannot be enforced, should it not undertake the repairs?

A.—I think it should.

Q.—You have said that the area irrigated by minor irrigation works and wells is decreasing?

A.—Yes.

Q.—You have given two reasons: One is the scanty rainfall, second is the silting up of the tanks?

A.—Yes.

Q.—The Collector is responsible for the maintenance of the minor irrigation tanks and the removal of the silt is part of the duties of the Revenue department?

A.—Yes. Silt clearance in supply channels has to be done by ryots as kudimaramat.

Q.—Even there kudimaramat comes! Non-enforcing of it, practically leads to these tanks being left unattended?

A.—Not in all cases.

Q.—In what cases does the Revenue department attend to the repairs and maintenance, where kudimaramat cannot be enforced?

A.—Revenue department attends to repairs of masonry and earthwork and reconstruction of damaged works.

Q.—You know sometimes that an ayacut under a tank is decreasing because of the insufficient supply of water?

A.—Sometimes.

(Sri R. S. Suryanarayana Rao here read from a passage and said that he found in very many cases that the following words are noted: "It is not paying to maintain—abandoned." "Return is inadequate—abandoned.")

Q.—Is that the reason for not maintaining or for abandoning the irrigation sources?

A.—Mr. V. N. Viswanatha Rao made this point very clear. We have got some allotment given and we have to distribute it to all tanks.

Q.—If the allotments given are more, of course the Collectors would be too glad to repair all the tanks and keep them in proper order?

A.—Yes.

Q.—Is the minor irrigation staff in each district adequate to look after all these tanks?

A.—Yes, generally.

Q.—Do considerations of adequate returns play a great part in the choice of work or is it the productive nature of the work that is the guiding factor in starting a work?

Supposing there are two tanks A and B and A has an ayacut of 200 acres and B of 300. Mr. V. N. Viswanatha Rao was saying that it may not be possible to cultivate the full ayacut because of the inadequate supply of water?

Do you undertake the repair of tank A or B which gives a greater assessment?

A.—I don't think we take that into consideration. It is our duty to keep all tanks in good repair provided the return is adequate.

Q.—You have suggested, in your written evidence an increase in the number of wells. Now what concessions are given under the various Acts. I know the concessions given under the Land Improvements Loans Act. Do you think those concessions are enough to undertake the digging of wells at least in areas where water can be found?

A.—The present concessions are adequate.

The difficulty is that there is not sufficient security for granting loans freely.

Q.—Do you agree with Mr. V. N. Viswanatha Rao's suggestions that for people having no security, the Government might dig wells, supply them with water and charge water-rate?

A.—You mean in private lands.

Q.—You have suggested the difficulty that the people in Ceded districts do not find it possible to use the facilities even in places where wells can be had. So the only way I think is, as Mr. V. N. Viswanatha Rao suggested, that the Government might itself dig the wells and charge water-rate?

A.—I agree with that view.

Q.—Then there is another method which has been suggested before the Irrigation Commission and what is called Grimley's scheme, I will just mention the summary. The Government digs the wells, collects at the rate of 1 anna or 9 pies in a rupee every year and after the ryot pays the whole amount he is allowed to become the owner. Till then the land under the well is mortgaged to the Government. Do you think that system will be of help?

A.—It may not be possible to undertake to dig wells for irrigation purposes all over the Ceded districts. But it may be tried wherever possible.

Q.—You were Sub-Collector in Penukonda sub-division?

A.—Yes.

Q.—Did you come across many abandoned wells? The wells are abandoned either because the springs were dried up or because the pattadars not in a position to repair them?

A.—Several wells were found like that.

Q.—Do you think it is wise if the Government took up such wells, repair them and maintain them and charge water-rate?

A.—Most of them dried up for want of springs.

Q.—When you were Collector of Bellary, you have read the report of the trial borings made by the Department of Industries.

Of course the results were not quite satisfactory. Do you suggest deeper borings for better results?

A.—Yes.

Q.—Do you suggest a scientific geological survey to find out underground water sources?

A.—Yes.

Q.—You have suggested the growing of topes. In the Ceded districts you know even in the black cotton soil topes existed and topes in small villages have now almost become extinct. Do you suggest any method by which you can encourage these topes?

A.—Do not charge for first few years.

Q.—You also suggest the growing of trees in the poramboke margins. Is it by the Government or the ryot?

A.—By the ryot.

Q.—You mean the usufruct being enjoyed by the ryot, the owner being the Government?

A.—Yes.

Q.—What do you think of the large scale cultivation of tangedu and aloe in the Ceded districts? I remember that an estate in Ceylon is carrying on a big business in this. It has refused to give me particulars when asked by me?

Do you think apart from the use of tangedu for some drinks like coffee an extensive cultivation of it will be useful?

A.—Yes.

Q.—You know in Ceded districts cotton is grown extensively and that the weaving industry consumes large quantities of imported yarn. Do you suggest the erection of spinning wheels to be beneficial?

A.—Yes.

Q.—As capital is not likely to be forthcoming owing to adverse seasons, the people have become poor?

A.—Outside capital may come in.

Q.—Do you think that the State should give some sort of fillip to this movement?

A.—Yes.

Q.—As regards cottage industries you know the difficulty of financing and marketing. Do you think the co-operative method is best for financing and marketing the products?

A.—Yes. I do.

Q.—Do you think that khadi, as Mr. Koti Reddi asked Mr. V. N. Viswanatha Rao, can ever be organized on an economic basis?

A.—I have got my own doubts. But as a form of occupation in famine it can be recommended to gosha women and women of respectable status who would be unwilling to go to the work spots.

Q.—You have said in your written evidence that you agree with the introduction to the Code?

A.—Yes.

Q.—Do you think that the sentence which deals with the object of famine relief is in accordance with the modern ideas of the duties of the State towards those that are unemployed?

(Here he read from the book and referred to paragraph 3.)

Do you agree with the policy?

A.—Yes, I agree with the policy.

Q.—Do you think that the ryot and the agricultural labourer who work on the lands and produce grains become unemployed because of the scanty rainfall, ought not to be maintained at the normal level of comfort or at least saved from all sufferings? Should he not be kept in the normal state so that when the rains fall he can be in a position to go back and cultivate the lands?

A.—After the famine is over he is quite able to resume his normal occupation.

Q.—It is said a man has to be saved from starvation, in the Code. Should he not be kept sufficiently strong to go back to active work and should not the State provide for such comforts and necessities so that he may be in a position to go back and work on the lands?

A.—The present comforts they get are quite enough to make them go back and follow their normal occupations.

Q.—The object of the relief is said to be to save a man from all difficulties—physical, mental and psychological. Is it not the duty of the State to take care of the ryot and the agricultural labourer and are they not entitled to normal state of comfort or at least saved from all sufferings?

A.—My experience is that people after the relief work are quite healthy and follow their normal occupations.

Q.—There are countries where there is industrial unemployment and doles are paid to the unemployed. It is the capitalists who run the industries and yet the State pays the unemployed the dole?

A.—Yes.

Q.—If so, it is the ryot who contributes largely to the revenues of the State and when he is in distress, is he not entitled to some sort of help from the State in order to keep him in the normal level of his comforts. The unemployed man who does no work at all is paid the dole. But the ryot who in better times could work and contribute to the revenues is not at all helped by the State. Don't you think that he deserves better treatment than the Code offers?

A.—I am afraid it is too big a question.

Q.—Don't you think that you get more than enough work in the famine camps for what you pay?

A.—No; the worker's dependants also are maintained at the cost of the State.

Q.—Should not the ryot and the agricultural labourer be kept free from mental, moral and physical depression so that after the famine they may be able to go back and work on the lands? Do you think that the regulations under the Code enable him to be free from such depression?

A.—I think they do.

Q.—This leads me to the question—page 12 section 33. The failure of rains causes anxiety and hence it is most important that active preparations should be made with the object of putting heart into the people. I think there is no greater evil than depression of mind. Mental depression leads directly to physical deterioration, what do you think are the best methods of preventing such depression?

A.—Provide labour.

Q.—Don't you think that some sort of remission or suspension would be the first thing to be announced in order to keep him off from such depression?

A.—Yes. It is generally done. We do announce remissions.

Q.—This year the remissions were not announced till June. For nearly six months the ryots were in a tantalising position. They were not sure whether they will get full remission or half remission. Don't you think that the first thing that the Government should do is to announce the concessions?

A.—Yes.

Q.—I think remission is preferable to suspension?

A.—Yes.

Q.—You have suggested, in your written evidence, the expansion of minor irrigation works?

A.—Yes.

Q.—You were here when the question of taking up test works or expansion of minor irrigation works was discussed by Mr. V. N. Viswanatha Rao?

(The CHAIRMAN: I think he was not here at that time.)

Q.—Do you prefer test works or expansion of minor irrigation works?

A.—It should be test works straightaway.

Q.—You have said in your written notes that from your experience that works are invariably incomplete unless the lead was increased?

A.—Yes.

Q.—Don't you think that the earthwork tasks have been low when compared to the other work?

A.—I have suggested it to be reduced to 80 per cent in the beginning of the test works.

Q.—When you were Collector of Bellary the earthwork was started during the dry season. They found it difficult, but when the rains came they found it easy. So you think that a certain reduction of earthwork task is needed?

A.—Yes.

Q.—In 1934 you were intimately connected with the famine relief. Village work was one of the forms of relief?

A.—Village works would form part of the ordinary programme of relief work. They can even be taken up in the early stages.

Q.—What kind of village works are best suited for our districts?

A.—Sinking of wells, etc.

Q.—Mr. Clerk has examined that question and has decided against it for practical difficulties. Do you think that practical difficulties could be overcome by substitution of different kinds of removing earth?

(No answer.)

Q.—What do you suggest apart from digging of wells?

A.—Village communications, tanks repairs and general rural uplift work.

Q.—Do you think that it is necessary to reserve these till the last?

A.—I don't think so.

Q.—You don't object, while you are proceeding along a certain road, some gang men being employed in the village work.

A.—Village works are generally taken up beyond a radius of 5 miles from the test work.

Q.—When a number of gang men are engaged in a work, will it not be profitable to employ some in rural improvement work along the route? You had your model village in Bellary and a feeder road was constructed?

A.—We ought to take up such works which will be useful.

Q.—From your report I find that you had issued instructions to your officers to work out the costs of every item of the grain table. Class I labourer got 90 tolas of grain. You asked your subordinates to find out the cost of each class and what they would get. What do you think it would be when compared with the items?

A.—My method is really advantageous to the labourer.

Q.—Supposing for 10 tolas, you ask him to purchase 10 tolas of some other grain. Will it be advantageous?

A.—I have already examined what quantities of grains could get the grain equivalent of another variety.

Q.—In your report you have stated the scale of diet is inadequate. But in your reply to the memorandum you have said that you are satisfied with the scale of revised allowances.

A.—Yes, as there is an increase of 10 tolas in the scale of allowances.

Q.—Do you think even after the table on page 37, the increased grain equivalent is equal in some cases to increased provision of vegetables?

A.—Each and every item has been calculated by me and I am satisfied that it is enough.

Q.—Did you work out the figures for V (b), (c) and (d)?

A.—Yes, I have worked out every item.

Q.—There is no increase for certain items.

A.—I have said that there is no need for an increase where it is not necessary and I did not hear any complaints about the revised scales.

Q.—Had you any occasion to go through MacMichael Committee Report?

A.—I had no occasion.

Q.—How does it compare with the jail diet of a non-working prisoner?

A.—I have no idea.

Q.—In famine camps men have to work for nearly 8 hours.

A.—Yes about 8 hours.

Q.—The basis of the price is fixed on the rate prevalent at the nearest market.

Don't you think that the rates in the nearest market differ from the rates obtaining in the villages?

A.—I don't think the difference is appreciable.

Q.—Do you think that the market rates are cheaper than the ordinary rates?

A.—You must have some standard rates. During test works people come from different villages and we cannot take the rates obtaining in all the villages.

Q.—You have to take the rates of the headquarters.

A.—That is why we take the rates obtaining in the nearest shandy; ordinarily things are purchased in a shandy in normal times.

Q.—I am talking of abnormal times. The man buys his food every day after receiving his wages?

A.—In fixing the rate we generally take the prices prevailing at the nearest shandy, as they will be cheaper than those in villages.

Q.—I don't agree that the nearest shandy will be cheaper than the nearest village.

Q.—Before you start the test works, generally it takes some time for you to find out the situation? Should not the dependants of the workers be given some allowance or dole?

A.—In the initial stages we find some private charities coming to the aid of the sufferers.

Q.—Do you think that giving allowances for the dependants will not be a sufficient inducement to come to test works or it will not in any way lessen the rigour of the test period?

A.—It is a test period and it should really be a test.

Q.—You make them start from long distances?

A.—I don't think so.

Q.—It was suggested that mature grain will be better than the light grain?

A.—Yes.

Q.—You know that when a worker fails to complete the task there is a reduction in his wage as prescribed under the Code. There is no minimum prescribed beyond which a wage should not go down. Do you not think that prescribing a minimum would be helpful?

A.—I think it may be desirable but as to how the minimum is to be fixed is the question.

Q.—Under section 134 if a worker is disturbed on account of rain before the close of the day the worker is entitled only to the dependant's allowance. The cause of disturbance is one over which the

worker has no control. Don't you think that he should be given the full wage?

A.—If the worker goes away before interval or as soon as the work is begun he should be given only the dependant's allowance. But if the work is closed after the interval he must be given the full wage whatever the amount of task is.

Q.—Though the Code lays down that the work should serve a radius of 5 miles it is not always possible to start a work. Naturally some people have to walk from long distances ranging from 5 to 10 miles. If a person has to walk a certain distance, certain amount of energy and time is spent in walking. To that extent the energy of the person to complete the task is lessened?

A.—I think it does not make much difference.

Q.—Beyond a certain distance and in view of the fact that it is not possible to start works according to the Code a kind of distance allowance not by means of money which they were getting in olden days but by lessening of the task should be permitted?

A.—The class of people who come to famine work are accustomed to walking fairly long distances and the additional distance of a mile or two will not matter much. Generally they start early and come in at the proper time; the suggestion may however be considered.

Sri KALLUR SUBBA RAO: Q.—What have you to say about the Sangameswaram project for which a site in the British territory was suggested at Kondaprakudur by the Arogyaswami Committee. Do you think it not advisable to investigate that also?

A.—I said about Tungabhadra project. I have no knowledge of this project. If it is beneficial it may be taken up.

Q.—Suggestion has been made that pumping plants may be established by the Government on banks of the Hundri, Pennar, Chitravati and Hagari for purposes of irrigating crops. Would you support it?

A.—It will be useful. It can be tried.

Q.—You know that there are wells in the tanks. Will they not be useful during drought seasons?

A.—Yes; but there is some objection to them as they are likely to drain off water by seepage when the tanks get supplies.

Q.—What do you think is the best method for silt clearance in the tanks?

A.—Kudimaramat must be enforced.

Q.—What do you think should be the definite policy of the Government to encourage tree growth in famine areas? Do you suggest that when a ryot plants trees in porambokes the usufruct should be his? If so, how would you prevent felling of the trees by the ryot for his own use?

A.—There is no water and no trees can be grown. All those things we have tried in our panchayat forest and we have failed. The Government have control over the trees and do not allow them to be cut.

Q.—You have suggested slab industry as a large scale industry?

A.—Yes.

Q.—Is it not a fact that many a good cultivable field is being laid waste for this industry?

A.—I do not think so. I do not think the areas will be appreciable.

Sri K. KOTI REDDI: Q.—There is not so much of export of Cuddapah slabs as there used to be because of high railway freight. Will not the reduction of freight help them?

A.—Reduction of freight will certainly encourage export.

Q.—With regard to the development and maintenance of big or small tanks, even if some of these tanks were filled up once in three or four years it is worth while to have these tanks because there is a possibility of rise in the sub-soil level round about the tanks so much so the wells, will really be useful. Do you not think it necessary to have some more tanks?

A.—I do not think it necessary to have any more tanks. The cost of construction and maintenance of tanks will not make it worth while having them. You may have any number of wells instead of tanks.

Q.—The children partake of the meals with their parents which they take before they come to work. Thus the parents are deprived of a share that is allowed to them under the Famine Code. If that is so, some means must be devised that this thing is prevented?

A.—This we cannot do.

Q.—What you allow them is only just sufficient to keep them healthy and there is no provision for clothing. Don't you think that there should be a provision for clothing?

A.—What they get in famine days should be sufficient to provide them with clothing also. A family earns more in famine days than in normal times.

In normal times the earning of a family consisting of a husband, a wife, one boy above 14, one child between 12 and 14, one child between 8 and 12 and child below 8 with an old dependant father or mother, will be only about 5 or 6 annas. During famine time the family gets about 8 or 9 annas taking the price of grain at 12 seers per rupee. This is just enough to maintain them—

	A.	P.
Husband	...	1 9
Wife	...	1 6
One boy above 14	...	1 6
One child between 12 and 14	...	1 3
One child between 8 and 12	...	0 9
One child below 8	...	0 6
One old father or mother	...	1 3
		8 6

Q.—Then do you mean to say that they are underfed in normal times?

(No answer.)

The Chairman drew the attention of the member to the fact that the question they were considering was only about the famine times and not normal times. Hence the member should confine himself to the famine time only.

Q.—So you think that there is no need to increase the wages?

A.—Yes (Mr. Wood also said the same thing).

Q.—How is the clothing to be provided?

A.—I would like private charity to do this. I do not think the Government should be asked to provide clothing.

The Committee rose for the day.

17th August 1938.

The Committee reassembled at 10 a.m. in the Board's office with Mr. C. A. Henderson in the Chair.

The following members were present:—

Mr. F. M. Dowley.

„ H. R. Dogra.

Sri Diwan Bahadur N. Swaminatha Ayyar.

„ T. A. Ramalingam Chettiyar.

Dr. R. Adishesan.

Sri K. Koti Reddi.

„ Kallur Subba Rao.

„ R. Suryanarayana Rao.

„ N. Sankara Reddi.

„ H. Sitarama Reddi.

Abdul Rawoof Sahib Bahadur.

Mr. D. I. R. Muir, the Secretary to the Committee, was also present.

Mr. A. A. SMYTH, Executive Engineer, Salem, was examined.

Written evidence.

1. I consider that the only effective method of preventing or effectively mitigating famine in the Ceded districts is by the execution of the Tungabhadra project.

Any minor projects will have to depend on local rainfall and will generally not be of much use in a famine year, except in so far as in good years they will be useful and increase the reserve of the local people against famine on a bad year.

I understand that the possibility of artesian wells is being investigated but I doubt if it is possible for these to do much more than improve drinking water facilities which of course is very desirable.

They might also be useful for cultivation, but in my opinion only to a very minute extent and would not appreciably improve the general agricultural prospects of these districts.

2. (a) (i) I have had experience of irrigation in Madura, Trichinopoly and Salem districts. So far as the Tungabhadra project is concerned, I am not aware of its details, whether it is to be a 'wet' project or an irrigated dry project or a combination of both types. I personally consider that it does not matter to a great extent what crops the ryots will grow, so long as they make the best use of the water according to the type of soil, etc. I also don't think that it would matter a great deal if the water were not utilized to its fullest extent in years of good rainfall in the districts so long as it would ensure that good crops would be grown in the area in all years and this terrible recurring pestilence removed from the districts.

It seems to me that a combined scheme of irrigated wet and irrigated dry crops is one which would be most suitable to the districts and most easily adopted by the ryots. Such a scheme by its ability to irrigate a considerably larger area would in my opinion afford the greatest relief in preventing famine. I do not know to what extent the Tungabhadra project covers the famine-affected areas, but it is bound to improve conditions in the adjoining areas also as it will give enormous employment. Large tracts of land are now cultivated precariously with a minimum amount of labour, whereas much more labour will be required in the irrigated area, and employment will generally always be available. Full development of the area would be slow on account of the scanty population.

2. (a) (ii) I am unable to offer any remarks on this, as I do not know the design of the present project.

2. (a) (iii) The only other project that I know of in the area is the Pennar-Kumudavati project but this will generally only be beneficial in ordinary years and is not likely to be very useful in actual famine years, except as described in my reply to question 1 with regard to minor projects.

2. (b) (i) I am unable to offer any opinion on this.

2. (b) (ii) It is impossible to prevent silting up of tanks and the only way of dealing with this is to thoroughly investigate groups of tanks and restore their original capacity by increasing the full tank level. I think that this can easily be done in the case of tanks in the Ceded districts as generally there is no foreshore cultivation involved, such as is generally the case in North Arcot and Chittoor districts.

The only thing is that this must be done groupwise and not for individual tanks as otherwise the balance of distribution among the various villages may be upset.

2. (b) (iii) I generally agree that such tanks will fail during famine years but that does not mean that they will therefore be of no use in years of famine as during the good years, the ryots will have had better crops and will have an increased reserve to tide over the famine years.

2. (b) (iv) I doubt if an increase in the number of wells will materially improve the situation.

I am unable to offer an opinion.

2. (c) I have not yet seen the Villagers' Calendar, 1938, and the report referred to: but I am of the opinion that small bunding up is very useful in helping to saturate the black soils and enable them to retain moisture for a longer period.

I strongly recommend the suggestion and I believe it is being practised successfully in Coimbatore district. I doubt if this bunding up will materially diminish supplies to the minor irrigation sources, as it is only small rains that will be held up, whereas heavy rains will give a good run off and flow through the weir if provided or breach the bund. Only small rains which would be of little use to the minor irrigation sources would be held up, and hence I consider that such bunding up will not materially affect the minor irrigation sources.

Further there are very few minor irrigation sources in the black soil areas affected by famine, so far as I know in Bellary district, Gooty and Tadpatri taluks of Anantapur district.

2. (d) & (e) I regret I am unable to offer any suggestions. (This may please be referred to the department concerned.)

2. (f) (i) I consider that large industry would not be possible in the Ceded districts, on account of lack of natural resources, poor transport facilities, and long distance from both sources of supply and the consuming markets. Transport would kill any such industry.

2. (f) (ii) Cottage industries should in my opinion be encouraged as much as possible. Khaddar seems to be the most suitable, particularly as cotton is grown in the area.

During the last famine it was a great pity to see that the relief committee did not purchase the cloths, etc., from the local cottage industries as their price was a little higher than that of mill-made cloth. Some people were agitating for famine relief to weavers, etc., and it was only when the then Famine Commissioner made an investigation and instructed the relief committee to get their supplies from the local handloom weavers, that this was done and was of great benefit to that community, whose employment had been greatly reduced by the complete lack of purchasing power of the labouring classes and poor ryots, due to the famine.

3. I consider that the policy laid down is a suitable one and needs no modification. My experience of the Ceded districts even in normal times was that the standard of living in the famine areas is very low indeed and the scale of food and allowances laid down in the Famine Code are generally as good, if not better than the usual standard of living in normal good years. The existing standards might have to be slightly modified, if famine were to break out in districts where the standard of living is generally much higher than in the Ceded districts, but I feel that it would be really wrong to lay down a standard for famine which would be above the normal standard of these districts.

4. I consider that the present measures are adequate and I have no modifications to propose.

5. (a) I consider that test works are necessary in order to prevent abuse. I am of the opinion that they should be of as short duration as possible. If these show that there is no need to declare famine soon, the needs of the locality would probably be met for some time by expansion of ordinary works. Further tests could be tried if distress increased.

5. (b) (49) I consider that no modification of the test work conditions is advisable. The test should be strict and if it is found that large numbers are resorting to it, it should be rapidly converted into a relief work but if few resort to it, it should be closed and the slight distress prevailing met by expansion of the ordinary works. I consider that the limited piecework system is unsuitable for test works.

5. (b) (50) At this stage gratuitous relief should only be given with great discretion and in the form of cooked food.

6. *Chapters IV and VI.*—I have no modifications to propose and I consider that the provisions are adequate to deal with any situation that may arise.

7. *Section 97.*—I do not think that any change is necessary provided the classification is done in a sensible manner and with discretion.

I would, however, suggest that the age-limits of class III be 12-16, instead of 12-14.

Section 116.—I do not think that any change is necessary provided reasonable discretion is used, e.g., if one gets a big healthy boy or girl of 7 or 7½ years of age able to eat more than the ration laid down for V (c), it may be left to the charge officer to classify him as V (b), in order to ensure, he gets enough to eat.

This will seldom be necessary but it was done in the last famine on a few occasions.

8. During the last famine, allowances were paid in accordance with the scales laid down in section 128 with the addition of 1 pice per person except in the case of V (d) and V (e) for the purchase of vegetables. This scale was found to be very satisfactory and maintained the relief workers and their dependants in good health. This was particularly noticeable in the case of the dependants who were fed in the kitchens. Every inspecting officer remarked on the wonderful health of the children.

I am convinced that the scale of allowances was satisfactory and adequate to meet the requirements of the people provided it was utilized for the purpose it was given.

I do not think that Government can be expected to do more. I will also give an example of the earnings or allowances of a family as actually paid during the famine of 1935. Taking an average family of five, i.e., father, mother, one child over 12, and classed as a III class worker and one each on V (a) and V (c).

	A.	P.
Father	2	0
Mother	1	6
III class child	1	6
V-A child	1	0
V-C child	0	9

Total wages ... 6 9 per day
or Rs. 12-8-0 per mensem.

The family income would be the equivalent of Rs. 12 per mensem which is the pay of a Government peon out of which he has generally to pay rent, whereas relief workers generally have their own huts in the villages.

Rs. 12 per mensem is a comparatively good income in the Ceded districts and a peon's post is a very much sought after job.

I made enquiries about the normal pay of agricultural workers at various places, and I found that a general agreement between full-time labourers and their masters was Rs. 30 per annum, with one meal per day. Clothes at Pongal and Deepavali and a few bags of grain at harvest. Their families would be employed only at sowing, weeding or harvest times.

I therefore think that the allowances paid under the Famine Code in 1935 are sufficient to maintain the normal standard of living in these districts and I feel sure that it would not be right for Government to provide a better than normal standard during actual famine.

8. (b) The existing standard for vegetables as laid down in the Code was found to be rather low and hence one extra pice per head was given in 1935 and this was found to be satisfactory.

I would suggest that this extra pice for vegetables should be maintained as a specific extra allowance for vegetables and not amalgamated in the scale of allowances.

No difficulty was found in getting all the vegetables required for the kitchens, such as brinjals, onions, greens, chillies, etc., and they greatly improved the health of the children. They were also very cheap.

I, however, doubt if the type of person who resorts to relief works, normally uses vegetables very much.

8. (c) It is very difficult to suggest means for ensuring that the worker spends his entire wages in the purchase of food only. The provision of grain dealers in the camp area selling foodstuffs at prices according to which the allowances are based was found to be very useful though not actually much resorted to by the relief workers. It was most useful in so far as it kept the local bazaar prices down to the same level preventing hoarding of grains and raising of prices.

8. (d) The only experience of gratuitous relief that I had was on relief works in the shape of cooked-food for dependants of workers and this I consider to be far and away the best form of gratuitous relief ensuring that the purpose for which the money is spent is fully attained and having the least possibility of being abused. Next to this, payment of gratuitous relief in the shape of grains or foodstuffs is preferable and cash doles should in my opinion only be adopted when either of the above methods are not practicable.

In the distribution of cash dole on a large scale it is very difficult to prevent abuse and petty fraud.

I am unable to propose any modifications to the existing system, except that cash doles should only be resorted to when it is not practicable to give relief in the shape of cooked food or foodstuffs.

9. In my opinion the task work system is the most practicable and suitable form of work for relief works. With the exercise of a reasonable amount of discretion on the part of the charge officer and the work agent it is fair to everybody and gives all a very good chance of ensuring their full allowances.

As regards paragraph 112, I consider that it is necessary to add the proviso that the wages paid should never be less than the rest day allowances. The task-work system is very workable and easily adoptable for all kinds of work and is eminently suited for all classes of relief works.

In my opinion the whole system and the details of actually working of the system have been extremely well-thought out based on large practical experience. The tasks are very reasonable and the system is very fair to the workers. The system is also drawn up and explained in such a manner that it can be very easily applied and got into proper swing in a very short time even by charge officers and work agents who have not had any previous experience of famine works. All that is required on their part is willingness to work honestly and an average amount of intelligence.

After having worked the system on a large scale for about a year in the famine of 1935, I am unable to offer any proposals for improvement. The piecework system is not nearly so practicable.

SECTION V.

10. Repairs or improvements to irrigation sources should be taken up wherever possible. This was done with considerable success in the famine of 1935, in the repair of tanks and supply channels to tanks. Unfortunately this was only possible in parts of Hindupur, Penukonda, Dharmavaram and Gooty taluks.

In the other areas it was not possible as there were no tanks and all I was able to do was to repair and improve a few drinking ponds.

It would also be possible to take up the construction of small tanks or do the earth work of a small scheme such as the Pennar-Kumudavati scheme in Hindupur taluk by relief works, but in such a case it would be necessary to increase the technical staff in order to ensure good work being done. Of course the plans and details would have to be ready in advance. The necessity for the extra technical staff is due to the fact that the work done below the full tank level of a tank must be done properly otherwise the tank would leak and become either useless or a recurring source of expenditure on repairs.

Works such as were done in 1935 were only repairs and hence the normal staff was sufficient as work was only done above full tank level or on the existing side slopes.

During the test period, however, road works are the easiest to start with and to arrange, particularly as in the early stage we get a preponderance of female workers, and only weakly or second-class males. The able-bodied men do not generally come early.

After the test works are converted into relief works, the workers can be gradually transferred for irrigation works and properly organized for this class of work. I remember in December 1934, when the first test work was opened in Hindupur taluk we were able to take in about 1,800 workers on the first day and from the second day onwards they were able to earn their full wages every day. This would not have been possible had earth work been involved.

11. Extension of ordinary works in the locality such as repairs or improvements to roads or repairs to tanks are suitable for giving relief when the distress is not severe and as a preliminary to test and relief works.

They would also meet the case when it is known that there is distress in an area where a test work has had to be closed down, though the distress would not be sufficiently acute to attract workers to test works.

In such cases extension of ordinary works are useful but in my opinion they are not of much use when famine is acute.

12. I do not consider that the establishment on relief works is unduly costly. It is no doubt fairly high, but it works out to be very small when the actual units relieved are taken into account.

The figures of these units are enormous. Taking the famine of 1935 when there was an average attendance of over 1 lakh per day, the units worked were over 7 lakhs per week. Unless proper establishment is provided and does its work thoroughly and honestly, there is bound to be an enormous amount of petty fraud.

I will give an example of how this can easily be done. Take a relief work with about 6,000 attending. There will be about 20 or 25 maistris on a low pay of Rs. 15 or Rs. 20 and if not carefully watched there will be the temptation for each of these to add two or three fictitious names in each muster roll of his gangs. Suppose 10 maistris add 3 fictitious names to each of his gangs, i.e., about 40 gangs or 120 names which will mean a fraud of Rs. 12 to Rs. 15 per day on one relief work. With about 20 relief works in progress, this means a loss to Government of Rs. 300 per day. In order to prevent this we must have adequate and proper supervision. Another point to be remembered is that once this would start it would tend to increase rapidly and it would be almost impossible to eradicate.

The system of checking gangs is an excellent one but is only effective if thoroughly done by all inspecting officers and drastic action has to be taken, once any fraud is detected. Perhaps one might complain about the large number of maistris employed, but these are generally drawn from the partially educated classes who have lost their usual means of employment due to the presence of famine in the locality and they may actually be considered to be relief workers belonging to the educated classes. An intelligent maistri is generally able to look after about 300 and a less intelligent one about 200 relief workers. I consider that the establishment is necessary in order to see that money is properly spent, and relief is given to the proper people and that there is no fraud, etc.

13. I am unable to offer any suggestions in any of the other chapters of the Code. The Code, in my opinion, is a most complete and well thought out one, practicable, easily workable by officers and subordinates of average intelligence and well suited for the relief of famine of all classes.

Oral evidence.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—You have been in charge of the camp in 1935?

A.—Yes.

Q.—You get gangmen and coolies from places which are long distances away?

A.—Yes.

Q.—You don't make any allowance for the long-distance walkers in the task you set for them?

A.—No.

Q.—Is it not fair that people who walk from 3 to 4 miles should be shown some concession?

A.—The task prescribed in the Code is a very lenient one. I think there is no necessity to make any relaxation in the rules unless some very special case is made out.

Q.—Don't you think as a matter of fact that in some places large numbers of people are not able to do the task set for them?

A.—I did not find any difficulty in getting the task done from people who were willing to work.

Q.—That is a different matter. Was it not a fact that some people were not able to do the task set for them?

A.—There were instances when people finished the work by 1 o'clock and wanted to go home.

Q.—Don't you think that it is rather difficult to make men work after walking 3 or 4 miles? Is it not fair that there should be some sort of concession shown to them?

A.—I don't think up to 3 miles it is unduly difficult for them to walk. We normally get coolies for work from distances of 3 to 5 miles and they do three times heavier work than they do in a famine relief.

Q.—Don't you think that a man becomes inefficient after walking a long distance and for some time he will not be in a position to do the work. I think that is the experience everywhere else. Is there not a waste of energy? Should there not be some concession shown to such people?

A.—I never found any difficulty in getting the work done by coolies who were willing to do their work.

Q.—Don't you think that some concession is at least necessary?

A.—I don't know whether it is for me to answer.

Q.—I am asking you. I want your opinion. Is it fair to get the same work done by two sets of people—one set coming from a close-by village and the other from a distant village?

A.—There is no refuting your argument.

Q.—You are for giving one pice extra for vegetables?

A.—That was what was done in 1935.

Q.—Have you gone into the kitchens? Have you seen the food? Can you give some idea of the procedure that is followed there? What do you think of the columbu (soup)? Is it not rather watery and light?

A.—In some of the camps they make it thin and in some others very thick. It all depends on cooking. I think they add some flour to make it thick.

Q.—There is no flour allowed. Is it not?

A.—They take some flour from the cakes. In Bellary we used to make the food to suit the taste of the people. Generally it is done to suit the local conditions.

Q.—Don't you think that some sprouted pulses and things like that are necessary?

A.—We were doing it in 1935. The extra pice was spent on buying additional vegetable.

Q.—So you support that idea?

A.—Certainly I am in favour of it. We found that it gave very good results.

Q.—Coming to the particular area what permanent improvements have to be made to ward off famine? You don't believe in wells as a means of protection in the area?

A.—I don't think we can cover the whole area with wells. It may help individuals but not the population at large.

Q.—It is through individuals you help the population?

A.—Yes. But the scope is very limited. They have to go to tremendous depths. In 1934-35 there was a lot of difficulty and we had to go 4 or 5 miles to get drinking water for famine camps.

Q.—You have served in what districts?

A.—In Bellary and Anantapur and Chittoor districts.

Q.—What is your idea of those districts? Will you be able to get a large number of places where you can get water?

A.—I don't think so.

Q.—What about minor irrigation tanks and things like that. Yesterday we were told that people were not generally keen on taking water on account of the precariousness of the supply. Is that your experience also?

A.—No. They will take water whenever it is possible from the tanks.

Q.—If you are able to improve the supply in the tanks, you think the people might take the water?

A.—They are utilizing the supplies. No doubt there are petty quarrels and enmity between parties which oftentimes lead to a wastage of water. I found that in some cases.

Q.—We were told that on account of the precariousness of the supplies, people are not prepared to take water though there might be water for about three months. Is that your experience?

A.—I have not much experience but I can say this much that I have not come across such instances. In Penukonda and Anantapur I have got some idea of irrigation works. The people there were very keen to utilize the water when once the tanks filled. Though there was a supply for only three months in a tank the ryots with the help of the wells immediately under the ayacut were keen on raising a sugarcane crop also.

Q.—I think you would support the improvement to these tanks because they will be directly useful for irrigation and indirectly supply water to the wells?

A.—I think as far as possible I can support it.

Q.—In direct irrigation there is some trouble. The water-shed places and the supply channels get the supply more or less from the same area as the tanks. Where there is a shortage in the places where the tank is situated there is also a shortage in the supply channel and water shed, is it not so?

A.—Yes.

Q.—Even in the bigger tanks? In Kumudavathi project, for instance, there is a small river Jayamangala, which gets its supply from an area similar in character?

A.—It has its main source of supply in the Mysore State.

Q.—What about the rainfall in that area?

A.—I could not say.

Q.—So you would definitely support the Tungabhadra project and the improvement to these minor irrigation tanks wherever possible. I think you are not in favour of wells?

A.—That is generally my idea.

Q.—There is a lot of unemployment during the off-season. Have you any idea of it?

A.—Yes. It is general throughout the country. Is it not?

Q.—Comparatively there is more unemployment in this area?

A.—I cannot say.

Q.—So far as the wages are concerned are they not very much lower than in other parts?

A.—As far as I am aware, they are.

Q.—What is the rate for a male and a female coolie?

A.—I know that in some parts of Hindupur in the course of casual enquiries I learnt that the annual wage paid to a full-time agricultural servant was Rs. 30 per annum plus one meal a day.

Q.—What about the coolies that come for the Public Works Department works? What is the wage you pay in those parts?

A.—I cannot say.

Q.—I was thinking whether the popularity of these famine camps were not due at least to a certain extent to the very low wages that are ordinarily obtained?

A.—My opinion is the wages and allowances paid during a famine compare very favourably with the normal rates of wages in that area because very few of them ever see money as they are mostly paid in kind.

Q.—Will you suggest any other method to give employment?

A.—I don't think there is much chance of industry, as the local resources are very few.

Q.—You think khaddar is possible?

A.—I think it is the only possible industry in that area.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—You said something about dry irrigation. Have you got any experience of irrigation of dry crops?

A.—Not very much.

Q.—At least will you generally concede with the knowledge that you possess that an irrigated dry crop is better than a non-irrigated dry crop?

A.—Yes, certainly.

Q.—I find in section 2 (a) (i) you have said that in years of good rainfall there is a possibility of utilizing large supplies of water. What do you want to be done with water?

A.—The whole area will be cultivated and the famine will be averted.

Q.—Why do you object to the water being utilized in the non-rainfall season?

A.—I have no objection to that.

Q.—You advocate the combined wet and dry scheme as more suitable and easily adaptable to the ryots. What are your ideas? Would you fix the dry area or would you allow it to be done by the ryots themselves or would you introduce rotation of crops? Have you any idea?

A.—The best thing is to leave it to the ryots themselves.

Q.—How will you design the system? You want to give perfect freedom to the ryots. You must pin him to something. How are you going to do it?

A.—For the black-cotton soil we find around Adoni, I think in those places you can have only dry. In the red-soil areas we might consider wet.

Q.—Apart from the suitability of the soil how do you say a combination of wet and dry is possible?

A.—I have not gone into the matter deeply.

Q.—According to you in a good year like 1935-36 there is no need for irrigating the wet lands when there is a good deal of rain.

A.—There will be certain periods even in good years when a shortage of supply will be felt.

Q.—So you at least concede that there are areas even where the rainfall is good there is still the necessity for irrigation?

A.—They will still take the water to a limited extent to grow a bumper crop instead of a mediocre crop.

Q.—So you think the balance of advantage is in favour of an irrigated crop?

A.—If water is available, certainly.

Q.—With your knowledge of rainfall in Bellary and Anantapur districts, what is your general opinion, whether there would not be a necessity for irrigation almost every year? No doubt there will be very few years when irrigation will not be needed for growing a successful dry crop?

A.—My knowledge of rainfall in those districts is very limited.

Q.—You have said that in the case of tanks the increase in F.T.L. will be an advantage to compensate for the silting up that takes place?

A.—Yes.

Q.—I suppose you suggested it only as an alternative to silting but in most cases the tanks do not fill?

A.—There are a number of tanks which surpassed in 1935.

Q.—There are number of tanks which did not surplus even in ten years, as Parigi tank and such others?

A.—It did in 1935.

Q.—I am very glad to hear about it. I always understood that more water flowed over the uncult than into it?

A.—We were even frightened about the tank because it filled up so suddenly.

Q.—So you at least concede that the raising of F.T.L. would be useful for such tanks as are likely to be filled?

A.—Most tanks will be filled in good years in those areas. In 1935 even the Karekal tank which is about 5 miles from Hindupur did surplus for the first time in 17 years.

Q.—Do you justify an increase in the F.T.L. on account of that one tank?

A.—No.

Q.—As a general proposition I don't think you advise the increase in F.T.L.?

A.—I advocated the raising of F.T.L. in isolated cases after a thorough investigation of a group of tanks, independently by itself and not to compensate for the silting up.

Q.—In cases where silting up generally takes place in tanks, the natural corollary would be a demand for the increase of F.T.L. in order to compensate for the silting up. Would that be of much use?

A.—I am advocating it in Salem district.

Q.—There is no famine in Salem district. Does this not require proper investigation?

A.—Yes.

Q.—Suppose many of the people now demand silt clearance (am not taking into account the small removals which the ryots do in order to manure the fields), will it not be expensive?

A.—Yes. It is very expensive.

Q.—Are you advocating the acquisition of lands in the foreshore for depositing all the silt?

A.—I think in those areas in Bellary and Anantapur districts sufficient poramboke lands are available, in the vicinity of the tanks.

Q.—Where will you deposit all the silt?

A.—In the rear of the bund towards the flanks.

Q.—That will be still more costly. I suppose you have not given much thought to this question?

A.—I know in some cases it might cost even Rs. 8,000 for the removal of one million cubic feet. In most cases it is impracticable.

Q.—Clearance of silt in supply channels. What do you think the neglect is due to?

A.—For many reasons. The chief reason is non-operation among the ryots.

Q.—Even when it affects his own welfare?

A.—He is not prepared to help if a particular thing is going to help his neighbour or enemy. That is why I said the chief reason is lack of co-operation.

Q.—If it is a supply channel to the Public Works tank, what do you do?

A.—We call on the ryots to clear the silt and if they fail to do so, we invoke the aid of Kudimaramat Act.

Q.—Have you been successful in getting the work done by the enforcement of the Kudimaramat Act?

A.—This is the first time I am in charge of a regular division.

Q.—Is there any objection for selecting this for relief work?

A.—It is a very good relief work.

Q.—Have you ever had any objection for selecting this on the spot though it was an item under kudimaramat?

A.—No, Sir.

Q.—So all these supply sources and clearance of them find a place in your famine programme? Are you sure about it?

A.—I am not sure.

Q.—The standard of living in the Ceded districts is very low. Does it mean that the men have a very low stamina?

A.—I have not studied that subject.

Q.—It has been suggested that the expansion of works often obscures the necessity for the real test for famine relief. What is your opinion?

A.—In those areas after the harvest is over there would always be a good number of people ready to come for expansion of works. Certainly it is not a test.

Q.—You would not resort to it as a preliminary for opening test works?

A.—I believe under the Code that this should be adopted whenever there is local distress and if people are flocking to these in large numbers showing that the distress is fairly acute the thing we have to do is to convert these into test works and enforce test work conditions.

Q.—You say you will start an expansion of ordinary works?

A.—Not always.

Mr. F. M. DOWLEY: Q.—How will you decide whether there is distress prevailing or not?

A.—We have not got much to do with it. The Revenue department—the Collector gets his reports from the Tahsildars and Revenue Inspectors and makes his own enquiries and he is to decide in accordance with the information received.

Q.—The question is whether there is really a necessity for opening relief works by starting test works straightaway or whether it would be better if expansion of ordinary works were taken up before you begin test works?

A.—My opinion is if the information available with the Collector leads him to think that the distress is going to be acute and there is a likelihood of a famine it would be better to immediately start with test works.

If his information is such that the distress is not acute we can deal with the situation by the expansion of ordinary works.

Sri R. SURYANARAYANA RAO: Q.—You leave it to the discretion of the Collector?

A.—Certainly.

Q.—“Able-bodied men do not generally come early.” What does this mean?

A.—That was my experience.

Q.—What does that indicate?

A.—I think it means that they have still got some resources and that the man would come last after sending his wife and children to the test works.

Q.—If able-bodied men kept away in sufficient numbers what is the use of providing for women to carry “the earthwork”?

A.—When I inspected one of the camps I found more women and we had to provide for longer reliefs than was absolutely necessary.

Q.—How can earthwork attract more men?

A.—Is it the desire of the Code to attract more men? In a test work period a lot of discretion is allowed to the local officers under the Code. They could ask a woman to dig and reduce the task. That is what we did in 1935. This could only be done when once the relief work is declared and not during the test period.

Q.—What? Women under class II would be asked to do digging work?

A.—In some cases we had to ask them but we gave them a low task.

Q.—You have made some remarks about the establishment?

A.—Yes. The establishment provided is very small.

Q.—Do you have in mind a comparison with anything else or judged by itself?

A.—Judged by the expenditure involved.

Q.—In relief camps there is a certain amount of concentration of labour?

A.—Yes.

Q.—Will it not be good to have some control over them in order to avoid the defects of false muster rolls being prepared?

A.—The camps we had in 1935 were spread out over a distance of 10 miles. There was one charge officer and two work agents to supervise everything. They have a busy time. Six thousand coolies were distributed over 10 miles and not concentrated. Concentration is possible only in big tank works.

Mr. H. R. DOGRA: Q.—You suggest the age from 12 to 16. You think a boy of 14 will not be able to do the work assigned to him fairly?

A.—The ages 14 and 15 is most important in a boy's or girl's life. We cannot make them work heavily at that age.

Q.—Not even the work of carrying the loads?

A.—I would rather prefer them to be 16.

Q.—In your experience did you not find that the establishment for your work is not easily obtainable?

A.—In 1935 we got the supervising establishment sufficiently quickly. But with regard to clerical establishment there was some trouble. As far as I remember the reason was that the Government only sanction a temporary establishment on minimum scales of pay and the Superintending Engineer posted on my request permanent clerks. The Accountant-General objected.

Mr. F. M. DOWLEY: Q.—Do you think when the supply channel to a tank is a natural stream as opposed to a river channel that the silting of the natural stream materially affects the supply to the tank?

A.—I don't think it will materially affect the supply to the tank.

Q.—Have you any idea to what extent it might affect it?

A.—I have not.

Q.—You admit that it does not materially affect it unless the silting up is sufficiently intense to divert the channel in other directions?

A.—Yes.

The CHAIRMAN: Q.—You refer to the enormous employment that was bound to follow the Tungabhadra project.

A.—At present the area is sparsely populated. I think the people would tend to come to a place where they are sure to have a living rather than live in a place where they have to starve.

Q.—You think that people will come when they acquire lands?

A.—Yes and also a number of agricultural labourers would settle in that area provided the wages are sufficiently attractive.

Sri KALLUR SUBBA RAO: Q.—May I know how long you were the Executive Engineer, Madanapalle?

A.—Once for six weeks in 1934 and again from November 1935 to the end of March 1936.

Q.—I think you know there is an agreement between Mysore and Madras?

A.—I remember something of it.

Q.—You know the Parigi tank which is the biggest tank in Anantapur district?

A.—Yes.

Q.—Do you know that the supply to the Parigi tank has been obstructed by the Mysore State?

A.—I would not care to express an opinion because I do not know enough about it.

Q.—You know there are very many complaints about this?

A.—In a particular case in which I inspected along with the then Chief Engineer (Mr. R. N. Ayyangar) I found there was no cause for complaint at all as Mysore had stood by the agreement.

Q.—Do you know the Bogasamudram tank also?

A.—I do not know. I have seen the tank but do not know anything about it.

Q.—Have you examined the source? Have any complaints been received by you?

A.—There was no cause for complaint in the year when I was there because the tank surplussed.

Q.—The Parigi tank has no catchment area?

A.—There is little catchment area so far as I remember.

Q.—Do you know the details of the Pennar-Kumudavati project?

A.—I do not know the details of the scheme.

Q.—Do you think an investigation of the possibilities of subsoil supplies of water both for the purpose of providing drinking water and for irrigation in certain region would be useful, if it is a systematic survey?

A.—I am afraid I don't know much about the subject.

Q.—In your evidence you say “that the possibility of artesian wells . . . is very desirable.” My suggestion is not only to improve drinking water facilities but also finding water for irrigation. Do you think an investigation would be useful?

A.—Yes, if that is possible.

Q.—If such supplies are available for irrigation you agree that the agricultural prospects of the area are bound to increase in certain areas as in the case of tanks?

A.—It all depends on the supply available.

Q.—Don't you know the details of the Tungabhadra project?

A.—No.

Q.—Had you any occasion to deal with a project like the Torigallu project, which affects the Kadiri and Pulivendla taluks?

A.—No. But I had occasion to deal with two small projects in Cuddapah district but nothing in Anantapur district.

Q.—Sri Swaminatha Ayyar asked you whether you consider that the ryots should be given the option to use the water either for the wet crop or dry crop as he liked. Do you think any system of irrigation can be formulated unless we decide beforehand whether the water is for wet or for dry crops or for both the extent of land irrigable, etc.?

A.—It is a very technical question which will have to be investigated.

Q.—In your opinion a combined wet and dry scheme would be suitable for that area?

A.—Yes.

Q.—Do you suggest that the Kumudavathi project, whether it is productive or not, in the sense the Government uses the word, should be undertaken even if it be beneficial only in ordinary years?

A.—It all depends upon the policy of Government.

Q.—As a business man would you undertake to carry out that project even if it is useful only in ordinary years?

A.—The pros and cons would have to be considered. I don't know about the availability of water. Gaugings are being taken for a period of five years and it will have to be decided after the results are known whether the work is worth taking up or not as an unproductive work. It is a matter for Government to decide.

Q.—You suggest all minor projects should be taken up in view of the fact that they will be useful and increase the resources of the local people against famine in a bad year. Do you put Kumudavathi project under that class even if it is not productive in view of the fact that it will be useful?

A.—Yes, I think so. My idea is that if the unproductive money now spent on expansion works or these famine works is diverted for constructing such projects it would be very useful.

Q.—Do you think the information contained in the Tank Restoration Scheme memoirs is enough for undertaking what you suggest under question 2 (b) (ii) in your evidence? Or whether you think a re-investigation is necessary?

A.—I think the whole thing will have to be thoroughly investigated.

Q.—Do you think the increasing of F.T.L. in regard to certain tanks or the improvement of supply channels or some other means of bringing in adequate supplies to the tanks should be taken up after investigation of a group of tanks in a basin and that it should be undertaken immediately?

A.—I think it must be thoroughly investigated. I consider investigation is necessary for the particular reason that if you raise the F.T.L. of one tank it affects the tanks below. I want a whole group to be taken up regarding any improvements proposed, so that every one will get proper distribution of water.

Q.—It was suggested to us that Collectors should have powers to enforce cultivation of such portion of the ayacut as could be done with the supply of water available in the tank?

A.—I think that was done in parts of Chittoor district.

Q.—Do you think that the method is good?

A.—Yes, I think so. It is a great pity to see water going to waste.

Q.—Why do you doubt that increase in the number of wells will not meet the situation if we can dig wells and get water?

A.—The average cultivation under a well is about 1 or 1½ acres. If we are to do anything to improve the situation generally, we must have lakhs of them.

Q.—Cotton is extensively grown in the Ceded districts and most of the yarn consumed by these handloom weavers is generally imported from outside because there is no spinning mill there. Do you think the erection of a spinning mill will be helpful not only in providing employment for a few but also in providing adequate supply of yarn to the handloom weavers?

A.—Really I don't know.

Q.—In view of the fact that the labouring and poor classes are not able to purchase cloths, the weavers will not have the means to purchase raw materials again to carry on their work, do you think that, along with the opening of relief works, relief for weavers should also be started as provided in the Code?

A.—It cannot be laid down as a rule. It requires investigation.

Q.—Do you think the objective of the famine relief is not in accordance with modern ideas regulating unemployment relief?

A.—It is very different from Western ideas on the subject.

Q.—You know in Western countries unemployment doles are given. Don't you think that the agriculturist who contributes directly to the coffers of the State should receive the same treatment or a better one to enable him to go back to the land after the distress is over and engage himself in agricultural operations?

A.—As far as I see what the Government did for the people in the Ceded districts was as good, if not better than their normal standard of living. I know that the children fed in the kitchen during famine looked healthier than in normal years. I think the allowances we gave in 1935 were sufficient to keep the people without any suffering and without any decline in health provided they were properly used.

Q.—Is it not a suicidal policy on the part of the Government to adopt this as the principle of relief—vide page (viii) of Introduction, Famine Code—in respect of persons who are the backbone of the State in an agricultural country? Is it not the duty of the State to ensure them conditions which will avoid suffering as far as possible?

A.—One does not want to make it too attractive lest abuses should creep in.

Q.—Do you think it is out of date to retain this sentence in the introduction?

A.—My idea is that the rules should be as stiff as possible and then the State should be allowed as they did in 1935, to relax some of them if they consider it necessary.

Q.—Would you think that this objective of State relief should be in a modern Code?

A.—I don't think that the method can be changed very much at present because I found that the relief given was very good and far above what is actually termed here.

Q.—You say that the existing standards might have to be slightly modified if famine were to break out in other districts. You don't suggest any modification for the Ceded districts?

A.—Because I find that the standard laid down in the Famine Code is as good as that enjoyed by them in normal years.

Q.—Even if the standard is low in Ceded districts, don't you think a series of adverse seasons must have led to that low standard which must have lowered their stamina?

A.—It is probable.

Q.—Do you know that the conditions in the extended programme of ordinary works are not similar to those in the test works?

A.—They are not.

Q.—So you feel that the extended programme of ordinary works is not a sufficient test of the distress and you prefer test works to be immediately started?

A.—Yes.

Q.—Do you suggest that prolongation of the test period is not desirable?

A.—I don't think it is desirable.

Q.—What is the maximum period you would put?
A.—If the test discloses that famine is acute, it is converted into a relief work immediately. The Code does not want test works to be protracted.

Q.—Do you think the Collector should be empowered to convert a test work into a relief one without the orders of the Famine Commissioner?

A.—It is only a matter of two days. In 1935 we got telegraphic orders.

Q.—Have you had occasion to read the MacMichael Committee's Report on Famine? They make a suggestion that during the periods of test, dependants also should be given allowances, that there should be no rest day and work should be done on all the days of the week. What is your idea? You suggest in the report of the Famine Administration "that the conversion to relief works was particularly favourable to the dependents . . . for the dependents out of it." The same point is mentioned by the MacMichael Committee. Don't you think that giving of dependents' allowances and imposing other test, if you like to find out the real extent of distress is better in view of what you have yourself observed in that famine?

A.—I am afraid I am rather sympathetic towards children. I know there is so much abuse.

Q.—Don't you think that the rest day can be abolished altogether because they don't get rest day allowance?

A.—Normally in a test work there will be only one rest day. If there is real distress in an area the normal period of test is only fifteen days. I don't think that matters very much. We allowed them to work on rest day in 1935 and paid for it.

Q.—If both the parents attend the work you don't mind giving allowance for the dependant during the test stage?

A.—I think the whole thing will have to be enquired into by the local Revenue officers.

Q.—You say that the addition of one pice to the scale in force in 1935 was enough?

A.—We found it adequate.

Q.—Do you think it is better to give that one pice separately rather than incorporate it into the scale?

A.—Yes, I would. I will give them the normal thing first and when they clamour for something extra then the additional pice should be given. If it is incorporated the people will not realize that the Government have been generous.

Q.—Had you occasion to look into the grain equivalent system and how it was arrived at, whether it is on a scientific basis or is it based on a practical experience? This grain equivalent system takes it for granted that the prices of other items mentioned here fluctuate proportionately with the price of grain, an assumption which may prove false or true. Do you think it is better that we calculate the cost of each item and settle the wage rather than convert it into a grain equivalent?

A.—I don't think there will be very much difference. I don't know enough about it.

Q.—Under section 112, page 135, where you prescribe for short work wages, you say it is not necessary to change the section 112, in your written evidence. Don't you think that a certain minimum wage should be fixed or do you consider the wage fixed in the Code is a minimum wage?

A.—We never paid less than the rest day allowance during the relief period. That was during the relief stage and not during the test.

Q.—That means there was a minimum wage. Don't you think that during rainy weather if the work has to be stopped owing to causes beyond the worker's control, that they should be given the full wage for the day?

A.—I don't think so. If you have any such thing there will be perpetual abuse.

Q.—Do you prefer metal breaking to earthwork especially during the test period?

A.—Yes, I have given the reasons in my evidence.

Q.—Don't you think the earthwork task must be lessened?

A.—No. During the test period men do not come out. First-class workers never come.

Q.—In the hot season it is very difficult to do earthwork. After the rains it is easier. Do you agree that in the hot season the task for earthwork should be reduced?

A.—I don't think so. It is only one-third of the ordinary labour. I think suitable scope given in the classification is enough and that there is sufficient discretion to the charge officer for classifying them.

Q.—Don't you think the rest day allowance should be somewhat more than the ordinary allowance?

A.—I don't think he needs so much on a rest day as on the day on which he works.

Q.—You have given an instance of how a maistri can make up the accounts. Don't you think it is better that the supervising agency is different from the distributing agency? Now the maistri gives the task allowed by the overseer, checks the task, etc.

A.—There is the work agent and the charge officer.

Q.—The person who distributes the wages should be different, say, an assistant to the charge officer.

A.—There is a cashier.

Q.—I want a man of equal status as the charge officer who will pay wages and check maistri's work.

A.—It all depends on the supervision of the work agent and the charge officer.

Q.—Don't you think that some responsible officer is necessary? The object of the famine relief is to assist the distressed?

A.—If the people who are already employed—the charge officers, the work agents, the Revenue Divisional Officers and all inspecting officers—if they do their work properly it could be controlled very well.

Q.—Mr. T. A. Ramalingam Chettiyar asked you a question about long distances and reduction of work. Don't you think it is a hardship for a person to walk more than 2½ miles to come to the workspot and complete the task set for him?

A.—No. In ordinary times the labourer walks such distances.

Q.—You were telling Mr. Chettiyar that people from one village are put in one group. But often it does not occur. People coming from different places are put together and made to work.

A.—As far as possible people from the same village or the same locality or from neighbouring villages are put together to work.

Q.—Some amount of energy is involved in walking?

A.—Yes. It is true.

Q.—Is it fair that people coming from different distances should be asked to do the same amount of task?

A.—The camp doctor might be consulted as to whether a reduction in the task is necessary.

Q.—The camp doctors have got much work to do, and most of them are young men, fresh from schools and not with much experience (I don't blame them)?

A.—If any deterioration in health is detected, the task could be reduced.

Q.—I think in the year 1897 the Madras Government allowed 24 minutes for walking 2½ miles. Don't you think that such a thing would be helpful?

A.—It would be another concession.

Q.—What do you think of concentrating the workers in the camps?

A.—That is a good idea.

Q.—Have you got any idea of the evils connected with such concentration camps?

A.—I have not got much experience.

Q.—You know in the famine a worker is forced to absent himself from the work on account of illness. Unless he is an in-patient he is not entitled to any allowance. It was only when this was brought to the notice of the Famine Commissioner the dependent's allowance was ordered to be given?

A.—Yes.

Q.—There is nothing in the Code. It is only an interpretation of a particular section or an executive order?

A.—I don't remember anything about this in the Code.

Q.—A provision at least for rest day allowance should be made for the worker when he is prevented from attending the work on account of illness on a certificate from the doctor or the village munsif?

A.—Yes. I think that was the practice in 1935.

Q.—I think it was an executive order.

A.—Yes.

Sri SANKARA REDDI: Q.—In summer the midday hours are very hot, and a man cannot be made to work for three hours from 12 to 3. Is it not reasonable to reduce the task?

A.—It is a matter for local officers and the Famine Commissioner to consider it if local conditions justify. I do not think there is any necessity for making a definite rule for it.

Q.—What is the duration of work in summer?

A.—The duration is 8 hours with an interval of 2 hours—12 to 2. Many of them actually did the work set for them by 12 o'clock.

Q.—Will they be allowed to go home if they finished the work set for them?

A.—You are going against the conditions of the relief scheme.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—When you combine the long-distance people and short-distance people to do a work and if as suggested the long-distance people were allowed some concession, would not the short-distance men be asked to do a greater amount of work?

A.—I think it is a very complicated question.

Q.—It is perfectly open to you. It is only an adjustment.

A.—It is a difficult thing for the charge officer where to begin and where to end.

Sri H. SITARAMA REDDI: Q.—You have referred in your written evidence to the fact that the rates and allowances laid down in the Famine Code compare very favourably with the standard of wages in those areas. I think you are well acquainted with the normal standard of living?

A.—Only by enquiries.

Q.—Do you know that buttermilk forms a very vital part of the food of the ryots and the class of people that come to the famine relief camps?

A.—Yes.

Q.—You say that you made enquiries about the usual pay of the agricultural farm servants at various places and you found that it was Rs. 30 per annum. Did you make any enquiries in Bellary?

A.—My enquiries were confined to Penukonda and Hindupur.

Q.—Is that figure the average you obtained from your enquiries in several places or what you found in one place?

A.—In the places where I enquired I found it to be so.

Q.—For your information may I tell you that in Bellary district and in Alur taluk particularly a permanent farm labourer of the type mentioned by you is not available for less than Rs. 50 per annum in addition to clothing and two seers of grain per day? I am one of those who employ such servants?

A.—I do not know the conditions in Bellary. This is what I have learnt in Penukonda and Hindupur taluks.

The further examination of the witness was postponed to the 18th August and the examination of Dr. Passmore was taken up. The following is the further oral examination of the witness on the 18th.

Sri KOTI REDDI: Q.—I think you will agree with me that the best way by which we can help the Ceded districts out of this famine is really to develop all the irrigation sources to the fullest extent possible?

A.—Yes. Generally I am of that opinion.

Q.—In that connexion you will also agree with me that the usual standards that the Government require with regard to returns should be relaxed if really all the irrigation sources have to be developed?

A.—I don't quite understand you.

Q.—With regard to the returns from the irrigation projects the Government have a certain percentage, ordinarily 4 to 6 per cent on the capital outlay. Certain irrigation projects are given up as they are found to be unremunerative from the Government standard?

A.—It is for the Government to decide.

Q.—My suggestion is that a project is remunerative if it pays the interest on the capital outlay

plus the maintenance charges, and the revenue derived under the project need not be taken into consideration. Such a project as I have mentioned would tend to increase the wealth of the country and that should be the real standard by which the remunerative character of a project is to be judged?

A.—It all depends upon the policy of the Government.

Q.—As an Irrigation Engineer, what is your personal opinion?

A.—I do not think my personal opinion matters at all.

Diwan Bahadur N. Swaminatha Ayyar intervened at this stage and asked Sri Koti Reddi what exactly he wanted the witness to answer. As an Engineer he was to carry out the orders of the Government and follow the procedure laid down by Government irrespective of the productivity or non-productivity of the project. The witness also said that he only carried out the policy of the Government as far as he could.

Q.—The Tungabhadra project is not likely to benefit all the parts in the Ceded districts and particularly the areas that are now affected by famine. What would you suggest for those areas which are not benefited by the Tungabhadra project? Do you think that the present irrigation projects, major and minor, are quite enough or is there a possibility of developing the irrigation resources?

A.—I do not know the Ceded districts very well. I have not studied the question at all. I was connected only with famine relief.

Q.—Do you think that apart from taking up big projects it is necessary to take up small minor irrigation projects also, in order to develop the irrigation resources to the fullest extent in the shape of wells, tanks and supply channels?

A.—There are already too many tanks in certain taluks but the difficulty is to fill them. Generally speaking, it will be of no use to build any more tanks. The one thing necessary is to maintain the spring channels as far as possible and get the ryots to clear away the silt and utilize the water whenever they could.

Q.—What do you think of constructing minor tanks if there is a possibility of doing so in famine-affected areas?

A.—I know only certain areas which are affected by famine.

Q.—Is it not worth while maintaining tanks or constructing new tanks if only for the purpose of conserving the subsoil resources or the flood water even though it might be that the tanks get filled up once in two or three years?

A.—I think the existing resources are sufficient for the needs of the people. The process of conserving the waters and the level of the subsoil are all expensive. They could be done only if the question of finance was waived.

Q.—Do you feel that wherever possible the construction of wells could usefully be employed, either by helping the ryot or the Government themselves undertaking to dig the wells?

A.—As I have said in my report I do not consider that digging of wells either bore-wells or open wells can materially improve the agricultural operations in this area.

Q.—Why do you think so?

A.—It may benefit a few individuals and not the entire population. There are very poor results with the existing wells. It may help water-supply for domestic uses.

Q.—It is individuals that constitute big masses?

A.—Again it is a question of economics.

Q.—Coming to the Tungabhadra project, I believe you are well acquainted with this project?

A.—I have only a general idea, but not a detailed one.

Q.—You have said that a combined wet and dry cultivation will be more useful in the Ceded districts. With regard to Tungabhadra project, under the Mackenzie scheme, exactly the same suggestion was made. You know there are some areas which are commanded by Tungabhadra the soil is red as well as mixed, and they are capable of wet cultivation. With regard to black-cotton soil I think you have no experience of irrigation of black-cotton soils?

A.—No.

Q.—Can you suggest any method by which you could regulate the quantity of water required for black-cotton soil?

A.—I have not given much thought to it.

Q.—Do you know anything about the rain-maker system that is being gradually undertaken in Western countries?

A.—I don't know anything about it.

Q.—During the last famine some village works were taken with the help of non-official supervision but mostly they were road works. Do you agree with me that the road works should be the last and not the first during the famine relief?

A.—I think preference should be given to irrigation works.

Q.—What about the village works?

A.—If irrigation works cannot be taken up, the village works should be taken up.

Q.—Though the Code allows it irrigation works are not taken up to the extent possible. That is your experience?

A.—In Bellary we could not take up any irrigation works because there were none available. In Gooty, Dharmavaram and Penukonda taluks we took up irrigation works as far as possible, and we did so in 1935. One difficulty is that at the beginning stage of the test work it was rather difficult to organize labour but once we got to the relief works we transferred the labour to the tank works and we did as much tank work as we could in the affected areas.

Q.—You agree with me if I say the one difficulty of officers to take up irrigation works is section 78 of the Code?

A.—That refers to new irrigation works. My experience of 1935 shows that it did not stand in the way.

Q.—With regard to building construction, some amount of skilled labour is necessary. As a Public Works Department Engineer, you have an idea of the money spent in famine relief. From your point of view is it an economic problem?

A.—As far as I remember I worked out figures. The actual cost of work done during the famine relief without including the establishment charges would be four to five times the rate of the Public Works Department contractors.

Q.—So it is extraordinarily high.

A.—Yes.

Q.—Don't you think that the building of a Government building, a school building or other building and house construction in villages though it may involve employment of skilled labour, is far more useful?

A.—Yes.

Q.—With regard to skilled workmen, the masons, even those people have to be employed during a famine, though not by the ryot at least by the Government?

A.—We do not prevent the masons coming to the relief works.

Q.—The amount spent in reconstruction of a whole village or in taking up other small village works useful to improve their sanitation and health, will this not be more useful than the present works?

A.—I think it is a question worth considering.

Q.—A number of people who come to the relief works do go to their homes to the villages during nights. Is it not so?

A.—Most of them.

Q.—Can you suggest a method by which their energy could be better spent instead of walking back long distances. Is there any way of inducing the people to remain in the famine camps?

A.—The best thing is to leave the people to do what they like. The Government are very much mostly interested in the welfare of the people than in the amount of work done.

Q.—Is it possible to induce these people to live in the camps?

A.—Let the people do what they prefer. Let there be no compulsion.

Q.—It is not compulsion but some inducement that I am speaking about?

A.—We do not prevent them from halting in the famine camps. A few remained in fact.

Q.—At least those landless labourers could be induced to settle on the camps if better accommodation is provided?

A.—As far as I know, many people prefer to live in the villages.

Examined by Sri R. SURYANARAYANA RAO: Q.—At present we have to wait for the Subdivisional Officer to come and issue orders. Supposing suddenly a strike occurs on a work. Immediately the Revenue Divisional Officer can run to the spot but the Subdivisional Officer may be travelling at the other end of the famine area. By the time he comes, the Revenue Divisional Officer and the Tahsildars who are on the spot, can run up to the place and set right matters and in doing so they might issue certain instructions to the charge officer. How is the prestige of the Subdivisional Officer or the Public Works department affected, if the instructions given are clearly only in the interest of the administration?

A.—It is not a question of prestige. It is a question of discipline and organisation. I made a reference to it in the administration report of 1936 because some trouble was caused by unnecessary interference in a few cases. The charge officer should not have too many masters to obey in carrying on his daily work.

Q.—Do you think then that in emergency cases there is no objection to the Revenue Divisional Officer issuing instructions to the charge officers?

A.—No, not in a case of real emergency.

Q.—In the Code, kitchens are attached to the relief works but the kitchen establishment like the superintendent, etc., are appointed by the Revenue Divisional Officer while the control rests with Subdivisional Officer. It is not dual control?

A.—The Public Works Department officers posted for famine work have no local knowledge. But the Revenue Divisional Officer is in that division and he will know the proper men for posts like the kitchen superintendent. He is merely appointing just as the Service Commission appoints candidates. This arrangement worked well in the past.

Q.—Is there not certain overlapping of the duties at present and is it not better to give the Revenue Divisional Officer full control of the kitchen and make him responsible?

A.—So far as I am concerned I am of opinion that the methods of procedure prescribed in the Code are perfectly in order and all that is required is that they should be followed during the course of the famine. I don't desire to make any change in Code.

Q.—The ultimate power of punishing a charge officer now rests with the Collector. He may agree with the Subdivisional Officer or not. So you think in emergency cases there is no objection to the Revenue Divisional Officer issuing instructions on behalf of the Collector to the charge officer?

A.—I have no objection in a case of real emergency.

Q.—Don't you think that the kitchens also should be transferred to the Public Works Department?

A.—On the requisition of the charge officer or the Subdivisional Officer or Executive Engineer, the Revenue Divisional Officer will post the staff required. I found that the procedure worked well in 1935, as regards kitchens.

Q.—Don't you think that the kitchen superintendent who has to supervise the feeding of over 1,000 persons should be a much more responsible man than the one the Code prescribes?

A.—I think it was a lower division clerk who was posted for such work.

Q.—Don't you think that in view of the responsible work devolving on the superintendent, Rs. 35 is not a big sum?

A.—It is not a big sum. But we found lower division clerks did the job quite satisfactorily.

Q.—The Government have recently reduced the pay of these superintendents. It is now Rs. 28-38. Don't you think that the original scale should be restored in view of the importance of the work?

A.—I would like a lower division clerk to be appointed if possible because there is some hold over him and he hopes to rise up in the service.

ABDUL RAWOOF SAHIB Bahadur: Q.—Is it not better that the utility aspect of irrigation works

should be taken into consideration when undertaking famine relief works?

A.—As far as possible, yes.

Q.—May I know what distance would enable the charge officer to have effective control of the work agents and maistris?

A.—We found that charges extending to 15 or 16 miles could be successfully looked after, provided the charge officer and the work agents are prepared to

do the work. But it is desirable to keep it as low as possible.

Q.—What is his optimum distance according to you?

A.—It all depends upon the persons in charge of the works. The charge officers need not check every gang every day. He has two or three work agents in a big charge.

Q.—You don't want to fix a distance?

A.—No.

Dr. R. PASSMORE, Nutrition Expert, was examined on 17th August.

Copy of the letter of Lieut.-Col. Shortt, Surgeon-General and of the report, of Doctor Passmore, Nutrition Research Institute, Coonoor.

Doctor Passmore of the Nutritional Research Institute, Coonoor, has lately toured in some of the famine areas in Bellary district and has gone very carefully into the question of nutrition so far as it relates to the children and dependants of workers in the famine camps. I am forwarding herewith a copy of his summary of observations made during the tour together with certain recommendations with regard to suggested alterations in certain sections of the Famine Code, viz., sections 116 and 128 (a). I am in complete agreement with the observations of Doctor Passmore and think that the suggested alterations would make for considerable improvements in the diet of the famine camps. As regards supervision of relief, the District Medical Officer and the medical officers on relief work would appear to be concerned chiefly with sanitation and the treatment of the sick and carry out their medical work efficiently. They are not concerned with either the buying or the distribution of food or with the supervision of the kitchen. These duties are carried out by the charge officer. As these charge officers cannot claim to be experts in nutrition and as neither the Collector nor Famine Commissioner are likely to be able to advise them in this respect, it might be considered advisable to appoint a supervisor for each famine area. He should be a medical man, possibly of the status of a Civil Surgeon but young enough to be able to undertake continuous travelling in famine areas in order to visit each camp regularly and he should be experienced in the general examination of children and especially in assessing their nutritional condition. He should be responsible for the actual regulation of diets, seeing that they comply with the provisions as laid down in the Famine Code, either as now existing or as modified as the result of Doctor Passmore's investigation. These remarks are merely made as a basis for discussion by the Committee and I have no doubt that any further information required on the dietary side could be supplied by the Nutritional Research Laboratory, Coonoor.

ENCLOSURE.

I. Summary of Observations.

1. Only dependants were examined, and no conclusion can be drawn from this report of the state of health of the actual workers.

2. Five separate meals were seen served.

3. They were all essentially the same. In each case the ration of grain (cholam) served was apparently adequate, and in compliance with the Code. In no single case was the supply of oil, pulses or vegetables adequate. Many children received only a thin soup with no solid vegetable. At the best they only obtained two or three small pieces of brinjal or onion, an amount markedly below the Code standards. No green leaf vegetables were seen in any meal or kitchen.

4. In all, 1,175 children were examined. The presence of gross emaciation, of xerophthalmia (a vitamin A deficiency), of angular stomatitis (a vitamin B-2 deficiency) and of skin disease were looked for. No case of severe emaciation was seen, and, although scabies and impetigo were common, no skin condition directly attributable to dietetic defects was found. Sixty-five children (5.5 per cent) had angular stomatitis, and 399 (34 per cent) had xerophthalmia.

5. The children had all been 3-4 months in the camp. As xerophthalmia is only produced by severe prolonged lack of vitamin A, which is essential for normal growth of children, it can safely be concluded that the lack of vegetables we observed was generalized, and had been present for several weeks.

6. At the moment there is no evidence of a widespread lack of any vitamin of the B group. In this respect the Bellary children are fortunate to be in a district where the staple cereal is cholam, which is comparatively rich in these vitamins. Should a famine occur in another district, and the relief be administered in a similar manner, except that rice be substituted for cholam, the condition of the children would be much worse.

7. The conditions under which the food was served were often unsatisfactory. In some sheds, the floors were dirty, and some children did not have a plate and were eating from filthy clothing. Adequate provision was not always provided for drinking with the meal. Many of the food sheds were a long way from the kitchen sometimes as much as six miles. The food was carried from the kitchen in bullock carts and was not always adequately covered and protected for the journey.

8. No attempt was made at any of the camps to separate the children into their different age groups and to feed them accordingly. Indeed it was obvious that with the staff available such a procedure is practically impossible.

9. It is clear that children cannot maintain satisfactory health and rates of development under the conditions of relief as we observed them.

II. Discussion and Recommendations.

The present Famine Code for the Madras Presidency was drawn up and published in 1914 in the light of experience gained in the terrible famines, at the end of the last century. At these times the loss of life from actual starvation was enormous, and it was the primary duty of the relief to prevent this immediate and appalling mortality. The same conditions of emergency now undoubtedly exist. If no relief were provided, there would still be a large mortality as the direct result of starvation. But there is a further factor which must be taken into account, when considering any modification of the Famine Code. It is not only an emergency measure to save life in times of acute catastrophe, but also a system of relief which is frequently in action for long periods. Thus a small infant in the famine district in Bellary has the prospect of facing three or four famine periods each of about six months' duration before reaching adult life. It is possible, even probable, that such a child will be fed at relief works for as much as two years out of the total period of childhood. A diet, which might be adequate to stave off the immediate possibility of starvation, is not necessarily suitable for growing children over such long periods. The fact that approximately 35 per cent of the children in the Bellary camps have signs of deficiency disease shows that the relief given is not sufficient to maintain them in a reasonable state of health; such a diet does not provide enough nourishment for growth or adequate protection against infectious diseases.

From our observations in the famine area we have two specific recommendations to make. The first consists of the redrafting of the part of the Code dealing with the scale of relief for dependants in section 128 (a). The second is that more adequate supervision of the Code be provided. Each of these recommendations will now be considered.

Scale of relief for dependants—(a) Classification of dependants.—It was stated in a summary of our observations that no attempt was made to separate the children into their age groups and to feed them accordingly. We are of the opinion that it is a practical impossibility to separate the dependants into six classes and serve six separate rations without an enormous increase in organizing staff. At the moment the size of each individual child's helping depends on the whim of the coolies serving the food. It is recommended that dependants be separated into three classes instead of six. Although on paper it will then appear that the relief is being distributed less accurately according to individual needs and physiological requirements, in practice there should be a great improvement. For the present, subdivision into classes was never applied to any camp we saw and obviously never could be. Whereas the subdivision into three classes could and should be enforced with reasonable accuracy.

We therefore recommend that section 116 of the Code be amended as follows:—

116. On admission dependants shall be classified as follows:—

Class IV.—Male and female adults, and all children over the age of 9.

Class V.—(a) Children between the age of 5 and 9.

(b) Children between the age of 1 and 5.

(c) Children under 1 year.

(b) *The grain equivalent.*—It is recommended that the grain equivalent be abolished at least for dependants. It is essential that the cost of relief should be based on the price of vegetables and other foods in the local market. For examples, at the moment a child aged 12-14 should get under section 128 of the Code—

Grain equivalent.	Grain item.	Pulse.	Oil or ghee.	Salt.	Vegetables.	Condiments, etc.
TOLAS.	TOLAS.	TOLAS.	TOLAS.	TOLAS.	TOLAS.	TOLAS.
50	32.5	4	1.7	1.0	8	1.125

With current prices in the Bellary Bazaar the grain equivalent is 9.5 pies per day. The grain item 6.2 pies and the pulse item 1.3 pies. This only leaves 2 pies over for vegetables, salt, oil, condiments, etc. Whilst it is possible that under favourable conditions this might be adequate, it is undoubtedly usually insufficient to purchase the items in the Code. This indeed, was a complaint, which we heard several times from the camp authorities. It is probable that the 2 pies per child although not adequate under present conditions in Bellary can soon go a little further than it does at present.

Coincident with the alteration of section 116 of the Code, there must be corresponding change in section 128 (a), which it is suggested should now read as follows:—

	Grain.	Pulse.	Items in Tolas.		Vegetables including onions.	Condiments, tamarind, etc.
			Oil or ghee.	Salt.		
	TOLAS.	TOLAS.	TOLAS.	TOLAS.	TOLAS.	TOLAS.
IV. Dependants over 9 years of age	40	5.0	1.25	1.25	10.0	1.25
V. (a) Dependants over 5 to 9 years of age ..	30	3.0	1.00	0.75	7.5	0.75
(b) Dependants over 1 to 5 years of age	20	2.0	0.75	0.75	6.0	0.75
(c) Under 1			Cash dole.			

This differs from the present Code in the abolition of the grain equivalent, and in the reduction in the number of classes. There is also a slight increase in the supply of vegetables. It is also recommended that at least one-quarter of the vegetable ration should be in the form of green leafy vegetables.

It should be realized that the recommendation of the above diet schedule modified from the present Code cannot be a source of satisfaction to the nutrition worker. It contains no first-class protein, and children reared on it will not reach their full size, or acquire an optimum physique. The schedule represents no permanent standard or ideal; it should be taken as a purely temporary compromise with the economic conditions. The best that can be said for it is, that, if accepted and put into practice, a marked improvement on the present condition of children in the Bellary famine camps would result.

Oral evidence of Dr. R. Passmore.

Examined by Dr. R. ADISESHAN: Q.—You say that only dependants were examined by you. Can any conclusions be drawn from your report about the state of health of the actual workers?

A.—No.

Q.—If cholam is the staple grain, the calorific value of the food of class II workers, who do about two-thirds of a normal task, is approximately 2,200 calories. Do you consider this ration adequate?

A.—An intake of 2,200 calories per day is not compatible with the carrying out of hard physical work.

Q.—The rations given in the old table give a protein intake in the case of class I of approximately 90 grams, and class II approximately 70 grams per day. Do you consider this adequate?

A.—Yes. I do not think there is a serious protein deficiency in the present schedule.

Q.—Do you think that the deficiencies, which you noticed, were due to the fact that the quantities actually distributed were less than those prescribed in the Code?

A.—Yes.

Q.—Is this shortage due to the money available for the 'other items,' after subtracting the grain item from the grain equivalent, being inadequate to purchase the full quota, since the prices of 'other items' and grain are not in any way correlated?

A.—This is discussed in my report to the Surgeon-General. I have made with prices obtained from the Bellary bazaar a rough calculation showing the inadequacy of the grain equivalent in cash to buy the complete food schedule.

Q.—You state that 65 children had angular stomatitis and about 400 had xerophthalmia out of 1,175 children examined: that is 35 per cent of the children. Do you think that this percentage is excessive?

A.—Yes.

Q.—In paragraph 7, you refer to the manner of carrying food from the kitchen to the camps. I, myself, noticed that during the transport these moulds can be broken up and, when they are taken into the camp, the big man may get the small mould and the small man the big mould. Would it not be more convenient, especially taking the practice of the people into account, instead of boiling the grain and putting it into moulds to make chappatties? The transport will be easier and cleaner, and also the people are accustomed to take their grain in the form of chappatties.

A.—If the cholam can conveniently be made into chappatties, it would be a good thing to serve it, as such.

Q.—Could the dietetic value of the food be improved by having a proportion of the pulses, say about 10 to 15 per cent, germinated?

A.—Yes, this will certainly raise the vitamin content of the diets.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Can the grain item, as such, be reduced a little so as to allow an increase in the 'other items,' keeping the total cost within the same limits?

A.—No. I would not recommend a reduction of the grain item, as this would seriously reduce the caloric intake.

Dr. R. ADISESHAN: Q.—The fat item in class I is only 47 grams, and in class II only 27 grams approximately. Do you think that amount of fat adequate?

A.—Yes. I know of no signs of ill-health attributable to a fat intake of this order.

Q.—You have made a suggestion that one-quarter of the vegetable ration should be in the form of green leafy vegetables. The charge officers report that it is almost impossible to get any green leafy vegetables. Will you suggest any other substitute or any practical solution?

A.—The green leafy vegetables supply over half the amount of vitamin A activity. Vitamin A lack is the most serious deficiency in the diets and, if the leafy vegetables are going to be eliminated completely, it will be very difficult to raise the vitamin A activity.

Q.—Is it possible to reduce the shortage of vitamin A by including in the diet a small proportion of red palm oil? Is it an economically sound proposition?

A.—That might be possible, but the oil has an unpleasant smell, and would be unpopular. If it is possible to get deodorised preparations, it could be used with advantage. At the moment, I think the use of red palm oil might be tried experimentally on a small scale. I would not recommend its widespread introduction at present.

Q.—A suggestion has been made that, in so far as the supervision of food arrangements is concerned, it would be advisable to have a medical man appointed for the purpose. Do you think that there would be a greater improvement over the existing state of affairs if the food regulation is given to an officer of the Health department?

A.—Yes.

Q.—In order to avoid controversy due to the suggestions of the nutritional experts not being capable of adoption, do you think it would be advisable to appoint a sub-committee, consisting of a nutritional expert, an officer of the Health department, and a regular administrator, to draw up a dietetic table which will be workable and which will, as far as possible, conform with the latest knowledge of dietetics?

A.—Personally I would be willing to serve on such a committee, if appointed.

ABDOOR RAWOOF SAHIB Bahadur: Q.—The children have to walk 5 or 6 miles to receive their meals at 11 a.m. Will this not tell upon their health?

A.—I would advise the reduction of distances to a minimum, and suggest that as many sub-kitchens as are economically possible should be set up.

Q.—What is the normal distance which a child of 5 can walk without injury to his health?

A.—It is impossible to give a definite answer to this question.

Q.—Do you suggest that an earlier hour for serving the meal would be better?

A.—Yes, but I do not think this a very serious point.

Sri R. SURYANARAYANA RAO: Q.—You say in paragraph 1 of your summary of observations that no conclusions can be drawn from this report of the state of health of the actual worker.

A.—This is true; only dependants were examined.

Q.—Had you occasion to examine from the scale of allowances for the different items, whether they give the necessary calorific value and vitamin content to meet the needs of the individual worker?

A.—Class I in the schedule gets in all 2,860 calories, which is probably adequate for the conditions of work. This point has been discussed by Doctor Aykroyd in commenting on a letter from Lieut.-Col. C. M. Ganapathi, I.M.S., to the Surgeon-General with the Government of Madras, No. 803-2/V-S, dated 3rd July 1935. My opinion is that there is no serious deficiency in the present scale in calorific value. It is the lack of sufficient quantities of protective foods that is important.

Q.—The League of Nations Commission's report states that during pregnancy a woman requires 2,400 calories and a nursing mother 3,000 calories. As regards the pregnant woman, she gets a wage, which should enable her to get 2,600 calories, and I think it meets the requirements. As regards the nursing mother, she does not get the required number of calories because she only gets the wage plus one pice. Do you think that this quarter-anna will bring up the deficiency in the number of calories?

A.—A quarter-anna could purchase about 20 tolas of cholam, which would give about 800 calories. This will bring the calorific value up to the required level.

Q.—When your predecessor visited the famine areas in 1935, he wrote an article in the Indian Journal of Medical Research about the diet in the famine kitchens and pointed out certain defects. As a result of this and the Surgeon-General's insistence, Government revised the scale. Has this in any way improved the condition of the children? If not, why?

A.—This is an important question. I visited the famine area with Rao Sahib Dr. B. G. Krishnan, an experienced member of our staff, accustomed to

examining children. He also accompanied Doctor Aykroyd in 1935. He was of the opinion that no improvement had taken place in the general condition of the children. This opinion agrees with the objective finding that the incidence of xerophthalmia 35 per cent was approximately the same in the two years. The fact that the increase in the schedule has resulted in no marked improvement in the condition of the children is due, in my opinion, to the continued use of the grain equivalent and inadequate supervision of the kitchen and stores.

Q.—You suggest a new classification. Would it bring about any changes in the diets of these children?

A.—The suggested new classification would make no very great changes in the diets. It would, however, simplify very greatly the administration and supervision of the relief.

Q.—Do you think a child over 9 years would consume the same quantity as a male or female adult?

A.—A boy of 10 needs as much food as an old man. The adult dependants are mostly very aged and do no work.

Q.—Do you think that the diet prescribed by you will satisfy most of the requirements?

A.—It is not an ideal diet, but, if introduced, it will remove many of the present deficiencies. My views on this point are given in my report.

Q.—Had you occasion to find out how this grain equivalent was reached at any time?

A.—I don't know its history.

Q.—The 'grain equivalent' system postulates that the prices of other items fluctuate proportionately to the price of the grain item. Is this not so?

A.—Yes. As it is, the grain equivalent system is very unsatisfactory for dependants. But with a reduced number of classes, it would not be difficult to work out at regular intervals the price of the whole relief for each class of dependants.

Q.—Can you provide a scale for the workers as you have done for the dependants? There is a suggestion, to raise the age-limits for classes I and II and to make class III include persons between the ages of 12 and 16 instead of 12 and 14 (page 31, section 97). But under your classification there will be a conflict between class III and class IV.

A.—I have not considered class III in my suggestions.

Q.—If an upper age-limit is fixed, will it be possible, taking for granted the abolition of the grain equivalent, to prepare a scale, similar to that for the dependants in the case of workers of classes I, II and III.

A.—This could certainly be done. It is, however, absolutely certain that the relief given to the workers will be in cash and not in kind. So such a scale would never actually be put into effect.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—I want to know whether a readjustment of the articles in the famine diet could secure the maximum calorific value. My point is that you might be able to increase one item and decrease another item so as to get the maximum calorific value within the limit fixed.

A.—The most calorific substance is grain.

Q.—I want to know whether, within the limits laid down here, it is possible to get a greater calorific value by altering the proportions of the ingredients.

A.—It would be possible only by increasing the grain. This would involve a reduction in the amount of protective foods, and accentuate the already big deficiencies in vitamin A and calcium. The calorific contents of the diets are already comparatively adequate.

Q.—Are you satisfied that the ingredients of the diets are in the best proportions within the limits of the Code.

A.—Yes.

Q.—Can you suggest a formula, so as to enable the 'other items' to be cooked together and distributed to all classes?

Dr. R. ADISHAN: Q.—As the soup is prepared at present, it will not be possible to avoid inequitable distribution. If instead of a soup, a more concentrated stuff or better still a chutney combining all the ingredients could be made, then it could be measured out.

The CHAIRMAN: Q.—Soup can be made to one formula, and can then be distributed with three different sized ladles. That would meet the requirements. Can a formula be given for that?

Doctor Passmore agreed to prepare a note on (1) a diet scale for workers as for dependants, and (2) a common soup for all classes of dependants, and to submit them to the Chairman.

In reply to a question, witness said that the cost of supplying buttermilk made this suggestion impossible with the present scale of relief.

Sri T. A. Ramalingam Chettiyar asked whether he noticed any deterioration in the health of the workers after he last visited the famine works.

Witness replied that he had only visited the works once. The Chairman suggested that it would be very useful if he could pay a second visit and report whether there had been any deterioration during the interval. Witness said that he would consider this suggestion.

Sri K. KOTI REDDI: Q.—Do you think the present scale gives sufficient nutrition to keep the workers thoroughly fit for work in the future? Is there the slightest chance of any physical deterioration taking place, which will stand in the way of their ordinary work at a later stage?

A.—I agree with you that, if possible, there should be no physical deterioration in the camps. I have pointed out the deficiencies in the diet, and made certain suggestions. But these are only an economic compromise. A further improvement in the scale would be necessary to insure against any possibility of physical deterioration. This point is discussed in my report.

Q.—Where greens have to be got from long distances, they get dried up. Do you think the nutritive value will be lessened thereby?

A.—To a small extent only. The greater part of the nutritive value of green leaves is retained during storage.

Q.—In the case of nursing women, some special food is required. Do you think that this extra pice would be sufficient for this purpose?

A.—With the present prices, the extra pice will buy sufficient grain to provide the extra calories needed, but it would not provide the extra amount of vitamins and calcium which are essential for normal health during lactation. The nursing mother would benefit more, if a larger dole was available to provide a better type of food.

Q.—Does it make any difference in the dietetic value if food is served hot or cold?

A.—No significant difference.

Q.—On the present scale, if a portion of the rations that are now allowed to the parents has to be shared with their children, would you consider the diet to be very defective for the workers?

A.—Yes.

Q.—Supposing a worker works six days and takes rest on the seventh day, do you expect him on the rest day to eat less, or should he be allowed the same rations as on the work day?

A.—There is no reason to expect him to eat less.

The Committee rose for the day.

18th August 1938.

The Committee reassembled at 10 a.m. in the Board's office with Mr. C. A. Henderson in the Chair. The following members were present:—

Mr. F. M. Dowley.
Sri Diwan Bahadur N. Swaminatha Ayyar.
„ K. Koti Reddi.
„ Kallur Subba Rao.
„ R. Suryanarayana Rao.
„ T. A. Ramalingam Chettiyar.
„ N. Sankara Reddi.
Abdul Rawoof Sahib Bahadur.

Mr. D. I. R. Muir, the Secretary, was also present. After the further oral examination of Mr. A. A. Smyth, Mr. C. C. Wilson, Chief Conservator of Forests, was examined.

Written evidence.

SECTION I.

Measures for the prevention of famine.

1. In my opinion there is no doubt at all that famine could be mitigated in the Ceded districts by extensive reforestation. I refer to this in greater detail under 2 (e) below.

2. (a) (i), (ii) & (iii) *Major irrigation*.—I have no suggestions.

2. (b) (i) *Minor irrigation and wells*.—The destruction of forests throughout the Ceded districts is no doubt a major cause of the decrease in the water held in tanks and wells in the area.

2. (b) (ii) I would suggest reforestation which will certainly prevent silting up of the minor irrigation sources.

2. (b) (iii) The failure of minor irrigation sources when the monsoon fails will be less if the surrounding country is covered by forest growth, as it has the effect of retaining moisture in the soil, instead of allowing it to run off in floods, and evaporate from the bare soil.

2. (b) (iv) I have no suggestions.

2. (c) *Contour bunds*.—The formation of contour bunds in forest areas has had the effect of retaining moisture in certain localities.

2. (d) *Dry farming*.—I have no suggestions.

2. (e) *Afforestation*.—Afforestation should have a marked effect on decreasing the severity of famine. Of far more importance, however, would be *the prevention of the destruction of the forests in the first place*. Such destruction though gradual is already proceeding in the case of many of the panchayat forests in the Bellary and Anantapur districts. In spite of reports to the effect that these forests are working well, I am firmly of the opinion that this is rarely the case.

Reforestation could be undertaken both as a famine relief measure, to give employment to the unemployed, and also as a measure to mitigate the severity of famine when it occurs.

As a famine relief measure nurseries could be raised on small suitable areas of land where water was available for the purpose. It should be noted that for such forest nurseries water requirements are small. At the same time the ground could be prepared in the area to be planted up, in anticipation of the end of the drought when the seedlings raised in the nursery could be planted out.

As a measure for the mitigation of famine, reforestation could, in normal seasons, be put in hand on a large scale along small and large water-courses and streams where at present there is little or no growth.

The effect of forest growth on water-supply is to retain moisture in the soil whence it gradually flows to stream beds and tanks, instead of running away, often in the form of floods, immediately after the rainfall, as it does when there is no growth on the ground and no leaf fall or humus to act as a sponge.

It is not easy to recommend the correct species to plant for the purpose in view without examining the terrain; but it is possible that cashew (*Anacardium occidentale*) will grow in the Ceded districts as it will grow in most soils; it is worth trying since, if it will thrive, it would be the best species possible to plant, as, not only does it cover the ground well, but also it has a prolific leaf fall which can be used in normal seasons, for a limited time each year, as an efficient leaf manure; and further it produces a nut that is an excellent food in itself, and produces it prolifically. The wood can also be used as a fuel when the trees mature.

Another species that it should be possible to grow without difficulty is *Cassia siamea* produces a food, and the fruit is saleable, but it has a disadvantage that shrubs and other small growth will not thrive under its shade.

Another species that it should be possible to grow without difficulty is *cassia siamea* which is a good fuel species, is almost indestructible by even the most improvident villager, and yields an excellent green leaf manure.

Another useful species to plant in tank-beds and on bunds would be the common babul, as its leaves are a favourite fodder for goats, and the timber is useful for house-building, and the smaller wood for fuel

Avaram or tangedu (*Cassia auriculata*) can also easily be raised in these districts, and it would, as well as covering the soil, produce an excellent tanning material, which could be used by the local populace as a cottage industry in the preparation of goat and sheep skin for the market.

If serious proposals to start reforestation are entertained, a considered scheme can be prepared by the Working Plans Circle of the Forest department, if it is still in existence.

2. (f) *Alternative sources of employment*—(i) *Large-scale industry*.—The production of frames for slates, and also for pictures, on a considerable scale would be possible if either Government or any private interest were prepared to finance such a scheme. The timber required is available in sufficient quantities in the Kurnool forests.

There is also a vast supply of grass in these forests from which a paper pulp of fair quality can be made, again if Government or private enterprise is willing to finance the project.

(ii) *Cottage industries*.—Paper-making from these immense supplies of grass could, I understand, be undertaken also as a cottage industry on the lines advocated at Wardha.

Making slate frames could also be undertaken as a cottage industry if the local authorities, or some public-spirited private individual, were prepared to erect and operate small portable sawmills for the purpose of supplying the necessary sawn sizes to the cottagers.

2. (g) I have no suggestions.

SECTION II.

Purposes and principles of famine relief.

3. I have no remarks.

4. *Chapter II of the Code—Preliminary Measures*.—I have no suggestions.

5. *Chapter III—Period of observation and test*.—I have no suggestions.

6. *Chapters IV and VI*.—I have no suggestions.

SECTION III.

Scale of diet.

7. I speak with diffidence as this subject is outside my province, but I have recently been in communication with the nutrition experts at the Pasteur Institute in Coonoor, in connexion with the diet at Borstal institutes, and I am informed by them that the most crying need of the poorer population of South India is a supply of milk; they tell me that powdered milk if given regularly has nearly as good an effect as natural milk, and that the cost of a sufficient quantity amounts to only As. 12 per month per individual. Further, if expenditure on this scale is impossible, they state that a sufficient supply of calcium lactate (half a gram per day), which though not of such high food value as powdered milk, is nevertheless of very great value, would cost only half an anna per individual *per month*. I suggest that the supply of either powdered milk or calcium lactate might with advantage and without greatly increased expenditure be added to the diet. I would be glad to see it distributed in lieu of part of the money wages earned by workers, and also as a free distribution, to children especially, and to others who cannot work.

8. (a), (b), (c) & (d).—I have no suggestions.

SECTION IV.

Size and nature of famine works.

9. I have no suggestions.

SECTION V.

Famine works of more appreciable benefit to the Community than stone-breaking.

10. I would suggest reforestation in the first place, as suggested in 2 (e) above.

In the second place I would suggest the consideration of making silage from the enormous supplies of grass available in the Kurnool, Cuddapah and Anantapur forests. Whether such silage would be palatable as fodder for cattle would have to be tested experimentally in normal times, in anticipation of the arrival of famine. I am having this done as a forest operation on a small scale, and if the suggestion is approved, I will report the results to the Famine Committee in due course.

Silage should be made from green fodder, it need not be only from grasses but the leaves of such trees as are ordinarily browsed by cattle can also be used; it is probable that in time of famine the grasses in the forest would be dry, and it would therefore seem advisable that the making of silage as fodder should be undertaken directly the approach of serious drought is anticipated; or even it might be well to manufacture in normal seasons, and hold stocks, of such silage in large quantities, in anticipation of shortage; silage will keep for two years or more if properly prepared and stored.

The provision of watering places for cattle in forest grazing grounds, where they do not already exist, in accordance with an approved programme, would be a most beneficial famine relief work which would be of great value to the local populace in normal times. Detailed schemes for such work will be drawn up if required.

Another beneficial form of work that could be undertaken in the forests is road construction and improvement. Forest roads, though primarily for the extraction of forest produce, are nevertheless of great benefit to the surrounding population.

SECTION VI.

Expansion of the ordinary programme.

11. Under section 33-A, I have no suggestions to make beyond those made in connexion with the manufacture of silage referred to above.

Under section 212 I have no suggestion to make.

SECTION VII.

Reduction of expenditure on famine establishment.

I have no suggestions to make.

Oral evidence.

Examined by ABDUL RAWOOF SAHIB Bahadur:

Q.—Are you of the opinion that panchayat forests are not working satisfactorily and all of them must be taken over by the Forest department and made reserve forests?

A.—Forest department is not supposed to have any control over the panchayat forests at all. From reports I have heard, I understand that there are very few panchayat forests which have not deteriorated; but I am not in a position to give any definite opinion in the matter. Roughly speaking, there were some 3,000 square miles of forests which were given away to the panchayats in about 1923-24. If those 3,000 square miles can be taken back by the Forest department it would be an excellent thing, but it would require an additional Conservator of Forests, who is an officer on high pay, because 3,000 square miles would constitute a circle, and it would need five or six District Forest Officers.

Q.—These forests are not concentrated in one place?

A.—No. But we can readjust. It would be a good thing if the panchayat forests were put back under the Forest department and a great deal spent on reforestation.

Q.—Don't you think that there would be corresponding benefit for the expenditure involved?

A.—Yes, without doubt.

Q.—Have you definite reports to the effect that in these areas under the control of the forest panchayats, trees have been cut and removed?

A.—I have no evidence before me which I can produce before the Committee. I have been informed by various people well qualified to speak that in a large number of cases in these panchayat forests the growth has deteriorated. The quality has deteriorated and the amount has decreased. Personally I cannot see how it could have been otherwise.

Sri H. SITARAMA REDDI: Q.—Since you say you were in Bellary Circle, I believe you know the Moka reserve forest?

A.—Not very well.

Q.—Would it not be good to extend that forest all along the banks of the Hagari?

A.—Yes, that type of forest.

Q.—Would it also help to some extent to increase rainfall in the district?

A.—No.

Q.—What will be the purpose served then?

A.—It would conserve the rainfall. It would not increase the fall of rain. The leaves that fall from the trees, the decayed form of which is called humus and the shade of trees would prevent evaporation of the water. It would soak into the ground and be retained instead of running away in a flood as it does when there is no growth on the ground.

Q.—In Bellary district there are several areas of rocky soil where you find it is not possible to grow big trees but only small shrub-like things. Can you suggest any particular species of trees which can be grown on such soils?

A.—In certain forests which look as though they are full of boulders, enormous trees can be grown. While in certain others where on the surface soil you don't see boulders, you cannot grow anything. It is probable that in those forests you are referring to, it would be possible to grow real trees but at considerable expense.

Q.—Do you think it would be better to examine these areas before reforestation is taken?

A.—Yes.

Q.—You say that it is possible that cashew will grow in the Ceded districts. Do you think it can be grown all along the Hagari river? I believe it grows in sandy soil.

A.—Cashew is grown in sandy soil in Tinnevely, in laterite soils in South Kanara and Travancore. We have planted cashew in the poor rocky soils of Chittoor and the trees have grown for four or five years and have produced a rather inferior fruit. Therefore it is probable that cashew can be grown well along the Hagari river in Bellary district though I can't be certain. It is certainly worth making an experiment.

Q.—In paragraph 7 of your evidence you say "that the most crying need . . . milk." I believe you agree with me that the present wages paid to the workers in the famine do not provide for any such thing, and the amount of money allowed in the Code is only for ordinary food. May I take it that it is your view that the necessary additional money should be added to the scale to provide for milk?

A.—That is a difficult question to answer. I don't know the amount of money that is spent on famine relief.

Q.—If there is no provision already for milk do you think that it should be provided for?

A.—Yes, it would be a very good thing. I have been in communication with the nutrition authorities and I understand that a supply of calcium lactate, half a gram per day, would give the children half the nourishment that 8 oz. of milk would give them and that it would cost under one anna per head per month.

Q.—You say silage will keep for two years or more if properly prepared and stored. Do you know anything about it?

A.—I don't know anything about silage personally. When I was at Hosur a month or two weeks ago I was told that silage kept in pits uncovered must be eaten quickly, lest it should decay, but so long as it was kept sealed it would last for two years. We are making experiments with lantana as well as with grass silage. But we do not yet know whether cattle will eat it when we have made it. I have no exact knowledge of the nutritive effect of lantana silage. It might have a bad effect on cattle, but we are experimenting on a small scale to find this out. I have given instructions to the Conservator of Bellary to conduct experiments with grass silage, and to the District Forest Officer, Salem North, to try lantana silage.

Examined by Sri R. SURYANARAYANA RAO: Q.—In reply to a question you said that the existence of forests does not promote rainfall or increase rainfall but I see that Mr. Richmond has quoted in his report some evidence to show that there is some effect on the rainfall?

A.—There might be an increase of 0.5 per cent. The increase, if there is any, is so low that the majority of the experiments that have been made by scientific people have shown negative results. One or two very carefully controlled experiments have shown a very small increase in rainfall, possibly of 0.5 or 0.3 per cent. But that would be over a large area. Over a small area in one particular place afforestation might cause precipitation and so show a heavier rainfall there but that might detract from the rainfall a little further off in the same locality.

Q.—In view of the indirect benefits of forests on the economic prosperity of a place, such as increase in the moisture, retention capacity, would you advise that this destruction of forests should be prevented at any cost?

A.—Yes, most decidedly.

Q.—Do you think that during the past 10 or 15 years there has been a great deal of disafforestation in the Ceded districts?

A.—I understand "disafforestation" to mean that Government have thrown out of the reserves certain forests which were reserved before. Do you mean that or do you mean destruction of forests?

Q.—I mean both?

A.—There has been a certain amount of disreservation and certainly a great deal of destruction.

Q.—You mention that 'the destruction of forests throughout the Ceded districts . . . in the area.' Can you say whether it is due to disafforestation or general destruction?

A.—When I made that remark I was thinking of the destruction of forests in the Ceded districts during possibly the last 500 to 1,000 years that has resulted so largely in the loss of water. But in the last 10 or 15 years there has certainly been destruction of forests, to what extent I cannot say. There has also been disreservation by Government, but I cannot think of any specific instance. I can get the details, if required.

Q.—You have suggested that "the failure of minor irrigation sources—forest growth." Do you advocate, as one Collector did, what is called "foreshore plantation" and the reservation of all poramboke lands for plantation rather than for assignment, in order to increase supplies to minor irrigation sources?

A.—The reafforestation of the foreshores would not have a great effect unless it extended considerably further than the foreshore. A small belt of trees would not have much effect; a big belt of trees would help a great deal.

Q.—Wherever Government land is available you would like that to be converted into forests?

A.—Reafforestation would certainly help minor irrigation. But I would not advocate that all waste lands should be given for this purpose. They may

be needed for cultivation which is, may be, of greater importance. Where it is not required for cultivation, or other important purposes, I would strongly advocate reafforestation.

Q.—You say that "the formation of contour bunds . . . in certain localities." Is it your opinion that in certain other localities it has not been very successful?

A.—Yes.

Q.—You gave up contour bunds in the forests because they were no good. Is it so?

A.—Yes. It is probable the Agricultural Department are doing contour bunding on a more scientific basis and are getting good results. It might be a good thing to start it again in the forests. I have seen good results from contour bunds in the forest, but the expense was considered to be out of proportion to the benefits derived, and it was stopped many years ago.

Q.—Were they maintained in good condition?

A.—The bunds we made were across hollow places and small streams, especially where erosion was threatened or had started; the result was that the wash of the water carried leaves and silt into the spaces above the bunds and filled them up. We hoped that forest growth would appear in the improved soil behind these bunds, but as the results were generally insignificant and the cost considerable we left off. There has been a lot of contour bunding in Bihar and Orissa. There has been a great deal of talk and counter talk in Forest journals on the question whether it increases rainfall or not. I don't believe it does.

Q.—You are of opinion that, in spite of official reports, the forest panchayats instead of conserving and improving forests in their charge, have caused destruction?

A.—Yes.

Q.—Do you think the recent appointment of the Forest Deputy Tahsildars is going to improve in any way the management of these forest panchayats?

A.—Most unlikely.

Q.—Why do you say so?

A.—Some rudimentary knowledge of forestry is necessary in order to control these forests and make suggestions. Conservation of bad forest and more especially the improvement of denuded areas requires an even higher knowledge of forestry than does the conservation of forests full of good timber.

Q.—Are our Collectors competent? Are they well acquainted with forestry?

A.—I do not think there is any Collector who is well acquainted with the principles of forestry.

Q.—Supposing a Ranger is lent to the forest panchayats, will it not be of more help for improving the forest panchayat system than the appointment of the Deputy Tahsildars?

A.—If a good Ranger is selected it would be a very great advantage.

Q.—You think in that case perhaps the existence of the forest panchayats may be continued?

A.—Greatly better results would be obtained if they were placed under the control of the Forest Department, provided sufficient extra forest establishment was provided.

Q.—Instead of creating extra forest officers, will it not be possible to have these Deputy Tahsildars replaced by the Range Officers of the same grade and in addition the District Forest Officers act in an advisory capacity to the Collectors?

A.—It would be better than the present system. I think it would not lead to any great improvement as it would not be possible for the forest officers in addition to their normal duties, to visit, inspect and control these large extra areas of forest.

Q.—In view of the importance of forests in these areas, do you think whether these panchayats could be abolished for some time at least, say till the forests are restored to the position in which they were once?

A.—It takes 15 years to destroy a forest and nearly 100 years to make one.

Q.—Even if your suggestion is carried out, it does involve extra staff, at least one for each district?

A.—It involves the creation of considerable extra staff if it is to be done on a large scale.

Q.—You have suggested in your written evidence that in the programme of famine works re-afforestation and making of roads in forests may be included. May I take it that at present the Public Works Department and the Collectors do not consult the Forest Department when they prepare the famine programme?

A.—I do not know. I have not been in a famine circle for a very long time.

Q.—You think it would be good to consult?

A.—Yes.

Q.—You suggest that on the tank bunds and on the bunds of channels, the Public Works Department and the Revenue Department should grow tamarind, babul and other trees. In that case whose duty it will be to maintain them?

A.—I do not know whose duty it is.

Q.—I think in the case of Public Works Department tanks the Public Works Department must grow those trees and in the case of minor irrigation tanks the Revenue Department. Is it not necessary that it should be laid down as one of the functions of the department?

A.—I think it should be laid down.

Q.—About thangedu, do you think that the waste lands in Government areas should be assigned or leased out to people who want to cultivate them instead of allowing them to lie waste? Some people may want to grow thangedu?

A.—Why do the local people grow thangedu?

Q.—As a commercial crop. The bark can be used for tanning, the leaves as manure and also the flowers are used for some kind of drink and the cultivation of it also does not require much attention. (But the Director of Agriculture told me that thangedu also required a particular kind of soil to grow.)

A.—In that case waste land can with advantage be given to private individuals for the formation of thangedu plantations. Thangedu will grow readily on very poor soils. The Forest Department can advise as to the best and cheapest method of raising such plantations. They will have a beneficial effect on water conservation.

Q.—Mr. Viswanatha Rao has suggested that as there was not enough of that kind of timber which is required for frames for slates and pictures in the Nallamalai forests, the Forest Department should grow that timber in those areas. Do you think there is already enough timber suited for this purpose?

A.—There is a great deal of the correct variety of timber growing in those forests. Much difficulty in transport is met with as the timber grows scattered over extensive areas and the cost of transport to the place where it could be sold is therefore very high. That is why in some cases frames are imported from Calicut and even Japan.

Q.—What can be done to grow that timber in sufficient quantities?

A.—It is doubtful if it would be advantageous to grow such timber, as it is useless for any other purpose and therefore, when the plantations were mature the timber could not be sold except to the manufacturers of slate frames, who could thus be in a position to dictate their own terms. Furthermore by the time such timber becomes mature, some 20 to 40 years hence, it is quite likely a substitute for wooden slate frame (e.g., perhaps rubber) will have been introduced.

Q.—If the timber is at present in sufficient quantities why does not the Government start a small factory to cut it into small sizes and find out a market as in the case of sleepers?

A.—The timber available may not be sufficient for starting a factory on an economic basis; it is more a matter for private enterprise. If private contractors take it up we can give them the timber at definitely concessional rates to foster such an industry.

Q.—I think state aid may be given to such an enterprise?

A.—This might be done but I am not in a position to express a definite opinion.

Q.—In reply to my friend you have suggested either calcium lactate or skimmed milk could be given. Do you think that at least a part should be added in the diet scale for the children?

A.—It would be a very good thing. If good milk is not available, skimmed milk powder imported from New Zealand may be given.

Q.—Would you like a certain amount added to the wages of workers to enable them to purchase buttermilk?

A.—In lieu of wages I think it would be better to distribute this skimmed milk powder. It would cost 12 annas per person per month.

Sri KALLUR SUBBA RAO: Q.—You have said that the destruction of forests have taken place in the Ceded districts. Can you tell me when and how? Is it after the forests have been handed over to the panchayats?

A.—I meant that since the history of India started, the forests have been gradually destroyed. I did not mean so much the destruction that has taken place in the last few years. They may have been or may not have been very great; I am not in a position to say exactly.

Q.—Are you sure that the forests under the Forest Department have not been destroyed?

A.—Destruction of forests is taking place in certain areas, even though the forests are under departmental control, as we have not the powers and the staff to protect them effectively.

Q.—Do you think that the Forest Act is conducive to good relations between the people and the forest officers?

A.—You may as well ask whether the Criminal Procedure Code is conducive to good relations between the criminal and the police. It may be expected to make for good relations between the Forest Department and those of the population who obey the forest laws.

Q.—Is it not a fact that the forest panchayats are administered mainly as reserve forests?

A.—They were intended to be so but I believe the management is not as good as it was hoped it would be.

Mr. F. M. DOWLEY: Q.—You said in reply to one of the members that the forests do not increase rainfall. But you have said that the destruction of forests is a major cause of the decrease in the water held in tanks. I do not quite see how it follows?

A.—If the rain falls on a bare surface it runs straightaway into the nearest stream and so to the river and the sea and it is lost. If the water falls on a forest floor, even though it may be sparsely covered, the run off of the rain-water is not so rapid.

Mr. H. R. DOGRA: Q.—You have suggested that re-afforestation might be taken up as a famine work. Do you suggest that the work should be taken up departmentally or on a piece-work system?

A.—I have not considered the details. I should think it might be better to do it on piece-work contract.

Q.—What are the plans to carry them out?

A.—No plans have been formulated.

Q.—Is it possible to introduce it through famine coolies?

A.—Yes; if they are properly supervised.

Q.—The piece-work system you advocate. Is it not?

A.—I have not considered the problem in detail.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—In a district like Bellary where there is scanty rainfall don't you think that the forest floor will absorb all the moisture and not help as you suggested?

A.—No.

Q.—How do the forests help rainfall?

A.—Indirectly.

Q.—In case where the rainfall is already scanty the question of forests helping the rainfall is only problematical then?

A.—I do not agree with that view. There is an enormous tank, near Penukonda, and on one side you have got a hill covered with forest; on all the other sides the hills have been completely denuded of forest growth. This great tank must have been built to contain vast quantities of water. Forest growth on the hills all round would certainly help to fill up the tank when rain fell, and keep it full; the run off of the water from the hill sides would be gradual and more continuous, it would soak further into the soil and so raise the general water table; and evaporation would be a great deal less.

Q.—That is only a surmise?

A.—No. I have not exact knowledge, but the inference is very strong, and is the result of much professional experience.

Q.—The point I wish to make clear is that from the experiments made, especially in places of scanty rainfall, the fact that forest growth helps the rainfall is doubtful. It has not been proved.

A.—Forests do not increase rainfall to any significant extent. It has, however, I think, been proved in many places, that forests conserve the rain after it has fallen.

Q.—It has been shown that this afforestation has not done good.

A.—I do not think this has ever been proved. I can say that where forests have been destroyed the conditions have been very definitely less satisfactory than they were before. I can also state that it is a fact that when forest growth is destroyed the water flow is diminished.

Q.—Will the forest growth tend to raise the sub-soil water table?

A.—I cannot talk very scientifically about water tables. I was however told by a District Board Engineer who had been working in the Cuddapah district for many years that the water table had fallen by 20 feet, and he put it down entirely to the destruction of the forest growth in the surrounding area.

Q.—Do you think the falling of leaves is the most useful element in conserving the moisture?

A.—I would say useful but not the most useful.

Q.—Would not the undergrowth and grass and other things use up water and affect small tanks?

A.—No, certainly not.

Mr. F. M. DOWLEY: Q.—Talking about Penukonda tank you said that when you saw it the other day there was only a small pool of water. I think you inferred that if the hill had been covered with forests instead of having a small pool of water you would have the tank reasonably filled. You also said that forests do not help rainfall. If it is so, how can forest growth change a small pool of water into a much larger quantity?

A.—That is a difficult subject. My opinion is that the growth on the hill sides retains the moisture in the soil for a longer period and allows it to percolate to lower levels and so raises the water table; prevents erosion and consequent loss of water; prevents evaporation, which is very rapid from a bare hot hill side; and prevents waste of water by flood.

Q.—If there is a surplus in the tank in a year of heavy rainfall, I admit that forests could prevent the waste. But if the tank does not fill I cannot quite see what the effect of the forests would be?

A.—Even assuming that the water which falls on the hills will run into the tank whether there is forest or not nevertheless forest growth will retard evaporation and consequent loss of water and will prevent erosion resulting in the formation of new outlets for the water which do not lead to the tank.

Q.—If you have a tank full, the water table will come up. Is it not?

A.—I should think that that is most certainly so.

Sri K. KOTI REDDI: Q.—Apart from the fact that forests contribute to the making of rains or conserving the moisture we are also interested to see that the resources of these famine-affected areas are improved. May I ask you, in what way the Forest Department can help us in order to increase these resources? The provision of fodder is a very difficult thing. In what way can the Forest Department help us or have you any suggestion which will help us to mitigate the famine?

A.—The forest will help to conserve water; apart from conserving moisture, it will make the soil fertile if the water table rises and the tanks fill. If there is plenty of forest it would go a long way to improve matters in this respect. Apart from this it is also possible to grow various forest crops the leaves of which cattle will eat. There are various methods by which afforestation could help.

Q.—You believe that in certain areas where there are less fertile tracts they could be utilized for the purposes of afforestation so that enough timber and fuel of economic value could be produced?

A.—I don't think afforestation would help us to grow valuable timber in these arid tracts. Fuel we can grow and we can also make charcoal out of it.

Q.—Do you know the various uses that charcoal is put to?

A.—In India mostly for cooking.

Q.—Charcoal is nowadays used for running motor buses, in Western countries?

A.—Yes, in France, Germany and Italy.

Q.—As in this country there are large areas where ordinary foodstuffs cannot be grown and where fuel can be grown with ease, one day we hope we could use charcoal for our motor buses and cars. In such an event will it not be a useful proposition to think about charcoal?

A.—If the use of charcoal gas becomes popular it most certainly would be.

Q.—Can you suggest how the ryots could be induced to take to afforestation?

A.—Impossible.

Q.—Supposing the Government allows some concessions of land revenue or collects the land revenue at the end of 5 or 10 years when the trees yield—Do you think that that will induce the ryots?

A.—It is most unlikely.

Q.—If you feel the ryots are not likely to take to planting of trees, why should not the Forest Department do it?

A.—Some non-official wealthy gentlemen might be able to induce the local people to grow trees for their own good. In the Nilgiris the Hon. Mr. V. I. Muniswami Pillai explained to a meeting of ryots that the planting of fuel trees by communities would be advantageous and that the Forest Department would supply the young plants free for planting out, on land given free by the Revenue Department. After a great deal of persuasion the people promised that they would try this scheme. Some of them however even went to the length of asking who would dig the pits. Though many of the people promised to do this at the time practically nobody has actually done it as yet. I think one man has started planting trees on these lines. It ought surely to be possible to get village forests planted if the forests belonged to the village and if the people knew they could do whatever they liked with them. I think it however will be long time before we can get this done.

Q.—In the red soils of Anantapur and Chittoor districts which are only used for cultivating horsegram, can't tree planting be done by inducement?

A.—It must be a very big inducement. You must make the ryot realize what is good for him.

Q.—Extensive afforestation not only in the forest areas but in the ryots' lands I think this would be an excellent thing?

A.—Yes. The ryots could with great advantage plant fast growing trees on their own waste lands, divide them into blocks and use them for browsing their goats in each block in rotation.

Q.—Rearing of goats is useful in the Ceded districts?

A.—Yes.

Q.—Can you tell us in what way the prohibiting of grazing goats altogether in the forests can be modified? Is there any means by which you can make some provision for grazing?

A.—The forests that are being destroyed by the panchayats could, if worked on a short rotation, help matters.

Q.—If some of the forest areas now under the panchayats are handed over to you on this condition that they may be used for goats and sheep, I suppose you are prepared to have a scheme by which you could do this?

A.—Given sufficient establishment I could do it but I would not recommend it. If any panchayat forest is given back to me on the condition that I must provide for goat browsing I will do so, but I would not recommend it as the goats are sure to destroy the forest.

Q.—Is it impossible with sufficient control either by the Forest Department or by the Revenue Department that improvement in the way of planting trees for the maintenance of forests cannot be done?

A.—You refer to the question of control. If sufficient professional control is made available the panchayat forests could be well managed.

Q.—You think that forest panchayats under proper control could really be improved?

A.—Yes, certainly, those that have not gone too far.

Q.—With regard to the difficulty about fodder, you suggested that there are certain trees which have leaves useful for the cattle. Have you got quite a large number of them in the forests?

A.—Yes.

Q.—Do you suggest in view of the difficulty for getting fodder during famine times some definite steps should be undertaken by the Government in their reserve forests to have such trees?

A.—It will take less time to grow grass than plant trees. The cattle also prefer grass to leaves.

Q.—There is this difficulty. During famine times no grass will grow.

A.—Yes, that is so, and the trees will still have some leaves.

Q.—So far as Kurnool forests are concerned, can they not be exploited for the purpose of slate frames and match manufactures?

A.—Slates yes—matches no.

Q.—Do these forests contain sufficient grass for establishing paper industry?

A.—We have sent specimens to the Forest Research Institute at Dehra Dun in order to see what kind of paper can be made. The investigation is now in progress. The question is whether it makes a paper of sufficiently high quality.

Q.—What about the cashewnut? Is the yield much more in sandy soils than in red soils (I mean the soil fit for horsegram cultivation)?

A.—We get very good yields in Malabar and South Kanara districts.

Q.—Is it due to the soil?

A.—I think it is due to the moisture retained by the soil. I know it is grown in some parts of Chittoor and Madanapalle but I cannot yet say whether it will thrive over large areas in the Ceded districts. If it will do so it is an ideal species to plant for famine relief purposes.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—What about the cashewnuts grown in south of Tanjore?

A.—I have not served in Tanjore and I do not know.

Sri K. KOTI REDDI: Q.—You have suggested tamarind trees on black cotton soils. The difficulty is this. The yield is very very small?

A.—Is it? But they get a good yield in Coimbatore district on such soils.

Q.—Will you suggest margosa as it is a useful timber?

A.—Yes.

Letter from C. C. WILSON, Esq., I.F.S., Chief Conservator of Forests, dated 1st September 1938.

In continuation of the evidence that I gave before your Committee on the 18th of August, I have the honour to enclose an extract from an able article on soil erosion by R. Maclagan Gorrie taken from the issue of the *Journal of the Royal Society of Arts* for the 29th July 1938. This extract puts more clearly than I was able to do the truth regarding the effect of forest as opposed to grass in conserving water-supply.

I would be grateful if you would place this extract before Mr. Dowley, Chief Engineer for Irrigation, and Diwan Bahadur N. Swaminatha Ayyar, retired Chief Engineer, especially, as well as before the other members of your Committee.

The whole of this article on erosion would no doubt be of interest to you but it is too long for me to copy out and I would refer you to the journal quoted above if you wish to read it.

I also enclose an extract from a paper recently written by Mr. A. Grasovsky in connexion with his "Tour of the World for the Study of Soil Erosion

and Control Methods," under the auspices of the Carnegie Corporation, which serves to bear out my contention that forest cover has a markedly beneficial effect on the retention of moisture in the soil and the prevention of flooding. This extract might also be of interest to your Committee and more especially, perhaps to Mr. Dowley and Sri N. Swaminatha Ayyar.

ENCLOSURES.

(1)

Extract from an article by R. Maclagan Gorrie, Esq., D.Sc., F.R.S.E., Indian Forest Service, in the *Journal of the Royal Society of Arts*, dated the 29th July 1938.

Extent of erosion losses.—It is difficult for those whose experience is confined to the mild and equable climate of the British Isles to visualize the catastrophic soil losses which can take place under tropic and semi-tropic conditions, but the subject has been so graphically described by Sir Daniel Hall, Mrs. Elspeth Huxley and others in recent publications that I shall not attempt to prove what is already a generally accepted fact, namely, that most corners of the Empire, except perhaps Britain itself, are suffering to a more or less serious extent from either wind or water erosion, or a combination of both.

It is also fairly widely recognized that the speeding-up of erosional processes above the slow geological normal is largely due to the destruction of plant cover by one or other of man's activities, but the catastrophic scale of this damage can only be grasped when the details of Nature's own apparatus for conserving the land surface have been studied.

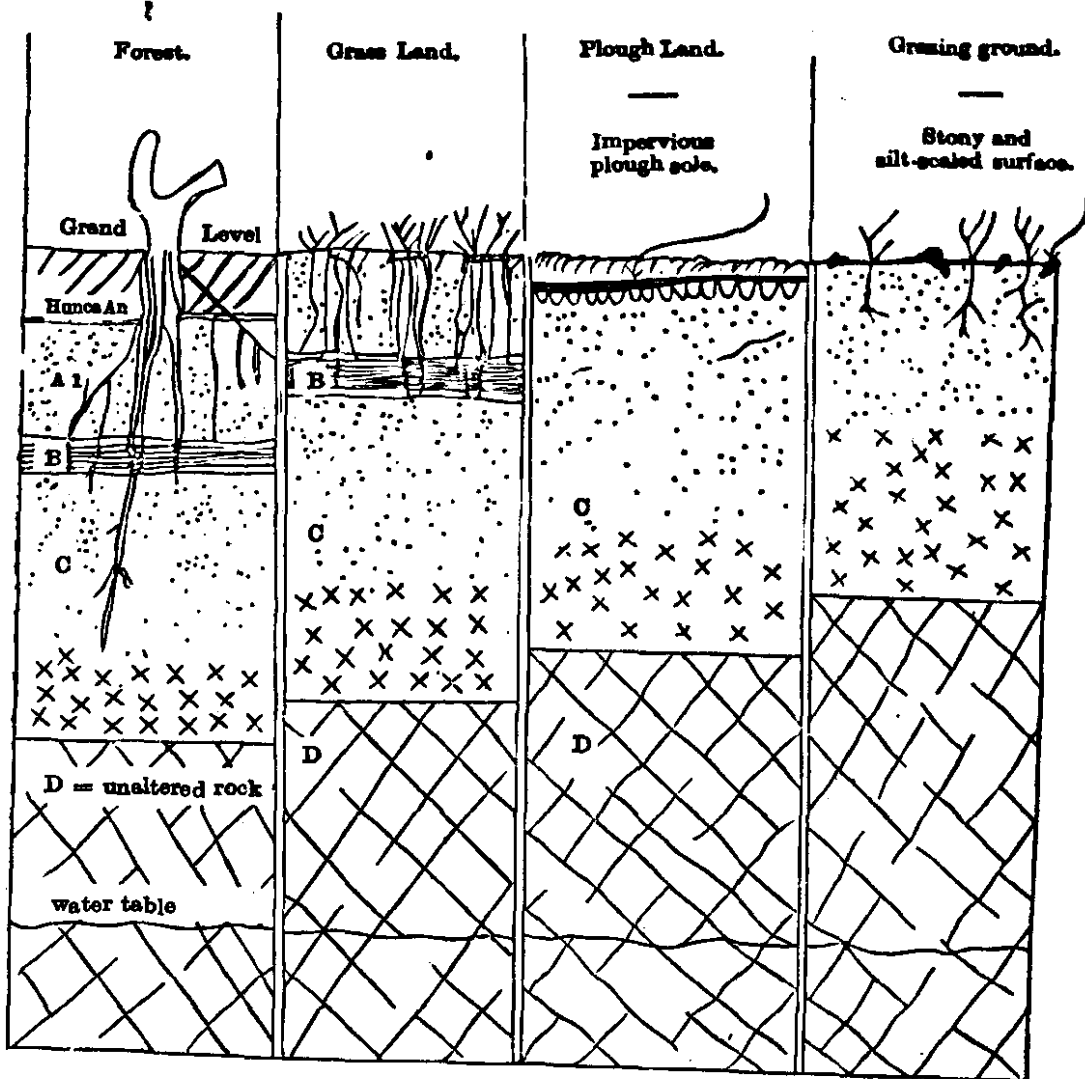
Value of plant cover.—In discussing the value of plant cover it has been convenient to talk of the sponge action of the soil. This simile of the sponge is useful up to a point, but like all similes it has its limitations. A sponge soaked and laid on a table cannot absorb any more water. It is saturated. By regarding the soil in the light of this simile we jump to the conclusion that the soil must also be completely saturated; that it can absorb no more than a given quantity of water; and that the run-off will equal the whole of the rainfall above this quantity. That this is wrong is clearly proved by run-off measurements for a variety of soils. A forest soil is not a static sponge, it is a dynamic sponge. Lowdermill's experiments at Berkeley, California,¹ have shown clearly that the value of a forest litter lies not so much in its capacity to absorb water as in maintaining the soil surface below the litter at its maximum rate of intake. It enables the soil column below to function at full capacity in transmitting water underground to the lower layers.

1. W. C. Lowdermill, "Water Intake of Saturated soils." Section of Hydrology, American Geophysical Union, 1937.

To appreciate the value of plant cover let us consider the storage capacity of the ground below the soil. If we take the depth of the water-table at 30 feet as an average for any foothills catchment area, the soil, sub-soil and rock strata above the saturation line represent an enormous potential reservoir for flood water. The capacity of this top 30 feet far exceeds the heaviest possible rainfall, but the limiting factor which prevents it filling up is the poor percolation at and immediately below the surface. The top soil only becomes truly saturated in so far as it is separated organically or mechanically from the sub-strata. The water filling the pore spaces of the soil and sub-soil must continue to be drawn down under gravitational force unless when it is confronted by an impermeable layer. If it meets such a layer the ground above this layer becomes gorged with water, but the soil column as a whole down to the water-table level is by no means saturated.

Let us now consider various types of soil in their capacity to maintain direct physical contact with this unfilled reservoir below them (Fig. 1). The usual forest soil of the drier tropics and sub-tropics which has not been plugged hard by the feet of grazing animals has what soil scientists call a leached

Soil profiles.



profile. That is to say it has a deep top layer of humus and powdery soil (the A horizon) from which the bases have been leached out and carried down deeper underground to form a more clay-like second layer (the B horizon). Below this again is a much more granular and porous C horizon of weathered parent rock. The second or B layer consists of such finely compacted material that the downward transmission through it by capillary action is slow. It is chiefly because of the honeycombing effect of live and dead roots, worm holes, animal and insect burrowing, that forest soil maintains its very high rate of intake.

Now grassland gives a different picture. Even in well-protected grassland under a low and irregular rainfall the A horizon of humus and powdery material is much more shallow than in forest soil, and the grass forms less obstruction to surface run-off than forest cover does. The B horizon under grass may or may not be as dense as in forest—as a rule it is probably less dense, and in some cases the B clay layer is not conspicuous at all—but there is in any case a tendency for the rate of percolation to fall off. Compared with forest the grass has a poorer and shallower root system, and there is less activity of worms, rodents, etc., so that its B horizon is less efficient as a sieve. The water storage space above this level is soon filled to capacity and in heavy rain the excess water is discharged as surface run-off.

In the case of plough-land you are all familiar with the plough-sole of smooth clay which forms below the overturned soil when a heavy steel plough is used. With the light native plough this sole is not so obvious, but, nevertheless, does occur. The passage of the plough and the treading of the bullocks tend to seal up any downward passages made by roots, worms or other animals, so that whatever sieve action the soil has when a crop is reaped is largely destroyed before the next one is sown. This sole may not be absolutely impervious, but the loosened soil above it has been separated mechanically from it by the plough, and with shallow ploughing the capacity of

this loosened soil for absorbing rainfall is decidedly poor when compared either with grassland or forest.

In the case of village grazing land in the Indian and African foothills, the plants growing on it are mostly stunted bushes and grass, but there is nowhere a complete plant cover. The soil is never allowed a chance to build up any A horizon because of the mechanical attrition by animals' feet. The heavy surface run-off causes a redistribution of the smaller particles which tend to plug the surface during each heavy storm, and the ground surface itself thus becomes less pervious after the first few drops have soaked in.

Climatic classifications.—One valuable point which Empire grassland workers have gleaned from American and Australian work is the very great difference between moist and arid climates. It is difficult to give a definite amount of rainfall as the dividing line between the two types because the all-important factor is the quantity of moisture which gets into the soil. A 10-inch rainfall occurring in moderately heavy storms on flattish country and absorbed almost wholly by the sub-soil is quite as good a proposition as 40 or even 50 inches occurring in almost cloud-burst intensity and falling on steep slopes which have already been deprived of their natural plant cover. Somewhere between these two examples the line dividing moist from arid has to be drawn. The two types differ not only in the quality and quantity of grass they produce, but also in their powers of recovery once the original plant cover has been destroyed. Under moist conditions two years' closure should be sufficient for badly misused grasslands to recover, but under arid conditions the process of recovery is very much slower. The nearer one is to desert conditions, either in the sense of true climatic and geographical position or through man-made conditions of increasing desiccation in what were once richer plant communities, the harder it is to re-establish the previous ecological balance. Research

work by the Range Research of the United States Forest Service has brought out some striking facts corroborating this story of desiccation. They have shown that the quality of the native grass crop and its ability to seed afresh depend upon soil texture and fertility, which in turn depend upon erosion conditions. Non-eroded grassland soil is much richer than eroded soil in lime, phosphoric acid and total nitrogen; its water-holding capacity is greater; the water required to produce a pound of forage is less; even with a notably smaller supply of water more forage is produced from non-eroded than from eroded soil.¹ With each stage of depletion in plant cover the situation on grassland becomes more critical as regards both forage production and maintenance of the remaining plant cover. Deterioration in the local micro-climate brought about by destruction of the plants is reflected in higher temperatures, more rapid run-off, less absorption of moisture by the soil, greater evaporation, and worse damage to the relict plant cover by prolonged dry spells.² The correctness of the American findings in this field of research is being corroborated by an increasing body of evidence from many parts of the Empire.

1. Sampson, A. W. and Weyl, L. H., Range preservation and its relation to Erosion Control in Western Range Lands, U.S.D.A. Bull. 675, 1918.
2. W. E. Chapline, "Range Research in the U.S." Herbage Reviews, March 1937.

Fresh Indian statistics of erosion losses.—Reliable run-off figures for forest and grassland are now available for the first time for Indian conditions. A technique of volumetric analysis of water and silt was worked out by the Punjab Irrigation Research Institute staff at Madhopur in 1936 for a type of small isolated plots of undisturbed soil 3½ square feet in area, and this method has been followed in forest plots at Nurpur in Kangra district. A battery of six plots gave three pairs of (i) grass, (ii) grass and shrubs and (iii) bare soil, on a slope of 1 in 4 on an eroded hillside of poor Siwalik sandstone. The grass cover over all is distinctly poor as it is recovering slowly from previous heavy grazing. The bare plots contained a little grass which has been kept clipped back with scissors. They thus simulate local grazing conditions to some extent, though we have not reproduced the destructive trampling action of cattle scrambling on a greasy hillside; and the run-off from grazed areas must therefore be considerably heavier than the figures now reported. The results of the first monsoon's catch is as follows:—

	Grass 80 per cent cover.	Grass and shrubs 90 per- cent cover.	Bare soil grass clipped every three days.
	PER CENT.	PER CENT.	PER CENT.
Percentage of rain which ran off:—			
Out of total of 46 inches on 32 wet days during July-October 1937	7	5	25
Out of total of 5 inches in four hours the heaviest single storm.	2.3	1.7	6
Weight of soil lost per acre:—			
Carried away on 32 wet days	3,500 lb.	2,900 lb.	18,500 lb.
Carried away by a single storm 5½ inches	260 lb.	307 lb.	3,511 lb.

These figures give one food for thought when it is realized that in a single storm the uncovered plots lost soil at the rate of 1½ tons per acre. This may be taken as a typical figure for all bare fallow fields

in the foothills except properly levelled rice land, and they are definitely conservative for the average village grazing lands which suffer from trampling of cattle. The ordinary grazing lands also suffer from the accumulative action of shallow gullies cutting the surface on long slopes, a phase of erosion which is, of course, not reproduced in our small square plots.

(2)

Extract from a paper written by Mr. A. Grasovsky in connexion with a tour of the world for the study of soil erosion control methods.

THE APPALACHIAN FOREST EXPERIMENTAL STATION.

(Division of Forest Influences, United States Forest Service.)

For the purpose of studying forest influences, three large areas were selected in Tennessee representing the high rainfall belt of the Southern Appalachians. Among other instruments, several self-recording gauges on weirs have been installed during the last three years and thousands of measurements have already been made.

The flow of streams is recorded, and the data analysed, not only for the major catchment basins in the experimental areas, but also for the minor catchments of which they are made up. Stream-flow records are thus obtained from a series of catchment areas varying in shape, size, vegetative cover and so on. Once it is known how the several smaller catchments affect the area as a whole, it is hoped to be able to prescribe for them individually the treatment most likely to result in adequate control of the stream flow. Measurements taken so far appear to indicate that the larger the catchment, the greater the flow per second per square mile, but that the amount of flow does not vary constantly with the size of the catchment area. When measuring stream flow, great care is taken to consider the possibility that the stream may be fed by seepage from lands lying outside the catchment, and when such is found to be the case, the entire stream-flow is not attributed to the catchment under examination. Some of the data obtained over a period of three years are very significant, and point to the following conclusions:—

(i) Stream-flow measurements over two large forested catchments have shown that a forest cover has a remarkable influence on stream-flow. It was proved in these particular cases that about 80 per cent of the water flowing out of the catchment was seepage, and only about 20 per cent excess run-off after storms.

(ii) A comparison of the records of run-off measurements on small catchments representing different types of vegetation cover indicate that, after rainstorms of approximately 2" each, the average peak flow per square mile is about 16 cubic feet per second for forested catchments, as compared with more than 150 cusecs for derelict land and pasture.

The examination of Sri K. R. RAJAGOPALAN, Assistant Engineer, Borowells, was taken up after the examination of Mr. C. C. Wilson was concluded.

Written evidence.

SECTION 1.

Measures for the prevention or mitigation of famine.

2. (b) (iv) *Minor irrigation and wells.*—I am of opinion that an increase in the number of wells will certainly improve the situation. By wells I do not mean shallow ones which depend for their source of water-supply on the surface springs. As such wells depend on the season for their supplies. Whenever there is a failure of the monsoon they will also fail. They will consequently be of no use in seasons of distress.

Bore-wells on the other hand depend on deep-seated spring or springs for their supplies and will not fail even if there be a failure of the monsoon in one or more years. Water from bore-wells is tapped from ground water basins. Whatever may be the

rainfall, the catchment of a ground water basin, its percentage of porosity, its water retentivity and its yielding capacity after the lowest springs therefrom stop, will be practically constant as long as there is no cataclysm in the geological formation of the basin, and as long as the ground water is not tapped for irrigation or other purposes by means of bore-wells or the like.

But the number of bore-wells that can be thus sunk in a basin is limited and will depend upon the capacity of the ground water basin.

My suggestion therefore is that geophysical study should be made of the districts and bore-wells sunk in suitable areas for tapping sub-soil water for drinking and irrigation purposes.

I do not agree with the view that in black soil areas the sub-soil water is usually brackish, non potable and deleterious to crops. One well has been sunk 8 miles to west of Cuddapah town and has been tested to 90 to 100 gallons per minute. The water is quite good and has also been analysed by the Agricultural Chemist, Coimbatore, who opined that the water is fit for irrigation.

Even if the water cannot be used directly for irrigation due to greater alkalinity the best method suggested in U.S.A. Geological papers is to use it mixed with water drawn from shallow wells for irrigation. This should be equally possible in the areas under reference.

Oral evidence.

Examined by ABDUL RAWOOF SARIS Bahadur: Q.—Have you any experience of bore-wells in Bellary district?

A.—No. It is only in Cuddapah district one such well has been sunk and of which I was in charge.

Q.—What is the depth at which you got water?

A.—We got underground spring water at 315 feet. We have completed one well and we are doing another.

Q.—Do you think the quantity of water available in that well is sufficient for irrigation?

A.—Yes, it has a continuous discharge of 100 gallons per minute.

Q.—What is the acreage that it can cultivate?

A.—Sixty acres of dry crop.

Q.—Are you confident that the supply will last throughout the year?

A.—A supply of 100 gallons per minute can be taken to be steady even during the worst part of the year. If we have five or six wells in that locality all the waste lands about 1,000 acres can be brought under cultivation.

Q.—What is the cost of digging the well?

A.—Rupees 3,500 including an oil engine and pump set.

Q.—What are the working expenses of baling water for irrigation?

A.—It will be roughly about Rs. 60 per month. It includes cost of running the plant, power charges and establishment. It will be cheaper if it is done by electric power.

Q.—Did you calculate the cost of running high tension and low tension wires?

A.—You are not going to run a line only for the purpose of a single well. If electricity develops in that area then only can working expenses be less.

Q.—What will be the reduction in cost due to installation of electric power plant?

A.—About 50 per cent of the normal cost.

Q.—Have you got experience of bore-wells in any other district?

A.—No. I understand that in United Provinces, Punjab and other places bore-well irrigation is being done on a large scale. But conditions there are of course different.

Q.—Is the well water fit for cultivation?

A.—It was so considered by the Agricultural Chemist.

Q.—What is the nature of the soil met with?

A.—It is black cotton soil or bordering on it

Examined by Sri SITARAMA REDDI: Q.—In the last paragraph you say "Even if the water cannot be used directly . . . for irrigation". There is no water there even in shallow wells for mixing up.

A.—If you go deep enough, water is rarely brackish and it will be quite fit for irrigation.

Examined by Sri R. SURYANARAYANA RAO: Q.—I don't agree with you that in the black cotton soil the sub-soil water is not brackish. Have you any experience of having made a number of bores to make that statement?

A.—It is only from this single well where the water has been tested by the Agricultural Chemist and found to be good. We struck water at 290 feet but we went deeper as an experiment.

Q.—By boring deeper will you be able to increase the supply?

A.—By going deeper we will not be increasing our supply unless we strike additional springs.

Q.—Is it your opinion that if you go sufficiently deep you will get clear water?

A.—Yes. Even in the bod of the sea by going sufficiently deep there have been instances where good water is had for water-supply.

Q.—Do you think a geophysical survey would be useful in locating the places where sub-soil water will be available for drinking and irrigation purposes?

A.—Yes. One or two trial bores will have to be sunk in a typical black cotton soil area to decide the point.

Q.—What about sinking of wells along the vankas and in the basin of the river Hagari and other springs which are not perennial? It has been suggested that instead of your costly experiment, wells may be sunk there. Do you think it is better to serve the areas along the banks of the river?

A.—I have no experience.

Q.—You say "that the water is quite good . . . for irrigation."

The Government Agricultural Chemist however says: "The soil contains very little soluble salts and as such can be considered good. The sample of water is good enough for irrigation purposes; although the total salt content is not very high from irrigation point of view, most of them are present as magnesium and sodium bi-carbonate. In the long run, this water might affect the soil when used.

I suggest that this is not so favourable as your note suggests.

A.—The water as it is, is quite good for cultivation. It has been found that the salt content is not now high from the irrigation point of view. What it will turn out to be in the long run can be said only after putting it to test.

Q.—In the course of your boring this well did you have to bore through hard rock?

A.—No, the soil was of a soft purple shale.

Examined by Mr. F. M. DOWLEY: Q.—Are there bore-wells worked by private individuals in the Ceded districts?

A.—No.

Q.—There are such wells in other districts where the ryot has undertaken the trouble and the expenditure of sinking bore-wells for irrigation purposes. Don't you think that if it would be a success the ryots would have started these here also?

A.—It will be a costly experiment for a private individual.

Q.—If you sink a bore-well you will ordinarily require an engine to raise the water?

A.—Yes.

Q.—That engine will require a driver and oil for driving. Do you think the yield from the well is likely to pay the ryot sufficiently to enable him to pay the wages of the driver and running charges and also a fair return on the capital cost?

A.—The thing will be much simplified if it is run by electric power. The same man can look after several plants and the cost can thus be reduced.

Examined by Mr. H. R. DOGRA: Q.—In this bore-well did you carry out the yield test and for how many days?

A.—Yes; for 12 days.

Q.—How did you pump the water?

A.—We had an oil engine and pump of 5 h.p. capacity.

Q.—To what depths did the water level go?

A.—A maximum of 42 feet.

Q.—Is it the depression?

A.—No. The depression was about 20 feet.

Q.—How much time did it take to come back to the original level?

A.—In two minutes it came for a good portion of it and the last two or three feet by slow and steady rise.

Examined by Sri K. KOTI REDDI: Q.—Can you not by some sort of survey on which you need not spend much fix up the localities where trial bores can be done?

A.—Yes.

Q.—Do you think that bore-wells will be useful in a black cotton area?

A.—Yes.

Q.—Do you think water will be available during a severe drought?

A.—It can stand two or three years of continuous drought. By that time there will be rains and the water basin will get its supply.

Q.—Does a bigger bore give more supply?

A.—The yield is not proportionate to the size of the bore.

Examined by the CHAIRMAN: Q.—As you will have an optimum discharge, if you increase the discharge beyond a certain figure, you are in danger of collapse at the base?

A.—Where there is such a danger the bore is usually lined with pipes to avoid a collapse of the strata all round.

Q.—Have you any appropriate method of calculating the optimum rate of discharge for these wells?

A.—It is limited only by the limits of suction head. If water level goes below the limits or suction head, the pump won't be able to lift. So the discharge is limited by the fall of water in the bore.

The Committee rose for the day.

19th August 1938.

The Committee reassembled at 10 a.m. on 19th August 1938 in the Board's Office with Mr. C. A. Henderson in the chair. The following members were present:—

Mr. F. M. Dowley.

Sri T. A. Ramalingam Chettiyar.

„ Diwan Bahadur N. Swaminatha Ayyar.

„ K. Koti Reddi.

„ N. Sankara Reddi.

„ R. Suryanarayana Rao.

Abdul Rawoof Sahib Bahadur.

Sri H. Sitarama Reddi.

Mr. D. I. R. Muir, the Secretary, was also present.

The oral examination of Mr. F. W. STEWART, Member, Board of Revenue, was taken up.

Written evidence.

SECTION I.

The only measure not included in the suggestion in question 2 is to increase the rural population by providing more village sites. At present these sites particularly in the black area of Bellary district are so far apart that the arable lands which are more distant from them are prepared and tilled very slightly. They grow what is practically a catch crop. If the rain is seasonable they yield very good crops. If not they fare much worse than the lands close to the village sites which are often levelled and made to yield by the careful attention they receive, whereby every drop of rain is used. Such village sites can be made wherever drinking water can be provided. This is very difficult where the black soil is deep but where it is a thin layer on top of the red, it should be possible to bore down through it to water within the red. Considerable experience of boring for water has been acquired by the Industrial department during the last 30 or 40 years and this is being used by various Collectors engaged in spending the grants inaugurated by the Government of India about four years ago. Probably the knowledge thus acquired could be used to advantage in Bellary district. It is likely to produce better results in the red areas but it should be useful on the edges of black areas and may be in the middle of black areas in due course as the geological survey of the tract becomes more complete.

2. (a) In one at least of the earlier phases of the Tungabhadra project it was based on the supposition that it would not benefit the black soils of Bellary except as a supplementary source of water-supply in seasons of unseasonable rainfall. The experience

gained from the use of the Kurnool-Cuddapah canal suggests that this view was correct. I would not therefore rely upon this project for raising wet crops in black soils. It would of course be useful for this purpose in irrigating mixed and red soils and by guaranteeing regular crops on these do much towards guaranteeing neighbouring black areas against the worst effects of famine particularly by providing more local supplies of food and so keeping prices down, providing more employment both in the fields and in industries which might arise from the more prosperous state of the country and by providing more fodder for cattle.

2. (b) The black areas are not suitable for minor irrigation works. Even the red areas are not necessarily suitable partly because the rainfall is fickle so that a tank fills at a time when it cannot be used for cultivation of which the Venkatapuram tank near Dhone in Kurnool district is an example and partly because the bed of such a tank may prove to be porous and not hold water till it has been plugged by natural deposits of silt after the tank has been in existence for many years. There is an example about ten miles south of Dhone. It is possible that a new minor irrigation tank might be constructed here and there in Bellary district or in that part of Kurnool district which lies west of the Yerramalais but the chances are so much against one being successful that I would be inclined to require that the ryots to be benefited should make a contribution towards the expense of constructing it in order to ensure that the local knowledge they offer of the prospects of success is correct. One thing to be said in favour of examining the possibilities is that the rainfall is patchy and our rain-gauges are too few to record its patchiness. There are undoubtedly stretches of the country which get rain much more regularly than the remainder. The courses of those clouds which precipitate the rain do seem to be fairly well defined and it should be possible to ascertain them from the records of cultivation of the villages, especially of those which have qualified for famine relief.

I think that much could be done by providing wells—for drinking water but doubt the supplies being sufficiently copious to be of much use for irrigation.

2. (c) I strongly recommend that *contour bunds* be formed in much greater number than at present and that loans under the Land Improvement Loans Act be granted freely for this purpose. Even in a famine year a lot of rain may fall but fall at a time when the people are not expecting it. The water runs off and swells the Hagari and Tungabhadra. A substantial part of this water would remain on the land wherever it is levelled. The beds by which it runs off are well defined and can be seen when there are no crops on the land. By placing a bund across such a bed the water is held up and the silt it carries deposited in the bed with the result that the whole land is gradually levelled. The big stones necessary for forming these bunds are to hand everywhere and all that is necessary is to select the right spot for the bund and provide the labour.

2. (d) *Dry farming*.—As I have said in answering question 1 much of the land is very lightly tilled because there is insufficient labour. Ploughing is done by bulls which cannot get ground any faster than the men with the result that much of the land is not properly ploughed. In Belgam or Dharwar district of Bombay Presidency the Burma-Shell Company was stimulating the use of tractors for ploughing about 1934 and it is probable that useful information could be derived from those districts. A tractor would do its work more quickly than bulls. Ryots would have to join together to bring one to the district unless the Government were to provide it as would be quite feasible seeing that there is an Agricultural Farm at Hagari. Of course it would be more useful for deep ploughing and this is not required on all the land every year. But it should be possible to work out a scheme for getting more and better ploughing this way.

SECTION II.

5. (a) Yes.

SECTION VI.

11. I think expansion of ordinary works a very good idea. I employed it in the western taluks of Bellary district in 1934-35 with the result that there was no elaborate famine relief as there was in the taluks further east.

SECTION VII.

13. I think Chapter XV and Appendix K dealing with accounts are obscure and should be re-written by an officer of the class of those who have to supervise famine relief so as to be readily understandable in the hurry which is inseparable from it.

Oral evidence.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—You have said that the expansion of ordinary work is a good thing. Is it your view that when you find that there is unemployment you have to take up expansion of works and not straightaway go to the famine works? So whenever you think there is trouble in an area you would think of expansion of works?

A.—I would in some areas. It depends upon the character of the area. Those western taluks of Bellary had never seen famine since 1870. That indicates that in certain parts the resistance is great to tide over a bad season and can be stiffened by expansion of ordinary works.

Q.—Do you want the expansion of ordinary works or would you have test works in every case?

A.—Before proceeding to famine relief works I suppose.

Q.—Yes.

A.—I should certainly expand ordinary works if possible.

Q.—In the test works you are giving lower wages than in the case of expansion of ordinary works.

A.—Expansion of ordinary works is not much of a test. It is a test to a certain extent but it depends on other factors.

Q.—Is it always necessary to go through the test work stage?

A.—No. I don't think it is. Probably you will find it definitely more expensive.

Q.—I suppose much harm is caused by keeping people in test work stage for longer periods?

A.—I don't think myself that there is any harm usually in keeping people in the test stage, for six months. The test is whether they die or not. (That is laid down in the Code.)

Q.—Don't you think it is too hard a business to wait till people actually die?

A.—I don't think any official would ever risk it.

Q.—I am only suggesting that the Collector may be given discretion to cause one or two preliminary stages before he enters on the test works.

A.—Well, I think if he has to choose between spending on ordinary works and on test works and relief works it is rather difficult. He might find that ordinary works in one area are practicable and in another area test works. It is very difficult at times. But if you have got an area which has not got substantial amount of ordinary works you want me to say whether the test work stage should be abolished for that area?

Q.—I am not supposing such areas. But I want the Collector to try one or two methods before he necessarily passed to the test works. Do you agree?

A.—I don't think so. If you spend on ordinary works that itself will be a sufficient test. It is an alternative to a test. That was what we did in Bellary in 1932.

Q.—About the wells you say that where the superficial layer is black soil it may be that in many instances, it may give you water?

A.—Yes.

Q.—Is that your experience in the Ceded districts, I mean in the four districts, Cuddapah, Bellary, Anantapur and Kurnool?

A.—No.

Q.—There is not much benefit you say from those wells and minor irrigation wells because the water dries up within a few months. But the experience in Coimbatore and Salem districts is that if the monsoon fails, even then it would be possible to depend upon the wells. Only in cases of continuous failure of rains for more than a year, there is a total failure of crops. Is that your experience in those districts?

A.—It is a very usual thing to compare a Bellary ryot with a Coimbatore ryot but the Bellary ryot is a lazy fellow.

Q.—But a Government Officer told me that the Bellary ryot is not really a lazy fellow and he has to be idle because he has no work to do?

A.—I think the result of about 100 years or even more of adverse conditions has reduced the Bellary ryot to that condition. I don't think it is particularly his fault. Turning to your point whether we could develop the minor irrigation

sources, the one great difficulty is black soil irrigation does not yield very good results. If one were to get drinking water, it would be a lucky thing. Even if minor irrigation sources were developed they would have to depend upon rainfall which obviously is scanty in those areas.

Q.—You don't think that will serve any useful purpose?

A.—No.

Q.—With reference to wells would you recommend a survey of the sub-soil?

A.—Yes, certainly.

Q.—Are you hopeful that in some places at least you will be able to strike water?

A.—I think so. For irrigation purposes I am not sure, for drinking purposes it might happen.

Q.—So you will not suggest that for irrigation purposes, you ought to make greater efforts?

A.—I don't think it would repay the energy and money that you would have to put into it.

Q.—One witness suggests that the Government might have borings for deep wells and that they might dig them and collect the money from the landowners by charging some rate?

A.—He probably is thinking of some other district than Bellary.

Q.—Do you think that the people will take to well-digging if the Government undertake to survey the possibility of whether water is procurable or not. Don't you want any special encouragements for the people to take to it?

A.—I think they are given loans under the Land Improvement Loans Act, if they come forward.

Q.—Do you think at least a part of the risk—the cost should be shared by the Government in cases of failure?

A.—I think they might reasonably share the loss.

Q.—You want some sort of encouragement then?

A.—Undoubtedly.

Q.—You have been connected with Excise. What is your opinion about these people? Don't you think they spend their wages during famine relief for drinking toddy?

A.—As Excise Commissioner I have not received any papers at all. But from what I remember in those famine areas I should say they do not spend much. I don't think they have much to spend.

Q.—Would you agree with the suggestion that the shops near the famine camps should be closed?

A.—There may be some people besides the labourers who want to drink.

Q.—About famine works, would you suggest that supply channels to tanks and things like that may be more taken up in preference to the road works?

A.—Yes. Would not that come under expansion of ordinary works?

Q.—We find in most cases the preference is given to road works?

A.—The reason is that in famine relief it is easier to organize labour for road works.

Q.—Would you give preference to these irrigation works?

A.—Undoubtedly, because these are the works which are really wanted.

Q.—You also recommend that it would be advantageous in preparing famine programmes to include as many irrigation works as possible?

A.—Yes, most certainly.

Q.—You have not said anything about the possibility of introducing any industry in this area?

A.—I do not know of any.

Q.—Don't you think when agricultural conditions are so bad that some sort of subsidiary occupation is necessary?

A.—I find it rather difficult to think of any.

Q.—Is there any cottage industry which you will recommend or encourage?

A.—I cannot think of any. You have to discover some industry for which there is a steady market. Unless that is out of the famine area it will itself disappear during the famine so the industry will

languish for want of a market. One of the reasons why certain lands round about Bellary are not cultivated unless the season is good is that the people in the villages have alternative labour in Bellary town. But I cannot think of industries which we might profitably develop.

Q.—Is there no possibility of garden farming or fruit farming?

A.—These also depend upon the seasonal conditions. I do not know whether successful fruit cultivation could be undertaken.

Mr. F. M. DOWLEY: Q.—In reply to another member, you said that irrigation does not yield good results?

A.—Yes.

Q.—What exactly do you mean by that? Is it due to lack of water or the unsuitability of the soil of the area?

A.—I think the chief thing is the supply for irrigation is so irregular that we do not get good results.

Q.—You say that the Tungabhadra Project will not benefit the black soils of Bellary except as a supplementary source of water-supply. The experience gained from the Kurnool-Cuddapah canal suggests that this view is correct. I think the difficulty is due to the option having been given to the ryot whether to take water or not?

A.—As a matter of fact I do not know enough about the Tungabhadra Project and the Kurnool-Cuddapah canal.

Q.—You have suggested dry crops under Tungabhadra Project?

A.—That I understand was the original intention of the project.

Q.—For an irrigated dry crop?

A.—Yes.

Q.—The present idea is that they would prefer to have an irrigated dry crop?

A.—Yes.

Q.—What crops?

A.—Cotton and cholam.

Sri K. KOTI REDDI said that the Kurnool-Cuddapah canal water was never used for cotton and cholam.

Witness: I hear of a case in Bellary where they irrigate cotton. It is near the Hagari bridge. The cotton is Cambodia cotton.

Q.—The original intention of the Tungabhadra Project was to make the project a supplementary source of water-supply?

A.—Yes.

Sri SANKARA REDDI: Q.—You say that mixed and red soils are fit for irrigation?

A.—Yes.

Q.—May I know what mixed soils are?

A.—It is rather difficult to describe mixed soil except by mere appearance. It is a sort of dirty grey colour.

Q.—Do you think that such soils are also fit for irrigation? Many villages contain such mixed soils in the black cotton soil area?

A.—Yes.

Q.—You say irrigation will be possible in black cotton soil and in such soils.

A.—Yes.

Q.—About deep-ploughing—do you mean to say that failure of crops is due to this defect?

A.—No—not altogether.

Q.—Is deep-ploughing always necessary?

A.—No. It is done once in four or five years. Deep-ploughing is done in the year of rotation when it is intended to grow cotton only.

Diwan Bhadr N. SWAMINATHA AYYAR: Q.—I find you are advocating the provision for village-sites?

A.—Yes.

Q.—Wherefrom do you expect the people to come to these places, is it from the district or outside the district?

A.—They may come from all parts once you give something for them to live upon.

Q.—You have to provide them with lands?

A.—I don't think they will starve even without lands. Small workers' colonies might be started.

Q.—Would that work in practice where the results of the agricultural operations are so precarious? Probably you mean a more even distribution of the population in the district?

A.—Certainly that is what I meant.

Q.—That means a readjustment of the population in the district itself?

A.—Yes.

Q.—You say that there are only few rain gauges. Would you advocate providing some more?

A.—If there are observers I would.

Q.—No, there are automatic recorders. Therefore there would not be much difficulty now?

As regards the expansion of ordinary works which you have advocated, am I correct in believing that it is useful in so far as it provides for labour and not that it is used as a test for deciding whether the rains have failed or not. Some witnesses have suggested that the expansion of ordinary works is not found very suitable and they were rather for going straightaway to test works?

A.—It all depends upon the areas that you are considering.

Q.—Would that help to decide whether test work is necessary?

A.—As a matter of fact it is a hindrance for it is difficult to make labourer go on famine wages when he is on ordinary wages.

Q.—Have you got any experience of irrigated dry crops?

A.—I don't remember anything special about them.

Q.—Had you any experience of flow-irrigation?

A.—Yes, a good deal. I have been in big irrigation districts like Guntur and Kistna where the flow has been mostly for the purposes of paddy cultivation. I do know to a certain extent about irrigated dry crops.

Q.—Do you think there would be need for irrigation of dry crops almost every year?

A.—Not always. In some years, about 1 in 3, either the rainfall is not distributed properly or is defective for one reason or another.

Q.—It is quite possible that if you think of providing water to relieve their anxiety they would take it instead of hanging on for rainfall. My proposal is this: that the ryot should be made to take water when there is need to grow his crops. If there is no rain and the crop is really in need of water you should not leave it to his wish to take water or not. Don't you think that the irrigated crop will be better than the non-irrigated crop?

A.—Yes. It is rather difficult to force him to pay without reintroducing the old water-rate rules that have been changed lately. Under the old rules a man who applied for water had to pay for what he applied for. Later on they have changed it, so that the ryot pays for the water he takes. In the beginning of a new project you can say the ryot should pay for what he asks for and later on when the system is established you can be more generous and ask him to pay for what he takes. But whether it would help in these famine areas to produce good crops, I do not know.

Q.—If you provide water when the season is doubtful the ryot is very likely to say "The water is there, I can hang on for a night or so?"

A.—I think so.

Examined by Sri K. KOTI REDDI: Q.—You suggest in your evidence that "the only measure village-sites." Do you expect immigration?

A.—That is it. I think the rural population would be increased if better living accommodation is given.

Q.—You also suggest that the lands that are farther off from the village are not properly cultivated. Would you in this connexion suggest a scheme to divide big villages into smaller ones and induce people to settle down in the latter? Would you agree that it would improve cultivation of these lands?

A.—Yes.

Q.—As one interested in increasing the resources of the villages, may I know whether you would suggest any legislation in order to give effect to that suggestion?

A.—If Government can do that successfully that is just what is wanted.

Q.—Do you think that under this scheme there is a possibility of increasing the amount of crop by intensive cultivation?

A.—Yes. As the people will be nearer their lands, they will pay more attention to it. But the chief difficulty in carrying out this idea would be the provision of drinking water.

Q.—If good drinking water could be supplied by some scheme you think that the possibility of constructing new smaller villages in between big villages would certainly be desirable in the interests of better cultivation.

A.—Yes.

Q.—With regard to the Tungabhadra Project you say that "the experience gained . . . was correct." I believe wet irrigation is possible in black cotton soils also. For instance, in Nandyal there is thorough wet cultivation in black cotton soils. The experience of Kurnool-Cuddapah canal also suggests the possibility of wet cultivation in such soils. Don't you think that it is possible under the Tungabhadra Project also?

A.—It requires very careful investigation of the matter of draining these lands.

Q.—If the ryots are willing to take water for wet cultivation in black soils, I think you have no objection to give them?

A.—Not at all.

Q.—The modified Tungabhadra Project is intended mainly as a dry scheme. Do you suggest that under the scheme water may be given for wet cultivation if the ryots are prepared to take it?

A.—No doubt. But the Public Works Department will have to know beforehand the extent of lands to be taken for wet or dry, because they will then have to construct channels of the right size. Hence the ryot will have to decide in advance whether he is going to grow dry or wet crops.

Q.—With regard to mixed and red soils, which are capable of wet cultivation, because it pays better, you have no objection to give water to those areas if the people are prepared to take water for wet cultivation?

A.—No, provided they make their declaration when the system is first introduced and if the Public Works Department are of opinion that it will fit in with the system.

Q.—If your suggestion is accepted and the ryots are prepared to make a declaration beforehand you won't refuse to give them water for wet cultivation under the area commanded by the Tungabhadra Project?

A.—No.

Q.—I find that, in the modified Tungabhadra Scheme, wet cultivation is only for those areas which are waterlogged but not for the red and mixed soils which was the intention of the original project?

Mr. F. M. DOWLEY: Q.—If we can show that, by irrigating only dry lands, you can irrigate double the extent which you can, if you give water mainly to wet lands, would you still be inclined to allow unrestricted wet? You restrict the benefits of the project if you grow mainly wet crops. If you grow dry crops you irrigate and benefit a larger area. Is that not better for the district in general than giving greater benefit to a fewer number as in the case of wet cultivation?

A.—If the total quantity of water under the system is limited, it is better to spread it over as large an area as possible by the method you suggest.

Sri R. SURYANARAYANA RAO: Q.—Is not the staple food of the area irrigated by the project a dry crop and not a wet one?

A.—Yes.

Sri K. KOTI REDDI: Q.—Supposing small patches of red soil are mixed amidst big blocks of black cotton soil, and you propose to give water for wet cultivation for these red soils. You know that the produce on one acre of wet land is at least three or four times the produce in a dry land. I don't see why you should refuse to give water

for wet cultivation, when you know it certainly produces much more than what is produced now in black cotton soils? The Mackenzie Scheme provided both for wet and dry cultivation.

You also suggest the possibility of constructing new minor irrigation tanks. In the red soil areas there is still a possibility of constructing some more minor irrigation tanks. They should be taken up so as to increase the produce in that particular area?

A.—I don't think that it will be of much use for the purpose you are thinking of, i.e., for famine relief work.

Q.—As a means of preventing the recurrence of famine in these areas, don't you think that the development of these irrigation possibilities in that area will go a long way?

A.—I don't think it will be of any use for the purpose you mention. Much depends on the local rainfall, you can have one or two new tanks but it could not be done over a wide area.

Q.—You think the expansion of ordinary works is a good idea. Is it possible to take up a large number of works on the ordinary scale as famine relief? Supposing you extend these works to the fullest extent that is possible and pay similar wages as you do during agricultural operations, won't it be a better way of helping the people to tide over the famine?

A.—I think it would be a very good idea but it would be more expensive. One difficulty is that you may not find as much ordinary work as is required.

Q.—If you spend the same amount as you spend on famine relief works for reconstructing the villages, such as inter-village communications, improvement of village-sites, building of vakkaranis for drinking water purposes, improvement of village sanitation and other upliftment works in the villages, don't you think that it is preferable and that there may not be any necessity for famine relief organization?

A.—Yes, if it could be administered easily. My experience is that village works do not provide enough work for a large number for a sufficiently long period, in view of the fact that most of them are unskilled labourers.

Q.—At present the Famine Code does not make provision for certain necessities. It makes no provision particularly for clothing. When these famine workers have to work for more than six months or so, I think a change of cloth is necessary. Now they have to depend on charitable relief. Would you recommend a provision to be made in the Code for supply of cloths to the workers, if the famine continues for more than a particular period?

A.—I don't think the lack of clothing is so marked as to require any provision to be made for it in the Code. The Government might make a grant if conditions demand it.

Q.—In connexion with the development of cottage industries do you think spinning can be undertaken as a famine relief on a large scale in the villages instead of the road works, for women, if not, for men?

A.—If you mean to employ them in their houses and pay them wages, a large staff will be required to control it.

Sri R. SURYANARAYANA RAO: Q.—In the case of weavers provision is made in the Code for relief to them. The task is fixed because they already know weaving. In the case of spinning, we cannot lay down the task as most of the people do not know it. As a general measure of relief, it is difficult to fix the task and that is why the Code has not fixed it.

Sri K. KOTI REDDI:—Those who can spin and who prefer it to earthwork or roadwork can do it. It may be useful. They can learn spinning in a short time. The task can also be prescribed.

ABDUL RAWOOF SAHIB Bahadur:—As a form of relief to gosha ladies and respectable women this may be all right but as a substitute for famine relief works, I don't think it is practicable. Moreover the yarn spun must be of a marketable quality.

Sri K. KOTI REDDI: In the earlier stages the rough yarn can be used for rough articles and later on when they can spin finer stuff, finer articles can be made.

WITNESS: A.—The Code is based on the assumption that the workers should go to the work spot for relief.

Sri K. KOTI REDDI (cont.): Q.—At present a number of projects in the Ceded districts are not taken up because they are not remunerative in spite of the lower returns fixed for them. Would you agree with me that these returns should be still further lowered?

A.—It is one way of dealing with the situation but whether it is the best I cannot say.

ABDUL RAWOOF SAHIB Bahadur: Q.—Knowing the finances of the district boards do you think these district boards can give employment to all the labourers in famine years? Do you suggest that these expansion of works should be done with Government help?

A.—Undoubtedly the Government have to pay for these.

Q.—In view of the recurrence of famines and the enormous amounts spent on relief don't you think that the Tungabhadra Project should be taken up as a protective rather than as a productive one.

A.—It all depends upon whether you can afford it. It is a big work and the difference in the return which is expected from a particular work as productive, worked out on such capital cost, would be a large sum.

Q.—Don't you think it is worth while?

A.—Probably it is.

Q.—Do you think that the Tungabhadra Project may not be successful or productive even from the point of view of revenue?

A.—I am not willing to commit myself in that matter.

Q.—In the case of the Kurnool-Cuddapah canal the ryot pays water-rate only when he uses the water. Suppose in the case of the Tungabhadra project or any such project that may be taken up for the benefit of the Ceded districts, a compulsory levy is made in order that the Government may get some return?

A.—The question is whether it will be actually levied.

Q.—If the project is based on that idea do you think the project may be dry irrigated compulsory rate?

A.—The people of the country have to contribute towards the cost of the maintenance and interest charges of the project.

Q.—If they hope to pay for it, would it be justifiable if the people are made to pay a compulsory water-rate?

A.—I think it will be extremely difficult to work. The matter will have to be looked into.

Q.—The introduction to the Code says that the idea of Government is to maintain people in health and in arriving at the wages, they did not take into account betelnut to which the people may be accustomed. Expenditure even on betel and nuts is considered by most people as a luxury. Don't you think expenditure on toddy is a greater luxury than that?

A.—You might put it on a par with betel and nut. If people receiving definite sums for food spend the money on toddy, it is a luxury.

Q.—Don't you think the toddy shops are a temptation to the workers to spend their small earnings on luxuries?

A.—I am inclined to think that they are stronger against that type of temptation when they are on famine relief than in ordinary times.

Q.—I want to know whether it will not be desirable to provide in the Code itself for the removal or abolition of toddy shops in and round famine camps when the works are started.

A.—The question of the removal of toddy shops or removing them to far off places is well worth consideration.

Q.—Have you contemplated situations when neither the ordinary works nor the test works are possible and relief works have to be started, straightaway.

A.—I have not.

Q.—The Yemmiganur-Kurugodu work was started straightaway as a relief work. There may be such situations when the Collectors should be given the discretion to start ordinary works or test works or

relief works straightaway whenever they feel there is a necessity for it and report the fact to the Board.

A.—I don't think I should give such powers to the Collector. But I think he should suggest to the Board. I don't think it is an essential preliminary to establish a relief work, that there shall have been a test work in that spot before. It can be decided to have a relief work in one area from the knowledge gained from a test work in an adjoining place. That is what is being done.

Q.—Section 33.—Would you agree with me that one of the ways of putting heart into the people is to announce remission of assessment as soon as possible?

A.—Yes. But section 33 relates to a stage when the season may yet be a good one.

Q.—I don't think so. It takes for granted that when the symptoms given in section 34 are known, it is time for the Collectors to start either expansion of ordinary works or test works. So that is the time for the Collectors to suggest remission by which they can put heart into the people before they become demoralised.

A.—It is going too far. I do not think that crop failure is definitely established at the stage when section 33 will apply. In Bellary very often whether a season was good or not was decided overnight.

Sri R. SURYANARAYANA RAO: Q.—Is it not a fact that it takes some time to announce remission, after declaration of famine?

A.—Yes, but the people know they will get remission.

Q.—I hope the remissions are full, but sometimes they are not. I am only suggesting that don't you think that one of the first steps to be taken is to announce remission?

A.—I think in most cases we remit assessment.

Sri H. SITARAMA REDDI: Q.—In your experience as Collector (contour-bunds) are they included in famine programme?

A.—No. They are on private lands.

Q.—So in view of the usefulness of these bunds would you like the idea of contour-bunds being included in the famine programme?

A.—Is it in addition to those on the private lands?

Q.—My suggestion is that it would be advantageous to include it as a part of the famine programme and relief works.

A.—It is a good idea but we have to get the consent of the people to do them.

Q.—It is very easy to do so.

A.—We don't know how it is going to be in actual practice.

Sri R. SURYANARAYANA RAO: Q.—Yet you are doing so many things without the consent of the people, e.g., some roads are constructed even before the land is acquired.

CHAIRMAN: Q.—You suggest that even acquisition would not be wrong for contour-bunds.

A.—It is possible if the people would agree but it all depends on the changes that would result in cultivation of all the lands affected by the erection of the bund, both above and below it.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Don't you admit that some skill will be required in constructing those bunds?

A.—Yes, we have got to select the spots. We should begin at the top of each watershed.

Q.—You must consider so many factors and it is not a simple proposition.

A.—Yes.

Q.—At the end of paragraph 2 you say that in view of the direct benefits that the Tungabhadra Project is likely to yield, it is essential to take it up. I believe you mean that the advantages would be very large and so it may be taken up. Am I right?

A.—I don't go to the extent of saying that it should be taken up. It all depends upon the Government who spend the money.

Q.—Even if the return is little less, is it worth while taking it up?

A.—As a protective measure it may be taken up.

The oral examination of JAVAD HUSSAIN SAHIB Bahadur, Collector of Madras, was then taken up.

Written evidence.

SECTION I.

Measures for the prevention or mitigation of famine.

1. The only measure feasible for the prevention or mitigation of famine in the Ceded districts that can be suggested is the digging and construction of large wells of sufficient depth. Irrigation from these wells may be done by means of the ordinary picottah. This suggestion, of course, does not apply to areas where it is proposed to construct major irrigation projects like the Tungabhadra, etc. The wells should first be constructed out of loans advanced by Government, and Government instead of recovering these loans under the Land Improvement Loans Act or Agriculturists' Loans Act, might levy a small water-rate on the lands irrigated by these wells and the money realized should go in repayment of the principal amount of loan advanced and the interest which should be very low, or, perhaps none at all till it is entirely repaid, and after that no charge should be made except the usual dry assessment on the land concerned.

2. (a) (i) *Irrigation—Major.*—The Tungabhadra project does not affect the Anantapur district in any large measure except I think Gooty taluk, including the sub-taluk of Uravakonda. Even in this taluk parts of Pamidi and Gooty firkas will not be affected by the project. I believe that this project was first intended to benefit also Dharmavaram taluk, part of Kadiri, Kalyandrug taluk and Anantapur taluk, but subsequently the idea of benefiting these was given up as not feasible. I don't think that, if this project materializes, it will, in any way, prevent or mitigate famine in *all* the parts of Anantapur district now liable to famine. But it will certainly put a stop to the migration of people from the area which it serves to other parts of the district or outside it, as it will then keep Gooty taluk's labour in Gooty taluk itself.

2. (a) (ii) I have no suggestion to make for making the project more useful than it can be as at present designed.

2. (a) (iii) At present, in the Hindupur taluk of the Anantapur district, there is the Kumadavati project under investigation. The idea is to construct an anicut across the Pennar just below where it meets the Kumadavati river and divert the water, when the river is in freshes, through channels, to certain tanks, so that they may get filled, as they certainly will. This is a very good idea and I consider this mainly from the protective point of view though perhaps the project might also be productive. So far as the Anantapur district is concerned, any work that may be undertaken can only be protective and not productive, generally. Similar projects may be tried in the Chitravati and Pennar rivers in Anantapur district and I am sure that they will benefit the district greatly, provided, of course, the selfish Mysore ryots do not obstruct the flow of water from within their limits. A couple of other works that might also be usefully taken up are the construction of two anicuts in the Pandimeru river as these might benefit certain tanks in the Dharmavaram and Anantapur taluks.

2. (b) (i) *Minor irrigation and wells.*—It is probably true that the number of minor irrigation sources in the area irrigated by them is decreasing, that is to say, with reference to the minor irrigation works; what I mean by 'decrease' is that they are getting silted up. The reason in my opinion for this is the failure of the ryots generally to do kudimaramat systematically to the feeder channels leading to the tanks and also to the tanks themselves.

2. (b) (ii) So far as the Anantapur district is concerned, my suggestion is that the repairs and removal of silt, etc., to the channels and tanks should be done by the Government as the ryots are generally too poor to be able to do the work themselves; that is to say, that Government should effect even the items of kudimaramat and should not recover the amount of the estimate from the ryots as is done now except where it is waived. I think it is practically hopeless to expect the ryots to keep the sources in repair by 'kudimaramat.' I also suggest that, when an estimate is prepared for repairs to any particular minor irrigation work a direction should be made that the feeder channels should also be inspected and repairs to them also included in the estimate if necessary. This will certainly help to prevent the deterioration of these sources. Another suggestion I would make here is that all feeder and spring channels should be planted with shrubs or other suitable trees on their banks and also round minor irrigation tank beds. I would even go further and say that portions of the catchment area of a tank should also be planted with trees and shrubs to prevent silting up of the channels and tanks.

2. (b) (iii) I agree that minor irrigation sources and wells which are dependent on the season for their supplies will fail when there is a failure of the monsoon and that therefore these will be of no use in seasons of distress. Any improvement to these

sources or an increase in their number will not be helpful at all in preventing or mitigating famine so far as Anantapur district is concerned. But what might mitigate the rigours of the season is the keeping in thorough repairs of spring channels, so that, even when there is paucity or failure of rains these channels might keep flowing though the flow may not be normal.

2. (b) (iv) I do not think that an increase in the number of wells will improve the situation unless the wells are extremely deep and there is a guarantee that they will contain a never-failing supply. There could, however, be no such guarantee or assurance so far as Anantapur district is concerned except perhaps at a very prohibitive cost. It is perhaps generally correct to say that, in black soil areas, the subsoil water is usually brackish. It may perhaps also be correct to say that it is not potable and probably deleterious to crops, but I think in the case of a place like Uravakonda in Anantapur district, which is mainly a black soil area, water is not brackish. If the statement that the subsoil water is usually brackish is correct, then of course nothing is gained by increasing the number of wells in that area.

2. (c) *Contour-bund forming.*—Yes. Bunding up of lands in the black soil areas will certainly help to retain moisture longer than is now the case and enable the crops to withstand drought. But such extensive bunding up will materially diminish the supply to the minor irrigation sources except in places like Uravakonda where there is practically no tank irrigation in the black soil area. Extensive bunding in red soil area will, however, seriously diminish supply to minor irrigation works.

2. (d) *Dry farming.*—I regret I can suggest none.

2. (e) *Afforestation.*—My suggestion is that panchayat forests should be removed from the control of the panchayats and made over to the Forest department. In the forest panchayat agreement there is a clause to say that the panchayatdars should plant a certain number of trees in the forest each year. No such trees are ever planted generally. On the contrary, the forests are denuded of even the sparse growth in them with the connivance of the panchayatdars in some cases. As for the kind of trees to be planted, I suggest the Forest department be consulted.

2. (f) *Alternative or subsidiary sources of employment*—(i) *Large scale industry.*—The only large scale industry that I can suggest is spinning. Nothing else seems possible except perhaps silk industry, if it is correct that castor leaf is a substitute for mulberry. If it is, then castor, being grown on a fairly extensive scale in Anantapur district, silk worm might thrive upon it. I would also suggest gold mining in Ramgiri of Dharmavaram taluk and in Ramapuram near Uravakonda.

2. (g) I regret I have no experience of 'sparked' water.

SECTION II.

Purposes of famine operations and principles of famine relief.

3. The policy laid down in section 127 and in the introduction to the Famine Code is clear and sound and does not appear to need any modification.

4. I have no modification to suggest.

5. *Chapter III—Period of observation and test.*—(a) Test works seem to be unnecessary. I suggest that the expansion of ordinary works be resorted to in the first instance and subsequently converted rightaway into relief works.

5. (b) I have no modification to suggest to sections 49 and 50 of the Act except in section 49 (a) as it seems unnecessary to impose any task higher than the standard task as mentioned in section 133 (a). The idea underlying such an imposition is not apparent and there seems no necessity to treat test work task any more rigorously than relief-work task.

6. *Chapters IV and VI.*—I have no modifications to suggest.

SECTION III.

Scale of wages and allowances and the diet scale.

7. I suggest no modification.

8. (a) In view of the policy laid down in the introduction to the Famine Code. I do not think that any modification is necessary in the scale of wages and allowances, etc., considering that generally practically entire families get relief, either in the shape of wages, gratuitous relief or at the kitchen, etc.

8. (b) I suggest no increase. I should say that it is normally possible to obtain vegetables on the existing scale provided of course that there has not been either diminution or failure of rains in the parts concerned and in the proper season. I do not think that the type of individuals who resort to famine works generally is accustomed to obtain

the quantity of vegetables that he gets during famine. So far as I know the normal thing taken by the poorer classes, along with ragi or korra or cholam food, is chutney made of tamarind or chillies or some such stuff as dholl. Of course, the land-owning classes perhaps use vegetables in some cases, but, except during the prevalence of acute distress as at present in Anantapur district, I do not think that the generality of workers of famine camps is accustomed to vegetables at all.

8. (c) My suggestion is that all Abkari shops within a radius of five miles of any famine area and not *camp* merely should be closed.

8. (d) *Chapter IX—Gratuitous relief.*—I have no modifications to suggest.

SECTION IV.

The size and nature of the task in famine works.

9. I have no modifications to suggest to the task-work system.

SECTION V.

10. Stone-breaking is what is given by way of providing work in famine camps. I think it will generally be agreed that it is a most profitless undertaking and an utter waste of money and labour. It benefits neither him that gives nor him that is given. Still, I regret, I am at a loss to suggest any better substitute. I would however press for consideration the opening up new village roads, that is to say, roads from each village to the main or trunk road, construction of wells for the depressed classes on an extensive scale in the famine areas and such other works.

SECTION VI.

11. Expansion of ordinary work is necessary to see whether labour is drawn on a large scale though the wage on such works is lower than the wage on ordinary work, though sometimes very slightly higher than the wage on test and relief works. If people resort in large numbers to such works, then it may be taken as an indication of the prevalence of distress.

12. I have no suggestion to make except that the appointment of taluk relief officers seems unnecessary. There are circle officers at present and their work may be checked by the Tahsildars and Revenue Divisional Officers.

13. I have no further suggestions to make.

Oral evidence.

Examined by ABDUR RAWOOF SAHIB Bahadur:

Q.—I find you say that the prevention or mitigation of famine can be effected by digging and constructing large wells of sufficient depth. Again you say "I don't think that an increase in the number of wells will improve the situation unless the wells are extremely deep and unless there is a guarantee that there will be copious supply." Is it not a contradiction?

A.—It is absolutely the same. There is no contradiction at all.

Q.—From your experience in Anantapur district at what depth were you able to tap water?

A.—Sometimes you can tap water at 60 feet and sometimes as much as 200 feet.

Q.—Is irrigation by wells extensive in Anantapur district?

A.—In certain taluks, especially the Kalyandrug taluk.

Q.—During famine are these wells able to supply water for wet irrigation?

A.—So far as this famine was concerned in Kalyandrug taluk they had a fairly good crop under the wells.

Q.—Do you think that Government interference is necessary to prevent migration of labour on a large scale?

A.—I don't think so.

Q.—Is there migration on a large scale?

A.—I have said that even the little migration might be stopped.

Q.—So there is little migration, you say?

A.—Yes.

Q.—In Anantapur district the whole of the district is covered with a number of tanks. Do you think the restoration of these tanks will improve the water-supply?

A.—Not unless you get copious rains.

Q.—If tanks fill, will they last for a year?

A.—In Anantapur district, in what are known as first-class sources, water cannot be stored for long on account of the tremendous heat and the nature of the soil.

Q.—In Penukonda particularly there is much water scarcity. If the wells are dug deep won't they be able to supply water for irrigation?

A.—If they are very, very deep. This applies to the whole district, except in some parts where it is possible to strike water at small depths.

Q.—You are referring to contour-bunding. You think this bunding will benefit in the years of failure of rains?

A.—No, not at all.

Q.—You say that forest panchayats should be removed from the control of panchayats and made over to the Forest department. Is it your experience that these forest panchayats have failed to function properly?

A.—I think so, but not generally. It all depends upon what you mean "by functioning properly."

Q.—Have they not done their duty properly after they took up the forests?

A.—Yes; but not all.

Q.—Do you think the proposal of the appointment of Deputy Tahsildars to control the forest panchayats would improve matters?

A.—Surely. It is bound to. There will be constant supervision.

Q.—Would you agree to the panchayat forests being handed over to the Forest department?

A.—Yes I would like that. If the choice is between the forests to continue as they are and the Forest department, I would prefer the latter. But if Deputy Tahsildars are appointed I would prefer them continuing under the Revenue department.

Q.—Do you think that the system of granting gratuitous relief is really working all right? Are the village munaifs sending the reports to the Tahsildars and do the Tahsildars send the reports in time?

A.—I think so.

Q.—Do you think it would be better if that is also made over to the charge officer?

A.—No, I do not, because, he would not have enough time.

Q.—Is there not delay in receipt of reports? Is there not delay in the lists being prepared?

A.—Here and there, there might be stray cases but on the whole there has been no delay at all.

Q.—Do you suggest that the works undertaken should be of public utility—at least in proportion to the amount spent?

A.—As a matter of fact the works undertaken are all of public utility.

Q.—You say collecting of metals is useless?

A.—But it is a work of public utility.

Q.—We were told that metal collected some years back were still lying in certain areas without being used at all?

A.—True, it is a useless work. But it is a work of public utility. I stick to that opinion for it does not take away from it the nature of a public utility work. If you have metal you can use it for works of public utility. If you ask me whether this particular type of work is beneficial or not, or if it is of immediate good to the people, I would say 'no.' If you ask me whether it is not a public utility work I would say 'it is.'

Sri R. SURYANARAYANA RAO: Q.—Would you suggest Government handing over the unused stacks of metal to the local bodies without any payment?

A.—It is only a nominal payment that is demanded. In the last famine the metal that was collected in Anantapur district was ordered to be given over to the local board at a nominal rate of half-an-anna per cart-load.

Q.—Do you think that these stacks of unused metal should be given to the local boards and a provision made to that effect in the Code?

A.—I have no objection.

Q.—No doubt with the express condition that the metal should be used only for village roads, otherwise they will be used for trunk road and the local boards will get money as well (grants) from the Government?

A.—Even if you hand over to the district boards, the district board is not going to make use of the metal immediately and it would be lying there for a long period, and it would make no difference at all.

ABDUL RAWOOF SAHIB Bahadur: Q.—Do you suggest the payment of wages at a flat rate?

A.—I do not.

Q.—Do you propose any increase in wages?

A.—It all depends upon whether the Government can afford it.

Sri KOTI REDDI: Q.—With regard to the Tungabhadra Project, under the present modified scheme it does not benefit the Anantapur district which receives no more rains than the Bellary district? Is it possible to extend the benefits of the Tungabhadra Project to certain other areas of Anantapur district?

A.—Yes. If it is extended it will benefit some more parts of Anantapur district.

Q.—With regard to Kumudavati Project, is it an urgent necessity?

A.—It will benefit some six or seven tanks.

Q.—I think the bunding up of Pandimeru river will also help certain tanks?

A.—Yes.

Q.—Is it your experience that the ryots do not generally do the repair to the river channels and supply channels to the tanks?

A.—I believe they generally do not.

Q.—Leave aside whatever the law or the custom might be, you do not ordinarily expect the ryot to do the work especially when it is fairly a large amount of work, for the ryot will be unwilling to do it?

A.—In respect of Anantapur district, it is more on account of poverty that the ryot is unable to

do it. I suggest that the repairs to minor irrigation tanks and supply channels be undertaken by the Government in this particular district.

Q.—Do you think that a reduction in the wet assessment or the undertaking of kudimaramat by the Government would improve matters in Anantapur district?

A.—If the assessment is reduced, it might perhaps tempt more people.

Q.—You suggest on spinning as an alternative subsidiary source of employment. Do you mean spinning by power mills or hand spinning?

A.—I meant only hand-spinning.

Q.—You concede that conditions are favourable for the erection of spinning wheels in those areas?

A.—That I cannot say. A member of the All-India Spinners' Association who met me the other day said that it took some time for a man to do spinning fairly well. I do not suggest that spinning should be taught to every one, but, during famine, it could be done by women especially the gosha women, old women and people like that.

Q.—Why should not able-bodied men take to spinning? They would prefer it rather than going to the relief works?

A.—That is a hypothetical question. I cannot answer.

Q.—Rough yarn could be spun by women and if you can get a sale for the khadder woven or the yarn spun, what are the difficulties for organizing that as a famine relief work?

A.—It will require tremendous organization. I am suggesting it only in the case of old and gosha women who naturally would not like to go to relief works. But, to introduce it on a large scale as contemplated by you, I think it will certainly be costlier both in organization as well as in supervision.

Q.—You have referred to the closure of all abkari shops within a radius of five miles of any famine area. Why?

A.—So that a man who is tempted to drink will find it difficult to walk that distance.

Q.—The famine wage is just sufficient to maintain a worker. There is no provision for anything more, even necessaries like clothing and oil for hair and betel nuts. At least do you consider that clothing and oil for hair are quite essential?

A.—I have not used oil for my hair in all my life. It all depends upon whether the Government could afford it.

Q.—If you think clothing is necessary, is not a provision to that effect necessary in the Code?

A.—Clothing is of course necessary for everybody but it is for the Government to decide such things. I am afraid I cannot recommend that.

Q.—Don't you think that if people want to purchase clothing from the wages paid, they have to stint in their living?

A.—It must take a long time for them to save something from the wages and by that time the famine itself would be over.

Q.—Do you think it desirable to recommend to the Government to provide at least one saree for a woman and a pair of dhoties for a man if the famine lasts for a long duration?

A.—I am afraid I cannot say that.

Sri R. SURYANARAYANA RAO: Q.—You want a kind of levy of cess or assessment to be paid towards the loans. Sri Viswanada Rao suggested that Government might take up the digging of wells and charge water-rate as in the case of tanks and other irrigation sources. What is your opinion?

A.—I don't agree.

Q.—There are a large number of abandoned wells. Why were these abandoned?

A.—For want of rains.

Q.—When you were there, were any experiments carried on for boring such wells?

A.—No.

Q.—Can better water-supply be had with deeper borings in these abandoned wells? I think the Government can grant loans or undertake to bore them deeper?

A.—I would not recommend it on a large scale unless it was tried first in one or two firkas and the results noted.

Q.—Would the ryots be willing to take water if the Government dug the abandoned wells deeper, repair them and maintain them?

A.—I am afraid it is a question of the policy of the Government.

Q.—Are you aware that the insufficiency of water-supply in the Madakasira taluk is due to the damming of the various supplies in the Mysore State?

A.—I do not think so, though it might be true in a very few cases.

Q.—Do you believe that the expansion of Tungabhadra Project up to Dharmavaram or Kadiri if possible would be of greater benefit than the restricted project?

A.—I think it would be.

Q.—If it is extended, are you sure that the area already provided will not be less than under the new scheme?

A.—It is for the Public Works Department to say, because it is a technical point.

Q.—In regard to Kumudavati Project, even if the investigation discloses that it is unremunerative, but if it is found useful in ordinary years of rainfall, do you think it is worth while to take up that project?

A.—I think so.

Q.—What steps are being taken by our Collector to see that the Mysore Government does not deprive us of the flow of water?

A.—It is not the Government but it is the ryot who bunds up all these channels.

Q.—You find a little difficulty in enforcing the Kudimaramat Act?

A.—It is not a question of finding it difficult.

Q.—Do you think there is any other method by which the Act can be enforced and a large number of tanks maintained in this district?

Q.—Could the Government do it or not?

A.—With regard to Anantapur district the ryots are very very poor.

Q.—Do you know the number of tanks in Anantapur district?

A.—Yes. About 1,400.

Q.—What would the cost be?

A.—I am not taking into account the cost while answering your question.

Q.—You were inclined to think that if the Deputy Tahsildars were appointed to control the forest panchayats, they could be retained and need not be transferred to the Forest department.

A.—Yes.

Q.—Do you think that the Deputy Tahsildars possess rudimentary knowledge in forestry to be in a position to offer advice?

A.—I do not think they require much knowledge of forestry. A greater amount of supervision is required.

Q.—Supposing forest subordinates are lent to the Revenue department and they are placed on the same grade as the Deputy Tahsildars under the control of the Collectors, in that case could the forest panchayats be helped?

A.—I have no objection.

Q.—Do you support the erection of spinning wheels in order to utilize the large quantities of cotton grown?

A.—I had not studied that aspect of the subject.

Q.—Do you know whether a scheme for erecting spinning wheels was once proposed?

A.—I do not know.

Q.—You agree with the policy laid down in the introduction to the Code? Do you not consider when you take into account the modern ideas of State relief that it is rather out of date?

A.—I don't think the idea of modern State relief is very different from what is laid down.

Q.—In western countries doles are given even without any work being done?

A.—Here you are getting work for the relief offered from those people who are maintained at the expense of State.

Q.—Is it not the duty of the Government to help such people in distress?

A.—That is what the State is doing at present.

Q.—It is suggested that the workers should be maintained at the normal level of comfort and can that be done under the provisions of the Code?

A.—Normally the type of people who come to relief works are those who naturally have to work even in good years for their living, and I do not think their standard of living is affected. No doubt there may be some cases where small pattadars come to the relief works.

Q.—Don't you think that at least that set of people, who by force of circumstances come to relief works should be maintained at their proper level?

A.—How are you going to differentiate during relief period.

Q.—Mine is a general question. What I am trying to suggest is, the Code is worked in accordance with the policy laid down in the introduction. If the idea is changed, the whole Code could be changed?

A.—Even in countries where doles are paid, they are not paid to keep the men in their normal state of luxury and comfort.

Q.—But you extract eight hours work and pay for their bare existence?

A.—It all depends upon Government and their policy. If Government can afford, they can pay them even while they are in their homes.

Q.—You know that section 50 of the Code lays down that, as soon as a test work is started, you have to start village gratuitous relief. Do you agree that even if ordinary works are started, gratuitous relief should also be distributed?

A.—If ordinary works attract a very large number of labourers then perhaps gratuitous relief might be resorted to.

Q.—You know the conditions in the ordinary works. Were the wages being paid regularly?

A.—In the beginning it was not possible because the works had just then been started. The district board had to get funds from Government and the overseer was not acquainted with the work. But afterwards it was all right.

Q.—Don't you think that some conditions should be laid down especially regarding payment of wages and the carrying out of the works under departmental agency and not under contract system so that the interests of the workers can be ensured?

A.—I don't think the interest of the workers suffered under the contract system.

Q.—Don't you think that test work task should be higher than the relief work task?

A.—No.

Q.—You are in favour of abolishing liquor shops within a radius of five miles of the area declared as famine and not merely within the famine camp?

A.—I have said so.

Q.—Were you satisfied that the distribution of wages was being done properly on the relief works?

A.—I think so.

Q.—Don't you think that if the officers giving work, taking work, measuring work, issuing wages and distributing them are the same, there is scope for speculation?

A.—I have not heard any complaints during my time.

The CHAIRMAN: Q.—Under the head "alternative or subsidiary sources of employment," you suggest silk industry with castor leaf as a substitute for mulberry. I think that in a famine year castor is going to wither just as much as anything else?

A.—It is a stubborn crop.

Q.—Do you think it will survive sufficiently to feed the silk worms?

A.—If the drought lasted for a long time it may not last. It is more stubborn than the other crops in the area.

Q.—Is it your experience actually that many of these coolies ordinarily frequent toddy shops? Have you got any evidence?

A.—There were complaints in Tondapadu camp, because the shop was in the camp itself. The people were paid wages and instead of going home they used to have a drink.

Q.—In the matter of kudimaramat you say that the people will simply not do it. Were they ever instructed in the requirements of their local sources?

A.—I don't think so.

Q.—I think the reason for the failure of the kudimaramat system is that it is supposed to be such a simple thing that the ryot can do and ought to know it. But in many cases it is a technical operation which requires expert engineering knowledge. Would you agree?

A.—That is one factor.

Examined by Sri T. A. RAMALINGAM CHETTIYAR:

Q.—I take it that you don't want the test work to intervene between the enlarged programme and the famine work itself. When you feel that distress is acute, you would much rather start famine work itself?

A.—Yes.

Q.—About silk, is there anything going on now?

A.—No. I made the suggestions from an article I read somewhere.

Q.—Coming to the question of rations, I suppose you have compared the rations they get in the famine camp with what they actually eat in their houses. Can you tell me comparing the two whether the supply in the famine camp is worse or better than what they get in their homes?

A.—So far as the labouring classes are concerned, I don't think they get any better in their homes

than what they get in the famine camps. Probably the quantity may be a little more.

Q.—Actually is the ration less or more for some of the dependants?

A.—I think it is about the same.

Q.—What is the physical condition of the workers in the famine camp. Are they better now than they were before?

A.—I don't think it deteriorated as far as I have seen.

Q.—Do you think under usual conditions there is room for sinking a large number of wells?

A.—Yes. The Government might advance the money and recover by way of cess. My proposal is to collect only the capital.

Q.—Do you think there is a possibility of sinking a large number of wells like that under those conditions?

A.—It all depends on the depth at which you are going to get water. The ryot won't mind paying a small cess so long as a crop is assured and the repayment of the capital is spread over a large number of years.

The Committee rose for the day.

20th August 1938.

The Committee reassembled at 10 a.m. in the Board's office with Mr. C. A. Henderson in the chair. The following members were present :—

Mr. F. M. Dowley.

„ H. R. Dogra.

Sri Diwan Bahadur N. Swaminatha Ayyar.

„ T. A. Ramalingam Chettiyar.

„ K. Koti Reddi.

„ Kallur Subba Rao.

„ N. Sankara Reddi.

„ R. Suryanarayana Rao.

„ H. Sitaram Reddi.

Mr. D. I. R. Muir, the Secretary, was also present.

The oral examination of Mr. V. N. Kudva, Collector of Ramnad, was taken up.

Written evidence.

SECTION I.

Measures for the prevention or mitigation of famine.

1. The problem of famine relief is very largely a problem of finding employment for a very large number of agricultural labourers and owners of small holdings who are thrown out of employment due to the adverse and unfavourable seasonal conditions.

It is hardly possible to prevent famine in a district of poor soil and scanty rainfall like the Anantapur district, particularly as even this scanty rainfall is not always received at the proper time and is capricious and uncertain.

The only measures, in my opinion, that are likely to mitigate famine is the emigration of an appreciable portion of the ryots or industrialization of the district. As nearly all the available lands in the neighbouring districts are under cultivation, the former course is not practicable. As Anantapur is not rich in minerals or forests, I am not aware of any possibilities of industrializing it on any appreciable scale.

The extent to which the Anantapur district can be industrialized can be investigated.

2. (a) (i) *Irrigation—Major.*—So far as I can aware, only a portion of the Gooty taluk of the Anantapur district will be served by the Thondapadu canal, Sindhavalam branch canal and the Kuntienahalu tank of the project, as described in G.O. No. 1429 I., dated 6th July 1934, and hence it is not likely to be of much use to the Anantapur district from the point of view of preventing famines.

2. (a) (ii) When I discussed the matter in 1935 with Diwan Bahadur R. Narasimha Ayyangar, the late Chief Engineer for Irrigation, I understood that it might be possible to modify the proposals with a view to bring the project water to some area in the Anantapur district. I understand that it was not possible under any circumstances to extend it beyond the Dharmavaram taluk. The taluks of Penukonda and Hindupur, which are most frequently liable to famine, are not likely to get any benefit whatever from this project. It is, however, worth while considering the question of extending the benefit of the project to as much area as possible in the Anantapur district.

2. (a) (iii) I presume that Pennar-Kumudavati project is under investigation. The Bairavani tippa scheme stood postponed till a decision was reached on the Tungabhadra project. I am not aware of any other project.

2. (b) (i) *Minor irrigation and wells.*—On account of the scanty supplies of water received from the scanty rains in the Anantapur district, the ryots have been supplementing the inadequate water-supply of irrigation tanks by water from irrigation wells dug in the ayacut of the tanks. There used to be, some years ago, large extents of cultivation under wells particularly in the Hindupur and Madakasira taluks. Attempts were made by the Government to induce ryots to dig more wells by large grants of loans. These efforts have not been successful; the collection of instalments in a large number of loads had to be suspended and may probably have to be written off eventually.

There was a general belief that this was due to the bunding of the large streams, on which the water-supply of these taluks depends, in their upper reaches by the Mysore State with a view to improve the irrigation facilities in the adjoining villages.

There is an appreciable amount of cultivation under river channels which are a special feature of the Anantapur district in the neighbourhood of the Pennaru and the Chitravati. These channels are dug in sand every year after an enormous labour every year for the ryots. The ryots always clamour for assistance for maintenance of the channels. The cost involved, however, is disproportionately large when compared with the yield from the ayacut of these channels. The ryots may be encouraged wherever possible to dig such channels.

2. (b) (ii) The only measures that I can think of is to take up the silt clearance of the minor irrigation sources as a measure of famine relief whenever possible.

2. (b) (iii) I agree.

2. (b) (iv) An increase in the number of wells is not likely to improve the situation as it might not be possible to tap adequate supplies of water in the wells dug as seen from the recent experience in the Hindupur and Madakasira taluks. Please see my answer to 2 (b) (i).

The subsoil water in black soil areas is brackish. Drinking water is very scarce in black soil areas of the Anantapur district during bad seasons. It is doubtful whether water-supplies can be tapped by digging wells. If so, they considerably improve the condition of the ryots in normal years, and make them less liable to be affected by famine.

2. (c) *Contour bund forming.*—No remarks.

2. (d) *Dry farming.*—No remarks.

2. (e) *Afforestation.*—No remarks.

2. (f) *Alternative or subsidiary sources of employment*—(i) *Large-scale industry.*—Attempts made to work the diamond mines in Vajrakarur were not successful. A company applied for a prospecting licence to find out if gold was to be found in the Dharmavaram taluk. Large quantities of palmyra and other fibre were being collected from some villages adjoining the road from Anantapur to Kalyandrug and exported to foreign countries. The possibility of utilizing this fibre commercially in the Anantapur district may be considered.

(ii) *Cottage industries.*—In a village of the Penukonda taluk adjoining the road from Penukonda to Anantapur, bangles used to be manufactured from some minerals which are locally available. I do not remember the name of this village now. This industry was dying on account of competition with cheaper and better manufactured foreign bangles. The person in charge of this small industry told me personally that he was prepared to send his son to foreign countries for training if the Government would grant him assistance for the purpose. Details are available in the Collector's office, Anantapur, as I remember to have left a note about it in 1935.

Some paper was being manufactured in Nyamaddala, a village in Dharmavaram taluk. This industry, however, has been killed by foreign competition.

There used to be a great demand for sarees woven at Dharmavaram and they used to be exported to distant places like Madras and Bangalore. This industry has not been thriving because the patterns of the sarees woven there have gone out of fashion and they are besides considered to be too heavy. Local weavers were not taking the trouble to change their designs or use finer quality of yarns to suit modern tastes.

Sheep are being reared in very large numbers, and coarse cumblies are being woven. The question of weaving woollen goods like cumblies as the cottage industry on a larger scale may be considered.

Cotton weaving may be developed into cottage industries in the black soil areas of Gooty and Tadpatri where cotton is being grown on a large scale.

2. (g) No remarks.

SECTION II.

Purposes of famine operations and principles of famine relief.

3. I thoroughly agree with the principles laid down in the Famine Code, that, while the State is bound to protect its people from starvation in times of distress, it is no part of its duty to maintain a normal level of comfort. It has to be borne in mind that the cost of relief measures during a famine has to be borne by the rate-payers of the other districts. I venture to submit after my experience of the famine of 1935 that in my opinion this is the only principle which can be worked satisfactorily. I have discussed the practical difficulties that arose after the raising of the scale of wages by the Government in response to popular representations under the head "Deviations—The raising of the allowances and wages" in paragraph Nos. 97-110 of the Anantapur Collector's R. Dis. No. 4747/35-D., dated 16th December 1935.

During that famine an appreciable number of persons who were not in need of relief attended the works after the raising of the wages. As observed in the Famine Commission Report, 1901, experience has shown that women and children who are not in need of relief have always a tendency to resort to the famine works. Disproportionately large number of women and children on the works is a sure indication that the work serves a number of persons who are not in need of actual relief. It was found by my personal enquiries in the villages that the pattadars who had ample supplies of grains had no scruples against sending their female relations and dependants to famine work when they were available close to their villages, for the sake of the wages. In some cases even the pattadars themselves attended the works.

The chief danger of making the wages unduly attractive on the works is that the people will have a tendency to stick to these works after the rains when it is imperative in the interests of the distressed tracts, that as large an area as possible should be sown after the rains so that ordinary agricultural conditions should be restored with the least delay. If wages are too attractive, the normal agricultural operations during the ensuing year might be considerably restricted in the neighbourhood of famine works.

The wage should be the least amount sufficient to maintain the health of persons. There are doctors in attendance in the famine works and there are provisions in the Famine Code (sections 104 and 130) for raising the scale of wages at any particular work, if it is found that the health of the workers is deteriorating. No harm can therefore be caused by continuing the policy as the Collector has to watch vigilantly the conditions of health of the workers in view of the dictum laid down in 1868 that "every District Officer would be held personally responsible that no deaths occurred from starvation which could have been avoided by any exertion or arrangement on his part or that of his subordinates."

4. *Chapter II—Preliminary measures of enquiry and preparation when the rains fail.*—I have found that the provisions in this chapter to be adequate and I cannot think of any modifications. Early preparations and steps will save considerable amount of distress which might otherwise occur, and that provisions of this chapter are therefore very important.

5. (a) *Chapter III—Period of observation and test.*—As the people are not generally dependent on the outturn of a single harvest or the harvests of a single year, a widespread failure of either harvest, while causing distress, will not cause famine if they have other resources and credit. It depends on several conditions such as the character of preceding harvest and the degree in which the agricultural operations are affected whether the distress amounts to famine.

As pointed out by the Famine Commission in 1901, it is impossible to fix in formal language exactly the point where conditions of scarcity cease and those of famine begin.

Some kind of test is therefore necessary for determining whether the famine conditions have begun.

The tests have to run under conditions suitable for gauging the amount of distress. If the tests are too strict, the situation will not be grasped. If the tests are too lenient, people who have no necessity for relief, particularly women and children, might swell the works.

The tests should therefore be "stringent but not repellent."

5. (b) The provisions of sections 49 and 50 are generally satisfactory. Section 49-B, however, lays down that there should be no allowances for a rest day or for dependants. This provision sometimes works as a hardship as test works are opened in tracts where

there is acute distress and it takes some time to obtain orders converting the test work into a relief work and declaring famine in that area. I sometimes found it necessary in practice to enlist the aid of private individuals or organizations for the relief of dependants of persons working in the test works during this interval.

Section 50, no doubt, lays down that distribution of gratuitous relief should commence with the opening of test works. Gratuitous relief is generally given, in practice, only after the famine is declared. It was therefore not found possible to take advantage of this provision to give gratuitous relief before the declaration of famine.

6. *Chapters IV and VI—Declaration of distress and commencement of relief and description of the various measures of relief.*—I cannot think of any modifications.

SECTION III.

Scale of wages and allowances and the diet scale.

7. No modifications.

8. (a) Please see my remarks against Question 3. I have referred in my report to the complications that arose after the raising of the scale of wages in G.O. Ms. No. 882, Revenue, dated 6th April 1935.

I think that the scale of wages laid down in Chapter VIII of the Famine Code is generally adequate particularly as there is provision under sections 104 and 130 of the Famine Code to vary the rate of wages on any particular kind of work, in accordance with the circumstances of each case.

It was found, in practice, that the scale of diet given in section 128 (a) could be strictly followed only in the case of grain items, and that it could not be followed in the case of oil, vegetables and condiments in the food prepared in the kitchens. For instance, it was found that the scale of oil was found to be excessive in the case of some areas where people complained that the food did not agree with them as the scale of oil was too excessive. The local charge officers were given discretion to vary the scale of these items so long as the total cost was not exceeded.

The question of food in famine kitchens has been taken up and referred to authorities on dietetics, who are more competent than myself to give any opinion on the subject.

8. (b) The scale of vegetables is probably inadequate. But during the hot weather when the famine works are at operation, it is difficult to get any vegetables other than brinjals and dried onions. During famines, it is not merely the labouring classes but also holders of small pattas who resort to the famine works in large numbers. There were cases of even Lingayats resorting to famine works in 1935. An appreciable number of persons who resort to famine works are normally accustomed to vegetables even in this season.

The fact that the dependants and children, who were resorting to kitchen during the famine of 1935, had markedly improved in health shows that the food that was supplied is better in quality in spite of its low cost than the food which a large number of persons were accustomed to eat at home.

Dietetics is a subject which was not properly studied even by better class of persons in this country and there is no reason why more vegetables should not be included in the scale of diet as long as the total cost does not exceed the scale laid down by the Government.

8. (c) I cannot think of any measure by which it can be ensured that the worker will spend his entire wage on procuring only articles of necessity. The worker will spend even a quarter of an anna per day on betels and nuts and other 'luxuries' if he can spare it from the wages. He would spend it even on toddy if a toddy shop is available in the neighbourhood.

8. (d) *Chapter IX—Gratuitous relief.*—I have no suggestion to make beyond saying that probably the provisions regarding poor houses are not necessary and the question of deleting them may be considered as the Famine Code is already voluminous. Communications have considerably improved since the Famine Code was drafted and it is the policy of the Government to open relief works within easy access of the villages in a distressed tract. (Please see paragraph 17 of B.P. No. 57, Land Revenue and Settlement, dated 7th October 1923.) It may not at all be necessary to open poor houses during future famines.

SECTION IV.

The size and nature of the task in famine works.

9. The earliest test works in the Anantapur district were opened under the limited piecework system (G.O. Ms. No. 2553, Revenue, dated 10th December 1934). It was found by experience that "owing to the general looseness of the system and to the fact that as an exact wage is not guaranteed to the individual," it was not well suited to the relief of severe distress.

The subsequent works were done under the task system. Even in the case of the task system, it is not desirable to fix a definite task for the worker. There is no doubt that during the earlier part of the famine, when the Public Works Department officers were insisting upon the execution of the task fixed by them, persons who were not accustomed to break metal could not earn minimum wage which according to the Famine Code was necessary to keep them in health. Sometimes the metal was found to be hard. There is a tendency on the part of the workers to idle away the time or leave their works too early in the evenings or take rest for too long a time in the hot afternoon and the task executed upon the famine works depends largely on the quality of supervision of work agents. In my opinion, the local officers should have the discretion to regulate the task taking all the circumstances connected with a particular work into consideration. As for the popular notion about the difficulty of breaking metal, I wish to mention that it was found that after the workers got used to breaking metal, they found easier to perform the metal breaking task allotted to them on roads to the tanks given when silt clearing of tanks was taken up as famine works.

Towards the end of the famine season, when there is a tendency for workers to stick to their task, the work has to be raised.

All that I would suggest is that more discretion than is allowed under the Famine Code should be allowed to local officers in fixing the task.

SECTION V.

The possibility of providing famine relief by works of more appreciable benefit to the community than stone breaking, e.g., irrigation works of suitable size.

10. Road works which are taken up as the basis of organization of famine relief in the measures undertaken under the present Famine Code can certainly be replaced by works of more benefit to the community. Silt clearance of a large number of minor irrigation works and deepening of a few drinking water wells was taken during the famine of 1935.

Some very useful roads opening up a large and inaccessible tracts or shortening the distance between important towns with market centres in the district were also constructed; in view of the poor finances of the Anantapur District Board, it is doubtful whether the board will be in a position to maintain these roads in addition to the existing roads.

Construction of roads must have been taken up as the basis of famine relief at a time when it was very necessary to develop means of communication in this country, and this is continued to be the basis of famine relief as it is very convenient to organize relief for a large number of persons on such works. Now that the means of communications in this country as a whole are adequate, it is a matter for serious consideration whether road works should continue to be the basis of famine relief.

Now that the Government and public opinion are very keen about measures of rural uplift and improvement of sanitation in villages, the question of completely revising the existing programme of famine relief works on the basis of village roads and works connected with rural uplift may be considered. The Government are not likely to find means for such works on any large scale in any particular area in normal times.

Organization of such works, however, may not be easy as a much larger number of public servants may be required to supervise the works that have to be opened to employ the number of persons that can be managed on a single road. It may be possible to organize such works only when a large number of non-officials are willing to take up these works under the control and discipline of public servants.

Attempts made to entrust such works to local bodies like panchayat boards during the famine of 1935 were not successful, and only one of such works entrusted to non-official agencies was efficiently managed.

Silt clearance of a number of small tanks which are not likely to be taken up normally in view of the excessive cost involved may be taken up on a large scale as a measure of famine relief in preference to road works. It must be remembered in this connexion that restoration of abandoned tanks requires a certain amount of skilled

labour and it is not desirable to take them up as a measure of famine relief. If silt clearance of tanks is to be taken up systematically as a measure of famine relief it is very important that it should be taken up in the early stages of the famine as the entire work may be completed before the close of famine operations. Such works are preferable to road works as it may not be necessary to incur recurring expenditure over them.

SECTION VI.

Expansion of ordinary programme as a normal preliminary to the period of test and observation.

11. This, in my opinion, is not only useful but also very necessary at the earliest stage of the famine when distress is acute enough to justify the opening of test works. There will be a certain amount of unemployment even at this stage and employment can be given to the needy on a work taken from the expanded programme of works.

When, for want of adequate staff, it was not practicable for me to open a test work in Dharmavaram taluk during the famine of 1935, I was able to prevent a large amount of distress in this area by persuading the District Board to take up a big work till I was able to organize a test work.

In some portions of the Anantapur district outside the famine zone, where there was a clamour for opening the test works, I found that the situation could be met by merely taking up some works under this programme.

SECTION VII.

Reduction of expenditure on famine establishment.

12. I consider that the present system of famine administration with large overhead charges of two departments is very costly. Sections 121-123 no doubt provide for non-departmental works to be kept in reserve when workers have to be dispersed from any particular work on the outbreak of epidemic, or at the beginning of the rains. Another type of non-departmental works was organized during the famine of 1935 when, with the gradual increase of intensity of distress, it was considered desirable to open works closer to the villages than the nearest departmental work that could be taken up from the programme of famine works. The scheme of these works has been given in detail in Board's Reference No. M-1733/35-2, dated 28th March 1935, and they were sanctioned by the Government in G.O. Ms. No. 765, Revenue, dated 27th March 1935. These works were run non-departmentally on the lines of departmental works. They were entrusted to the management of Revenue subordinates under the supervision of Tahsildars, and they were all directed to study and copy the methods that were employed in the nearest departmental works. The Executive Engineer, whose technical advice was occasionally sought, has testified in his final report to the efficiency with which these works were executed.

These works are far more economical than departmental works. They save expenditure on hospitals, sanitation and water-supply. As water-supply for all domestic needs is very easily accessible, they are conducive to health and less liable to epidemics even though doctors are not employed on such works. The workers are not exposed to wind and rain; they are saved the trouble of having to walk long distances and can easily return to their homes and attend to their agricultural stock. The loosening of social and domestic ties which has always been a melancholy feature of a cataclysm like the famine is avoided. There is no dual control of works as on departmental works, and it is easier to enforce discipline among maistris and prevent petty frauds by frequent verification of muster rolls with daily attendance. Better work can be extracted from the labourers as more attention can be paid to the estimation of the daily outturn of work on such contract works. The principle of selection by which admission was made to these works ensured that only persons who were in real need come to this work.

It is therefore worthwhile taking up works on this system on a very large scale as measures of famine relief from every point of view. It may not however be always possible to select an adequate number of works to provide employment on a large scale under this system.

13. The construction of a net work of railways since the Famine Code was originally drawn up has revolutionised famine relief and, as it is no longer difficult to transport grain and fodder, the horror of old famines—an absolute dearth of food—is not known.

When food and money were both lacking during the past famines, the modern famine is one of money only. All areas liable to famine are now easily accessible. Under the circumstances many provisions of the Famine Code are not useful in practice. Such, for instance, are the provisions relating to poor-houses, protection of deserted children and establishment of cattle camps and steps for the preservation of the cattle. The Agricultural Department have studied and are taking steps for the preservation of important breeds of cattle. It may not also be practicable to enlist the assistance of men of private resources of any appreciable scale to open private and unaided works. The question of deleting provisions which relate to these matters from the Famine Code may be considered with a view to make the book less voluminous and easier to study at the commencement of a famine.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—In your evidence you say that famine, though it affects the landless labourers at the beginning, affects the small pattadars in course of time. Is this your experience?

A.—Yes, I found quite a number of persons of that class.

Q.—You found during the famine of 1934–35 many pattadars who in ordinary times would employ these landless labourers as their labourers came to and worked along with these labourers on the work?

A.—Quite a number of pattadars owning small extents of lands.

Q.—Why do you think emigration is not a practicable proposition, in regard to this area?

A.—I have not made any study of this problem.

Q.—I thought of emigration in general as was taking place in Tanjore, etc., to Ceylon and Malaya. Do you think that there is not much scope for such emigration at all?

A.—I have no idea of this problem. If emigration is possible in those areas we may try to persuade the people to emigrate in those parts.

Q.—You know cotton is extensively grown in the Ceded districts and even in Anantapur in black cotton areas. What do you think of an idea of starting a spinning mill to utilize the cotton grown there especially as the handloom weavers use imported yarn?

A.—I think that it would be a good idea provided it is practicable.

Q.—Was it during your time that the Government once contemplated starting a spinning mill at Pamidi?

A.—I do not think that it was in my time. It must have been later. I did not hear anything about it.

Q.—You mentioned about Bhairavan-tippa scheme. Where is it?

A.—I think that it is somewhere near Kalyandrug. I am not sure.

[Mr. F. M. Dowley said that it was in Kalyandrug and that it was a very small scheme.]

Q.—Besides the Penner-Kumudavati project, did you, as Collector, at any time have any occasion to think of any other project or look into them on account of any reference from Government? I see there is a project, Doregallu project, which affects both Cuddapah and Anantapur districts.

A.—I had no occasion to look into this project because famine was not declared in any part of the Kadiri taluk. There was only expansion of ordinary works to meet the situation in parts of this taluk.

Q.—You suggest some modification in the Tungabhadra project, if possible, to benefit as far as Dharmavaram. But it is said that if any modification is suggested and more area is brought under irrigation, there may not be enough water to irrigate the lands. Do you think of a project like Mackenzie project?

A.—All that I know of this project was what I could learn during a discussion with Sri R. Narasimha Ayyangar, the then Chief Engineer, when he toured in the Anantapur district during the famine. When I learnt that the project would benefit only portions of the Gooty taluk, I told him that it would be desirable to bring as much area as possible in the Anantapur district (particularly the Penukonda and Hindupur taluks) under the project. I learnt that the levels did not permit the project water beyond a ridge which served as a watershed in the Dharmavaram taluk.

Q.—You are of opinion that the Penner-Kumudavati project must be undertaken even if it affords relief to ryots in ordinary times, though, in the years in which the rainfall is low, the project may not be of much use?

A.—The project was not seriously taken up during my time. I remember to have read subsequently in the newspapers that the project was being investigated and this was after I left the Anantapur district.

Q.—You say that "attempts were made eventually." What is it due to? Is it due to the failure of the ryot in tapping water or is it on account of the bunding up of the sources in Mysore State?

A.—Large amounts of loans were given, if I remember correctly when Sri N. Gopalaawami Ayyangar was Collector of Anantapur. We found that the ryots were not able to tap water-supplies with the result that they were not able to pay loans.

Q.—What do you think it due to?

A.—It is generally believed that this was due to the bunding up of streams in their upper reaches in the Mysore State.

Q.—Bunding up of the streams of the tanks in Madakasira, Hindupur and Penukonda taluks may affect supplies to tanks. But how do they affect the supplies to wells?

A.—I do not know.

Q.—Yesterday I was corrected by Sri Swaminatha Ayyar that the bunding up of streams has not affected the supplies even to tanks in Madakasira as the flow is from Madakasira taluk towards Mysore?

A.—I cannot give any authoritative opinion on this subject.

Q.—Suppose deep-boring experiments are made and fresh supplies of water can be tapped and the Government undertake to do it and are successful, and a special water-rate is charged in order to meet the cost of boring and the maintenance of the pumping plant that may be installed, do you think that would give greater relief to the people especially of Madakasira taluk?

A.—If we can get water in any way in these areas it will certainly relieve the situation.

Q.—As regards digging new wells Sri Viswanatha Rao suggested that the Government might dig wells and then charge a water-rate for the water supplied. Do you agree with this suggestion?

A.—The proposal appears to be sound in principle and deserves consideration.

Q.—Do you suggest levying a kind of cess in addition to the assessment till he repays the cost of the well and then make it over to the ryot?

A.—I have not applied my mind to this proposal.

Q.—You say if we can tap water in those areas by some means, a certain amount of well irrigation is possible?

A.—The District Gazetteer says that this is the only way to insure against famine in red-soil areas.

Q.—As you are not always sure of underground supplies in those areas, do you think a geological survey of the whole tract to find out the existence of underground water-supply would be useful?

A.—Yes, possibly.

Q.—When you were Collector of Anantapur with regard to Madakasira, it seemed the impression was

that the bunding up of some streams by the Mysore State had affected greatly the supply of water to tanks?

A.—That is the general impression of the people in the Anantapur district. I have heard it said so often that I myself was inclined to believe it. That is why I have mentioned it in my report about the famine.

Q.—You suggest that the ryots always clamour for assistance for maintaining river channels and you know in most places the river channels are maintained by the ryots at an enormous cost as you know in the Penner channel near Tadpatri there has been an agitation on the part of the ryots that they should be shown some concession in regard to rates charged. Do you think it is a fair demand from the ryots, as the ryots have spent a lot of money?

A.—The demand is fair. When I was at Anantapur a representation was made to me about it. I did not then feel that I was in a position to recommend any reduction of rates as a question of principle as regards levy of assessments was involved.

Q.—At least for second crop assessment, some concession may be made?

A.—All that I can say is that it will be equitable to give them some kind of concession. My own impression is whether we give concession or not, these ryots who are very industrious, will dig the channels. I am certainly in favour of giving some concession in view of the enormous labour involved from year to year, as the channels are washed away during the floods.

Q.—The only measure you can think of for the maintenance of minor irrigation sources in order, is silt clearance?

A.—Yes.

Q.—You undertook in 1934 some minor irrigation works?

A.—We took up quite a number of such works.

Q.—Did you find any difficulty?

A.—No. Curiously enough, we found that the task of silt clearance was more difficult than stone breaking and had to reduce the task considerably in such cases.

Q.—So with the reduced task, the silt clearance may be taken up, as a more useful form of famine relief than stone breaking?

A.—Yes.

Q.—In normal times, do you think it possible to do this work?

A.—No. In normal times it will not be possible to spend a large amount on silt clearance of groups of small tanks, as there will not be an adequate return for this expenditure. During famines, money is spent irrespective of these considerations.

Q.—Do you think that the question of return should play a prominent part in deciding whether a project should be taken up or not?

A.—It is a question of policy which the Government have to decide.

Q.—Do you think that some concession should be shown whatever the rules in regard to irrigation projects may be?

A.—In the parts of the Ceded districts liable to famines, there should be some kind of concession.

Q.—One of the Engineers who appeared before the Committee suggested an investigation of the suitability of the tanks and their usefulness is necessary. Do you think that the information contained in the memoirs produced by the Tank Restoration Scheme party is not enough for this purpose?

A.—That is a question on which the Engineers are more competent to give an opinion.

Q.—But you are doing them?

A.—During famine there is hardly time for correspondence with the Public Works department before we take up such works in areas which require relief. We use our discretion largely on considerations of employment that has to be found for the people of the area affected.

Q.—It has been suggested that if a tank gets a partial supply, often the entire ayacut under it remains uncultivated, though the supply may be enough for a crop for certain area. Sri Viswanatha Rao suggested that the Collectors should be empowered

to force the ryots to cultivate the ayacuts to the extent the supply can irrigate?

A.—A very good idea. If there is no restriction, all people will try to take water, with the result that the crop in the entire area suffers for want of sufficient supply for the whole area. If the restriction is enforced at the beginning of the cultivation season, only those extents for which water-supply is adequate will be cultivated.

Q.—Do you think that the Collectors might be empowered to restrict the area?

A.—Yes.

Q.—You seem to thoroughly agree with the principle laid down in the introduction to the Code on which the Code is based. Don't you think, judging from the modern standards it is high time we change the idea of State relief? The present idea of State relief is only to keep men from starvation and not keep them in comfort?

A.—The policy of the Government in affording relief in any distressed area is humane, and certainly there is no objection to raising the wages of people who are compelled to resort to the famine works or maintaining them on a higher level. From the administrative point of view, we have to keep the wages on such a level that only persons who are really in need of relief are given relief so as to avoid a large amount of unnecessary expenditure to the State.

Q.—Don't you think that there is need for a change?

A.—In what way?

Q.—To maintain the labourer in his normal condition?

A.—We always try to maintain him in this condition.

Q.—You have, in your administration report, mentioned that it is no part of the duty of the State to maintain him at a normal level of comfort. Is it not the duty of the State to maintain the ryot at his normal state of comfort?

A.—What I meant is that the ryot cannot expect to be maintained at the famine works at a higher standard of living than he is accustomed to in normal times in his village.

Q.—You agree that he should be maintained at the standard to which he is accustomed?

A.—Yes, but the wages need not be so high as to provide for luxuries.

Q.—You speak of practical difficulties experienced by you after the revision of the wage-scale, in your letter to the Government?

A.—From my experience, I thought that the workers on famine works were able to get much more than what they would have earned by labour in normal times.

Q.—What is the practical difficulty that you are referring to?

A.—My observations, as I made clear, were based solely on considerations of seeing that relief was given only to the persons who require relief. From the administrative point of view, the system of relief must be such that, with proper supervision it should be possible to see that only those who require relief come to the camps and that other people more or less drop out automatically. As a matter of fact there were complaints, when rains fell, from small pattadars, who said that they could not get labourers to cultivate their lands in the neighbourhood of famine works.

Q.—Do you think there is any justification for those complaints?

A.—I think there was. I personally went to the houses of some people and found that many persons who had stocks of grain, sent their womenfolk to the works. As I have stated in my report, if you want to increase the wages in order to maintain the people at a higher level of comfort, you must carefully select people before admission to the works, and this requires an enormous amount of supervision. I do not object to the cost involved by the State by giving a pice more to the people who are really in need of relief, as the cost involved is not large when compared with the cost involved in giving relief to a large number of people who flock to the famine works though they are not in need of relief.

Q.—Do you think that after the increase of wages, such people who have resources will come to the relief camps? I suppose there is some contradiction in your evidence when you say that you found Lingayats and Brahmans attending the work? Generally such people you know would not resort to the relief camps unless their condition was very acute?

A.—I found a few Lingayats and two or three Brahmans. Their presence shows that the distress during the famine of 1935 was acute. This was in the earlier stages of famine before the wages were raised. My observations relate to the period when the numbers on the famine works swelled after the increase of wages. I referred to Kamma and Kapu ryots.

Q.—Generally you know the other castes do not want to mingle with the Malas and others in the camps unless they are so driven by bare necessity. Generally a self-respecting ryot, however small a pattadar he might be, will not come to the relief unless he is driven to that state?

A.—It is true. My impression, however, is that the Kammas and Kapus have no objection to work by the side of the Malas and other lower castes. If I am not mistaken, women of even respectable families of agriculturist communities have no objection in their own fields where Malas and other lower castes work as labourers for wages.

Q.—I don't dispute your fact. Don't you think that it is wrong to suppose that because the wages were increased, people came in large numbers? I don't think they would lose their sense of self-respect for an increase of quarter anna or half-anna?

A.—I am only stating that on account of the increase in wages the number of people on the works rose considerably. The impression that I had after visiting villages was that because of the increase in wages a number of people who did not really require relief came to the relief camps. I am only stating the facts that I observed and am not suggesting any thing.

Q.—What I would like you to consider is that people of status would not ordinarily attend relief works and work alongside those whom they ordinarily employ as labourers?

A.—Subject to correction from Sri Koti Reddi, I wish to state that the impression I have gained in those areas is that even in the case of big Reddi families, the ladies do not consider it beneath their dignity to take part in agricultural operations.

SRI KOTI REDDI: True. In their own fields.

SRI R. SURYANARAYANA RAO: Q.—What is your objection to an increase in wages?

A.—If by any system you give an extra pice to the person really needing it, I have no objection at all. But I object to any system by which large numbers of people who do not require relief get not only the extra pice but also the wages from the State. I am not putting forward this view for the first time. This has been discussed fairly well in the Report of the 1901 Famine by Sir Frederick Nicholson and others.

Q.—I entirely agree with your point of view. But what I am saying is that conditions of work relating to relief works are not so attractive as you administrative officers think when compared with the conditions of work on agricultural fields. In relief works they have not only to walk long distances but work also in the midday heat?

A.—Sometimes we provide sunshades.

Q.—Even then they are not very attractive and do not make the rigours less?

A.—Our works are selected very close to the villages.

Q.—Not only are the conditions unattractive but a great amount of hardship is involved. A little increase in wages will not make it more attractive. I think the principle of selection will be very difficult to enforce especially among village folk?

A.—It has already been stated after the experience of previous famines that the number of people who come to the works in any particular area is not the sole criterion of acuteness of distress in that area. It depends on several other factors.

Q.—In paragraph 15, you have said that failure of one or two crops will no doubt cause distress and people generally dependent upon them will become destitute?

A.—Yes. They are general observations about

famine and were not stated as a description of the state of affairs in Anantapur. It is difficult to say when distress has become acute enough for declaring a famine. While going through reports of previous famines and other literature bearing on famine, I found that this matter had been clearly discussed and I thought it was worthwhile to incorporate this general observation in my report, as it might be of some interest to people who are likely to read my report.

Q.—You say as regards the health of the persons, there are camp doctors in attendance. Do you think the doctors are competent to find out the condition of health of so large a number of people?

A.—Frankly no. Whenever we found these complaints about the health of the people we used to go and see for ourselves. The amount of attention paid by the doctors to the health of the people on the works depended upon our supervision. I instructed my officers to inspect these camps frequently and send their inspection notes on lines indicated by me. My divisional officers, my personal assistant and myself frequently inspected the works to find out the state of affairs on the works.

Q.—Don't you know that persons who generally look to be in good health are not always so?

A.—It is quite possible; we are all human and liable to commit mistakes.

Q.—What is the present method for making out a case for remission?

A.—The karnam, the Revenue Inspector and the Tahsildars make their remarks after inspection on the adangal and then it is decided whether to grant remissions or not after seeing their remarks.

Q.—The karnam sends one report, the Revenue Inspector another, the Tahsildar, a third and so on and so forth. Is it not an arbitrary method?

A.—It is, no doubt, arbitrary to some extent. I am not aware of a better way.

Q.—Do you believe that the expansion of ordinary works or test works is necessary to find out the existence of famine, or would you leave it to the Collectors themselves to decide what form of work is necessary?

A.—Whenever there is acute distress many people are thrown out of employment. (This does not necessarily mean famine.) Expansion of ordinary works is meant to provide employment for such persons. Sometimes these measures are adequate to meet the situation as in the case of portions of Kalyandrug, Tadpatri and Kadiri taluks from which I had reports of distress. Numbers of people resorted to the works started by the district board at my suggestion in these areas.

Q.—Don't you think that the increase in the number of workers that attend the expansion of works sufficiently indicates the existence of distress, so that you can proceed immediately to start relief works?

A.—Only if the numbers are large. In the earliest stages of famine when the distress is not acute enough, there will not be large numbers on such works. When the numbers gradually increase and swell on these works, it is an indication that the distress is amounting to famine.

Q.—So you are in favour of having test works to find out the real distress, or would you leave it to the Collectors either to select the ordinary works or the test works?

A.—It is better to have the test works.

Q.—Don't you think it is better to start test works and then close them rather than go through different stages?

A.—In some areas it may not be necessary to open relief works at all as the situation can be met by an expansion of ordinary works. Even under ordinary conditions there will be a little unemployment.

Q.—So you want it to be left to the discretion of the Collector?

A.—Yes. We use discretion as to when famine is to be declared, and trust to our commonsense.

Q.—I wish many did?

A.—The Famine Code does not stand in the way of our doing so.

Q.—Do you agree with MacMichael's report that dependant's allowance should be given on test works?

A.—Yes.

Q.—The Code lays down that gratuitous relief should be commenced along with the opening of test works?

A.—Yes, in section 50 of the Code. In view of the provisions of section 49-B of the Code, gratuitous relief was not being given by the Government till the declaration of famine.

Q.—Can you tell me from your experience whether there was any occasion in which section 130 was utilized by Government without an agitation on the part of non-officials?

A.—I had no occasion to take advantage of the provisions of this section in 1935 in view of the raising of the wages in April 1935.

Q.—(Reading from a report.) Do you think that the scale of allowances is enough for food? We found the difficulty that the grain equivalent was not enough to purchase such things as oil, etc.?

A.—We adjusted the quantity of oil, etc., in the kitchen in different areas in accordance with the desire of the persons fed. We were told in some centres that the quantity used in the food in accordance with the scale in the Code did not agree with the workers, and we had to reduce it.

Q.—In the kitchens, were there not complaints made to charge officers that it was not possible to cook food according to the scales laid down (as the cost of the rations should not exceed the cost of the grain equivalent)?

A.—There were no serious complaints.

Q.—If there had been such complaints, was it not your duty as Collector to request the Famine Commissioner to take action under section 130?

A.—We used our discretion in adjusting the quantities of minor items to the needs of the people without making a reference to the Famine Commissioner.

Q.—You do feel that a large number of people are accustomed to vegetables?

A.—Only an appreciable number. Most of the people belonging to the labouring classes do not use vegetables. Small pattadars of the Kamma and Kapu communities, for instance, who form an appreciable portion of the numbers on famine works, are certainly accustomed to vegetables in addition to rice and pulusu.

Q.—Regarding the provision of some vegetables, are you in favour of the revision of the scale? Have you seen the revised scale?

A.—I have not seen the revised scale. I have not been in touch with famine work after I left Anantapur.

Q.—Don't you think that the quality of the grain may be prescribed in the Code?

A.—It all depends upon the amount of expenditure that the Government are prepared to spend during famines. I think it adequate to provide for the kind of grain that the people are normally accustomed to in any particular area.

Q.—Do you know that much grain is imported during famine time from Sholapur district and such grains are lighter when compared with the usual grain prevalent in the area?

A.—We have also to consider the quality of the grain that is readily available in sufficient quantities in the market.

Q.—Would you suggest the closure of toddy shops in a famine area?

A.—If the Government think it desirable, they may be closed. People who are addicted to drink are likely to set apart a portion of their wages, however small, for drink.

Q.—Do you mean to say that even when the wages are inadequate they will indulge themselves?

A.—Yes.

Q.—Can the shops be closed for certain periods at least?

A.—To the best of my recollection there was an objection from the Excise Commissioner when I did so.

Q.—Can any rule be laid down to that effect in the Code?

A.—It is a matter for the Government to decide.

Q.—I understood you to mean that when you ordered the closure of shops for a few hours, it was overruled by the Excise Commissioner.

A.—The shops were closed on a direction from the Famine Commissioner. I cancelled my order on a reference from the Excise Commissioner after the closure of the shops.

Q.—I think under such circumstances, say in famine areas, the whole area might be under one Member of the Board.

A.—It is a matter for the Government to decide.

Q.—Don't you think that some allowance should be given to people who come from long distances, I mean in the shape of reduction of task, etc.?

A.—Yes.

Q.—Are the wages fixed now enough to save the people from starvation?

A.—Yes, I think so.

Q.—Any reduction in task works is undesirable you have said?

A.—I don't think that I have said so.

Q.—Do you believe it can be done?

A.—In practice whenever we found the men were unable to do the prescribed outturn on any famine work, we reduced the task as we did at Gooty.

Q.—Do you think that fining is necessary as a form of punishment or do you think that it should be the last resort?

A.—The people have generally a tendency to be slack on the works. There should no doubt be a limit beyond which fining should not be resorted to.

Q.—You say that in preparing famine programmes works of public utility should be included. May I suggest whether it would not be good to consult the District Advisory Councils which are now functioning?

A.—Yes.

Q.—You suggest that small village works as will help may be included?

A.—There is a practical difficulty. In road works you can organize relief for thousands. As only few persons can be provided for on each village works, a number of works spread over a considerable area have to be organized to provide relief for the same number of persons. The proposal to replace road works entirely by village works has to be tried before any opinion can be given about its practicability.

Q.—Are you for introducing piecework system for such works?

A.—Limited piecework system was found to be impracticable.

Q.—What about asking the panchayats to do such works?

A.—One of the panchayats which enthusiastically took up one of these works, failed to do any useful work, as we saw at a subsequent inspection. Only the Lepakshi Panchayat did very good work on account of the interest taken by Sri Venkatnarnappa. All the other panchayats to which works had been entrusted under the instructions of the Famine Commissioner, Sri Gopalaswami Ayyangar, failed to execute the works properly. It will be an excellent thing if panchayats manage the works and execute them properly. Success of the works entrusted to them depends very largely on the personality of the president and the members.

Q.—Don't you think that the system that when work is stopped on account of rain, the people are paid only dependant's allowance, is wrong? It is no fault of the worker at all. If nature is unkind, why should man also be unkind?

A.—It seems to me that after rains, the proper place for the workers is in the agricultural fields. They should not be encouraged after the rains to come to works.

Q.—I mean a rainy day, be it, 2 inch or 4 inch?

A.—There is a difference between the dependant's wage and the worker's wage; it was probably intended that a worker who works must be given more food than when he had no work at all.

Q.—Is it not a wrong theory?

A.—Persons who know about dietetics are in a better position to say anything about it.

Q.—You forget that some people have to walk before they come to workspot?

A.—I know nothing about dietetics.

Q.—You have stated in paragraph 65 of your letter No. R. Dis. 4747/35, dated 18th December 1935, printed in G.O. No. 2063, Revenue, dated 22nd September 1935, that the Deputy Tahsildars on probation could not be appointed for famine duty, etc. What do you think should be done in this matter?

A.—I found that as famine duty did not count for probation, I had in many cases to appoint older men in preference to younger men as charge officers. It would have been a hardship to appoint younger men who had not completed probation to famine works; such persons were posted as Deputy Tahsildars and Stationary Sub-Magistrates in the regular line; and permanent Deputy Tahsildars and Stationary Sub-Magistrates some of whom were quite advanced in years, had to be appointed as charge-officers. It was only when such men were not available that younger men were appointed as charge officers. Younger men on probation show better work, and they are also more energetic.

Q.—Don't you think that the duties of the charge officers are not less onerous than those of the Deputy Tahsildars?

A.—They are certainly more onerous if the charge officers are made to move frequently from one end of the work to the other. They have to do this if their supervision is to be efficient.

Q.—Don't you think that this period should count towards probation?

A.—Yes. Certainly. It will then be possible to post more energetic charge officers.

The CHAIRMAN: **Q.**—Do you consider that service as charge officer is of a specially peculiar nature in the Ceded districts, i.e., outside his ordinary duties?

A.—Yes. It is more strenuous than his ordinary duties as Stationary Sub-Magistrate or Deputy Tahsildar.

Q.—Will you consider that service as charge officer is a good test both of his capacity and character?

A.—Yes. It is a better test in my opinion than mere routine work.

Sri N. SANKARA REDDI: **Q.**—You say that "an increase . . . taluks." Perhaps they were all shallow wells?

A.—No, some of them were deep wells. If we can tap water from a supply underground, it will certainly be very helpful.

Q.—Supposing deep bore wells are dug, do you think they will be successful?

A.—It is worth trying.

Q.—You say something about paper industry?

A.—It is only a handmade paper. It was once widely in demand and used for documents. Paper manufactured in mills has now killed this craft at Nyamaddala.

Q.—Is it worth while investigating?

A.—I doubt very much whether it will succeed from a business point of view.

Q.—About weaving industry. You have said that the patterns of the weavers are out of date, and there is no demand for them. Suppose an expert is employed by Government to give them new designs, do you think it is worth while?

A.—I don't know whether the weavers of Dharmavaram are capable of altering the designs. To the best of my recollection, there were half a dozen families working on looms, and it is a matter for consideration whether it is worth while engaging an expert for them.

Q.—In the Ceded districts especially in Anantapur the average standard of living is very low. Could spinning be developed on a wide scale?

A.—Possibly you can do it in the black cotton soil area. I have suggested not only spinning but also cumbly weaving. It is worth while trying if anything could be done in the way of cottage industries.

Q.—You state that "disproportionately large number . . . actual relief." Did you enquire what was the percentage of such people?

A.—I am afraid that I cannot give figures now.

Q.—Are you aware that male members of poor families are some of them attached to landlords and some of them have to look after cattle? They can

spare their women and children for the famine work. The disproportion may be due to this cause?

A.—It may be. If the number of women and children are very large on the works, and if, as for instance their rates to those of men is 5:1, it is clear that there is not much need for relief in that area.

The CHAIRMAN: **Q.**—Would you take the proportion of men to women and children as an indication of the relative severity of distress in any affected area?

A.—If too many women and children as compared with the number of men, attend any work, it is an indication that there is not acute distress in the area.

Examined by Sri K. SUBBA RAO: **Q.**—You have suggested emigration to mitigate famine?

A.—It is not only my view. It is also mentioned by the author of an excellent chapter on famine in the Imperial Gasetteer.

Q.—You know by experience that cheap labour is available in the Anantapur district and among them are landless labourers. When Government undertake these irrigation schemes, major and minor, if land is available, would you suggest that it should be set apart for colonization by these people?

A.—If as a result of new projects, new lands are available for assignment, preference may be given to landless people in the areas which are liable to famine, if they are prepared to come and settle down on the lands.

Q.—Is not the scheme by which Tungabhadra water can be supplied right up to Penukonda and Hindupur taluks preferable to a scheme which would give water only to Gooty taluk?

A.—Yes. That was what I suggested to Sri R. Narasimha Ayyangar who explained to me the difficulties standing in the way of my proposal.

Q.—If there is no possibility of the Tungabhadra project coming to Anantapur district, don't you agree to the bunding of Penner for bringing water?

A.—If it is possible somehow to bring water to Anantapur, it will relieve the situation.

Q.—You say that many of the wells have been a failure?

A.—My belief is that the Government may have to write off ultimately a large portion of the loans given for sinking of wells.

Q.—You suggest that there is water if you go deep. Are bore-wells desirable?

A.—I cannot say if water can be tapped by digging bore-wells. If by digging deep bore-wells, water can be tapped in the Dharmavaram, Hindupur and Penukonda taluks, it will certainly relieve the distress in these taluks.

Q.—Do you think that pumping sets may be installed in the Penner river?

A.—Yes, if they are practicable.

Q.—You know from your experience the tank-bed wells of Hindupur and Madakasira taluks. It is advisable to allow the ryots to dig wells in the tank-bed during the famine period?

A.—Though ryots are not permitted to dig wells in normal seasons in tank-beds, they are permitted to do so during famines for drinking-water purposes and for raising fodder crops. These wells are permitted only for that year and they are liable to be submerged and filled up to some extent when the tanks receive supplies.

The CHAIRMAN: **Q.**—What would be the area commanded by a well? I am thinking of the road from Rayadrug to Kalvandrug where you find small patches of cultivation in the worst part of the season?

A.—If the well is big, it may irrigate about 7 acres. But generally they are not big. An ordinary well will irrigate about 3 to 4 acres.

Mr. H. R. DOORA: **Q.**—You say that "the local officers should have the discretion . . . into consideration." What kind of discretion?

A.—In Gooty the road metal selected in the area was very hard and though people were working very hard, according to actual calculation, they were able to get only 6 pies or 9 pies per day.

Q.—The Code classifies them into medium, hard and soft?

A.—It is not enough. Take silt clearance. I was surprised to notice that although the workers worked the whole day, they were able to turn out only a small

portion of the task. The local officers should be given more discretion than is given in the Code, to regulate the task.

Q.—From your experience gained, don't you think that further classification of earthwork or metal breaking would meet the situation?

A.—Yes, if it is possible from experience gained already. If we are satisfied that a person is working strenuously for the whole day, he or she must get a full day's wage irrespective of the task allotted.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Do you think that the difficulty is due to the organization of the gang, there being less diggers and more carriers? The task has been put down after very careful consideration and it is a full man's task. May I suggest to you whether the reason is due to the fact that there are more female labourers than male labourers?

A.—I cannot say.

Q.—You say that "attempts were made successful." It has been suggested that these wells once irrigated large areas, as many as 10 acres for each well, but at present that they are irrigating only half that area or even less and that many wells have gone out of use. In the face of these facts, is Government justified in encouraging the sinking of any more wells?

A.—I think the District Gazetteer says that the only possibility of exploiting the red-soil area is by digging more wells. The Collectors must have acted on it. Nobody has put forward before me till now the view that too many wells were dug.

Q.—You say "that there is an appreciable amount of cultivation . . . river channels." Are these only river channels, or spring channels or both?

A.—I believe there are channels of both kinds, but spring channels are more numerous.

Q.—Considering the fact that these channels are obliterated by the flow of the river during a flood and they have to be remade over and over again, is it not desirable that efforts should be made to align these channels properly and take them on one side instead of in the midst of the river and thus preserve most of them from being affected by the floods of the river?

A.—It would be a good thing, because much of the annual labour could be saved.

Q.—You say that "you cannot think of any measure . . . necessity." Would you advocate payment in kind?

A.—I don't think that it is practicable.

Q.—Supposing that it is made practicable in order to prevent its abuse?

A.—If we can make it practicable, payment may be made in kind. But if the worker is determined to have his betel and some luxuries, the shop-keeper may receive payment in kind for these articles and the workers will be a loser thereby.

Q.—Do you mean to say that he will defeat our intention by purchasing with grain and that the middle man will profit more?

A.—Yes.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—You refer to some changes made in the work with the permission of the Board. What is the type of work?

A.—Non-departmental work, such as tanks, e.g., the Bogasamudram tank in the Penukonda taluk and village roads, etc. It was carried out by Revenue Inspectors. Occasionally at my request the Executive Engineer would inspect the work and give instructions about their execution.

Sri K. KOTI REDDI: Q.—One big project in the Ceded districts is the Tungabhadra project and there are other possibilities of husbanding the waters of smaller rivers and tributaries like Penner, Chitravathi, etc. So long as the State does not lose by taking up irrigation projects, small and big, because of the new wealth created as a result of the projects, would you as an administrator interested in preventing famines, advise that all those irrigation projects

from which the return is at least equal to meet the maintenance charges plus interest on the capital outlay, should be taken up?

A.—That is a question of policy to be decided by Government. It will be an excellent thing for these tracts if the Government can prevent famines. In my opinion, returns should not be the sole criterion to be considered when projects are taken in these tracts.

Sri K. KOTI REDDI: Q.—Considering the nature of the poverty of the district, don't you consider it worth while if Tungabhadra Project is also extended to Anantapur taluk and portions of Dharmavaram taluk?

A.—The only thing that I know about this project is what I learnt in a 20 minutes talk with Sri R. Narasimha Ayyangar. As I have stated, it is desirable to bring as much as possible of the Anantapur district under the project.

Q.—Don't you think that it would be a good thing to supply water to these two taluks considering that the yield under tank cultivation is fairly good?

A.—It will be a very good thing if it is possible.

Q.—With regard to irrigation by wells—you believe that there are no areas in Anantapur district where some more wells could be dug usefully, either by the Government or by the ryots with the help of the Government?

A.—No, because attempts made during the time of my predecessors were not successful.

Q.—The ordinary deepening of these wells?

A.—Deepening of the wells is more costly. Boring will be very much cheaper. The deepening of the wells is worth doing if you are sure that water is likely to be tapped. Recent attempts in this direction were not successful.

Q.—About afforestation, you say there is no scope for afforestation?

A.—I would like to say at once that I was only for a short time and that I was fully preoccupied with famine. Even my routine work was attended to by my personal assistant. I hardly know anything about forests in the Anantapur district.

Q.—Is there a possibility of inducing the ryots to plant useful trees?

A.—It will be good thing if it can be done. It will be difficult if they cannot get water in the early stages till the roots go deep down into the soil.

Q.—There is another difficulty in the way of planting trees and it is this. The trees will not yield till ten years. The poor ryot is so poor that he cannot afford to take to tree-planting and wait for the result of these trees. I would suggest with regard to assessment, that the Government should give a remission on the lands where the trees are planted or if that is not possible, put off collecting kist, say till after ten years. If this is done, will it not be a sufficient inducement to the ryots to take to tree-planting?

A.—An incentive like that may induce the ryots to plant trees. The difficulties in granting remission will not arise if ryots plant trees on porambokes and obtain tree-pattas.

Q.—If he plants trees in his patta land, will the Government remit the assessment?

A.—I wish to know if it is proposed that the Government should forego assessment for the mere reason that the ryot has planted trees in his patta lands. I have never heard of such a suggestion till now.

Q.—So you say that the Government cannot waive collecting assessment in order to induce the ryots to take to tree-planting?

A.—I am afraid that I have not thought of this question.

Q.—With regard to spinning—do you suggest that spinning may be taken up as a famine relief work and that you can substitute spinning for metal work?

A.—Without trying it in one centre, I shall hesitate to give any opinion.

Q.—Do you recommend that weak persons who get gratuitous relief should do spinning?

A.—It is worth while trying it on a small scale

Q.—Not on a large scale?

A.—It will be hazardous to say that it could be organized on a large scale. I never did anything of the kind and I am therefore not in a position to give any opinion.

Q.—With regard to the increase of wages, a slight increase in the wages would probably attract a large number of people to these works, who would not otherwise come to the relief works. From the administrative point of view, you feel that any slight increase in the wages may attract a large number of people unnecessarily. We admit that. But at the same time there is also the other difficulty that by making rules too strict there is a possibility of preventing a number of people who need our relief. Provided the work that we take up in the famine time is of public benefit and the work that is turned out is more or less economic in the sense that there is absolutely no waste of money but certainly useful to the public, have you any objection to attract the people who are willing to give their labour for the money that you pay them even when they do not need the relief?

A.—It is a well-known fact that the value of work done during the famine is very small when compared with the money spent. The idea of famine relief is only to prevent distress and not to get proper value for the money given as wages. People are made to work as it is demoralizing for the people to receive money without any return for it.

Q.—Can you give me an idea of the proportion of the value of the work done during famine to the amount spent?

A.—I have no figures now with me. I think that it is a small proportion.

Q.—Might be about 50 per cent?

A.—Subject to correction, I think it will be only 25 to 30 per cent.

Q.—With reference to the calculation of the outturn, that is now being done by the village officers on which the whole question of assessment is based, will it not be better if the particular branch of work is entrusted to the Agricultural department which will be in a much better position to assess the yield?

A.—Is it proposed to dispense with the karnam?

Q.—No. I want only that the outturn should be assessed by the Agricultural department.

A.—I don't think that the Agricultural department will be in a better position than the Revenue department for revenue purposes.

Q.—In order to minimize the complaints from the non-official side that the actual outturn is not properly assessed and that in the matter of outturn, only the opinion of the village karnams is taken into account and so on?

A.—It is not always that the karnam overestimates the yield. In the Anantapur district, I noticed that the karnams of a few villages in the Hindupur taluk had underestimated the yield when they thought that such estimates would please some of their superiors.

Q.—Do you believe that the entrusting of this work of assessing outturn to an official who has really no experience of it, will work satisfactorily?

A.—This suggestion goes into the very root of the revenue administration and at this notice, I am not in a position to give any considered opinion.

Q.—Would you like to suggest that some other department which is not really interested in the matter of remissions should do it?

A.—I cannot think of any other department.

Q.—Do you think it would be better if the rest day allowance is not the dependant's allowance but the average of the wages that he earns during the week? Do you think that he needs only less food on the rest day?

A.—As I have already stated I am not in a position to give any opinion about this. Persons who have studied dietetics will probably be able to say something about this.

Q.—You would have probably observed, during the hot months, particularly April and May, before the rains set in, the labourers generally have a rest for about two hours—12 to 2. Do you suggest during the hot months, April and May, they ought to have

a little bit more rest and that they should not begin work at any rate earlier than 3 p.m.? It is very hard during those months to expect them to begin work again at 2 p.m.

A.—This may be done during the second half of May. The charge officers may be given discretion to allow the workers to take rest till 3 p.m. during this period. We did so, in practice in the Anantapur district. We also did not insist upon the full quota of work being performed by them during the hot months.

Mr. H. R. DOONA: Q.—Do you ask them to begin work earlier and finish the work within that period?

A.—If they can come earlier. But they have to attend to household duties. If they are prepared to come earlier and stay longer in the camp, the rest interval may be extended.

Q.—Do you want a change in the hours of working?

A.—The Collectors may be given the option to change the working hours.

Q.—You have suggested that works of more benefit to the community, i.e., irrigation works may be taken up. Do you advocate it?

A.—As a matter of fact during last famine, we took up a number of irrigation works in the Anantapur district. The majority of the works however were road works, as it is easy to organize relief on a large scale on such works. The expenditure on these works is large, and it is possible that the district boards may not be able to find funds for maintaining these roads. Irrigation works are more useful, and if it is possible to organize relief on large scale with irrigation works and works of the type advocated by me in my memorandum, they are certainly more useful. They are however difficult to organize. In a road work, under one charge officer and two work agents, a large number of people may be employed. These proposals require a large number of persons for supervision. They are however worth trying in a future famine. As the district boards may not have sufficient income to maintain the roads which we are erecting at enormous cost during famines, such expenditure may not be of much benefit to the public and from this consideration I made my proposals.

Sri K. KOTI REDDI: Q.—In regard to non-departmental works, as compared to the departmental works there are a number of advantages. You believe that in future large attention should be paid to this as a form of famine relief?

A.—Yes. I have mentioned advantages in my memorandum. This does not mean that we can dispense with help and technical knowledge of the Public Works Department.

Q.—Have you noticed the necessity for making some provision for some of the skilled labourers like masons? Do you believe they have enough work in the villages?

A.—This problem did not arise because all the people who resorted to the works and who must have included some masons were prepared to do the work allotted to them.

Q.—Don't you think that it would be better if these skilled men could be utilized in a much better way—supposing a building work is taken up?

A.—Only a few skilled men can be employed in the construction of a building.

Q.—For instance, near a village road that you are laying you find a school building or some such thing like that, and if you can easily divert them . . . ?

A.—During the famine of 1935, whenever there was, for instance, a drinking-water tank close by, we did divert the labourers to the repairs of such tanks.

Q.—The famine wage does not make any provision for clothing for these workers. If the famine continues (God forbid) for more than six months, don't you think it advisable to make a recommendation that a woman should be given a sari and a man a pair of dhotis?

A.—There is the Indian People's Trust Fund from which amounts were sanctioned for the purchase of clothes. It was no doubt not possible to buy a sari for each female worker and a pair of dhotis for each male worker from these funds. The Royalasema Famine Relief Committee also provided clothes, and people who needed clothes were selected. Not much hardship for lack of funds to provide clothes to the people on the works was noticed.

Q.—Have you ever been able to induce any private owner to provide work during famine? I think there is some provision in the Code.

A.—There is no doubt a provision in the Code, but I do not remember to have come across private individuals offering to provide work in spite of our efforts.

Q.—It is probably because the landowners are not given any grant or subsidy if they do such work.

A.—I would however like to mention that in a big village known as Kothacheru, the local people combined together and supported the people in distress till I went to the village and made arrangements to give them employment.

Q.—Is it possible in the zamindari areas for a zamindar to do it?

A.—I know of some zamindars who are disinclined to do anything for the ryots since the passing of the Agriculturists' Relief Act, and it is doubtful if any landowners are likely to come forward and offer work.

Q.—If private people were sure that they would get a sort of subsidy from the Government probably then they would come forward to provide for labour during famine. Have any attempts been made by the Government officers to organize this?

A.—We never addressed the Government to grant subsidies to landowners. If they are philanthropic, they will come forward of their own accord.

Q.—Supposing a private landowner digs a well and thus provides for labour and if the said well costs about Rs. 500, will the Government be prepared to say that it will pay Rs. 250?

A.—The Government freely grant loans for such purposes during famines, and there is a provision, if I am not mistaken, in the Famine Code to write off portions of such loans subsequently in deserving cases.

Q.—There is this difference between your suggestion and mine. If the ryots know that in case of

these loans, they will be written off to the extent of half or more, even at the time of taking the loans, they will be prepared to come forward but as it is, the people feel that they have to pay the full loan as well as interest on it, and hence there is some hesitation on their part.

A.—We never thought of this suggestion. There is no provision for such subsidies in the Famine Code.

Q.—With regard to takkavi loans the subordinate officers in the Revenue department who are in charge of the loans, generally do not encourage the ryots taking the loans.

A.—I know that in the Anantapur district, the loans were very freely granted in 1935.

Q.—I was told that there was some rule in the Government which made these subordinate officers think that they would be taken to task if the ryots did not pay the loans. Probably it is due to that they are very reluctant, to recommend?

A.—There were a few instances when the subordinate officers advanced loans indiscriminately when loans began to be distributed. As we are responsible for seeing that public funds are distributed only in deserving cases, the work of the Loans Deputy Tahsildars was carefully looked into, and subsequently there was no tendency to grant loans indiscriminately.

Q.—I think it is that that induces the subordinate officials to hesitate in recommending the loans?

A.—No such cases of refusal to grant loans in deserving cases came to my notice though I was in close contact with the people.

The CHAIRMAN: Q.—Had you any experience, of loans granted by your predecessors being written off?

A.—Such loans were given in the Madakasira and Hindupur taluks. Along with the suspension of kists, the collection of loans instalments were also suspended under the orders of the Government, and I have therefore no such experience.

The Famine Code Revision Committee reassembled in the Collector's Court-hall at Bellary at 2 p.m. on 5th September 1938 with Mr. C. A. Henderson in the chair. The following members were present:—

Mr. F. M. Dowley.

„ H. R. Dogra.

„ L. B. Green.

Abdul Rawoof Sahib Bahadur.

Sri T. A. Ramalingam Chettiyar.

„ N. Sankara Reddi.

„ Diwan Bahadur N. Swaminatha Ayyar.

Dr. R. Ad'seshan.

Sri R. Suryanarayana Rao.

„ H. Sitarama Reddi.

„ Kallur Subba Rao.

Mr. D. I. R. Muir, the Secretary, was also present.

The oral examination of Sri C. Vijayaraghavan, Superintendent, Dry Farming Station, Hagari, was taken up.

Written evidence.

I have the honour to submit below my answers to the questionnaire. I have answered only those subjects that I have knowledge of and the rest have been left unanswered.

SECTION I.

Measures for the prevention or mitigation of famine.

1. The famine conditions may be prevented or at least mitigated in the Ceded districts by adopting the following:—

(a) By creating sources of major irrigation like the Tungabhadra Project when the investigations are complete, by repairing all the existing minor irrigation sources with a view to improving their efficiency and by increasing the number of wells for lift irrigation wherever it is possible by granting loans or by digging them at the cost of the State from the Famine Fund, and in the case of the latter enhanced assessment may be collected from the people that are benefited by them.

(b) As there will still be several areas where dry crops have to be grown, improved dry farming methods will have to be adopted by the cultivators. The State will have to take care of Government lands and forests by works which will prevent soil erosion and increase the vegetation. By a system of co-operation large units of dry lands will have to be provided with contour bunds to lessen run-off waters and incidental soil loss by sheet erosion; thereby the land will have more moisture and valuable soil for increased cropping. And for the better farming of individual cultivators a large number of bund-forming implements may be made from the Famine Fund and stocked in the villages for loaning them free to the cultivators and intense propaganda may be done in the villages about the utility of having their lands chequered with bunds.

The details of these proposals are given in the course of the answers to the respective questions.

2. (a) (i) *Irrigation—Major.*—I have knowledge of the irrigated lands in Siruguppa which are watered by canal from the Tungabhadra. Rice, plantain, turmeric, garlic, sugarcane and other minor crops are raised. Plantain and turmeric need drainage and good conditions for growth. These lands have been under irrigation for some centuries. Soil profiles in that area have shown that it is one of deep black soils, indicating thereby that irrigation with the Tungabhadra water has not produced any deleterious effect.

If the Tungabhadra Project is to be executed, the Government ought to be in a position to give advice to the landowners what crops they should grow, and what income they will derive from them. The landowners should not be allowed (in their own interest) to grow the crops they like.

The soil survey has been completed. The Irrigation Research Station has been established in Siruguppa within the project region. In a few years the station should have data to help the landowners what crops to grow for a given soil and watering conditions. If this is adopted, the project may not fail and the landowners will be raising crops under irrigation without spoiling their lands, and what is said to have happened in the Kurnool-Cuddapah canal area will not be repeated.

When dry land is changed to irrigated condition, the owner will have to invest some money for this improvement. Considering the present economic condition of the cultivator he may not have the necessary finance. The Government or the Land Mortgage Bank will have to help him in this. Probably the Land Mortgage Bank can loan to richer landowners; the Government may have to loan to the poorer on a system like the *takkavi*.

If the Tungabhadra Project materializes it will not prevent or mitigate famine in all the parts now liable to famine. There will still be many areas not commandable by the Tungabhadra waters, levels not permitting. In such areas improved dry farming will have to be adopted. This will be explained under 2 (c) and (d).

2 (a) (ii) and (iii).—No answer.

2 (b). *Minor irrigation and wells.*—(i) A good number of the sources and the area irrigated by them are decreasing. By uncontrolled fellings in woodland, by overgrazing and for want of any control methods to check soil erosion, soil has moved to such catchment areas and silted up the tanks, and this naturally has lessened the area under irrigation under such tanks. The State has been restoring many tanks. But there are some tanks owned privately, the owner enjoying certain *inams* for keeping the tank in good repair. Many such tanks need attention.

(ii) By control of soil erosion the tanks may be kept almost free from silting up. I shall explain in general terms what erosion means. Erosion, the removal of soil by wind and water, is taking place on all land areas. When this occurs on land that has not been disturbed by man and is subject to no extraordinary climatic conditions the process may be termed "Normal erosion." The intensity of normal erosion is determined chiefly by topography, geology of soils, climatic (especially rainfall) and vegetative cover. Where forest and other vegetative cover is definitely scant, as under semi-arid conditions, there is still enough vegetation or debris to catch the eroding soil. When natural conditions are disturbed as breaking land for agriculture, erosion in excess of normal is liable to occur. Abnormal erosion where it does occur is an accelerating process. Its least conspicuous form is sheet erosion, recognizable in the exposure of root crowns and roots of plants, in the lowered productivity of the site, in the accumulation of soils on slopes immediately above obstructions and in the final disappearance of the mellow black surface soil. As sheet erosion becomes advanced, the more rapid surface run-off concentrates and tends to cut small gullies. After hard rains on soils inadequately protected by vegetation, the entire area may be cut by lines from the size of a pencil to gullies several inches deep. The smaller lines may be readily obliterated by creep of soil as it dries, but their original presence indicates a rapid soil wastage. Finally, abnormal erosion assumes its

most spectacular form as deep gullies on slopes and large straight-sided channels cut through flood plains. Its final effects are heavily soil-laden streams, especially when in flood; silted channels and reservoirs; mud rock flows from mountain stream courses; and deposits of inert sands and gravels on fertile bottom lands.

The control of erosion through retarding run-off is largely a function of the vegetative cover. This cover is responsible for improvement of soil structure, protection of the soil surface from beating rains and by intercepting run-off, reduction of the velocity and carrying power of the surface water. Lowdermilk has pointed out under controlled conditions that the run-off from soil surfaces protected by a litter cover alone was nearly clear. Studies in Arizona (U.S.A.) by C. K. Cooperrider, show that a vigorous herbaceous and shrub understory in the woodland type exerts a somewhat similar influence.

The best way of handling the situation is to bestow intelligent attention on the water-sheds and to evolve a planned programme to adequately protect the water-sheds. Reforestation, afforestation, revegetating the sub-marginal agricultural lands and grazing management are some of the remedies suggested. Grazing management must be improved, particularly on private lands and must be introduced on public lands now unmanaged. On lands where improper grazing use resulted and is resulting in widespread erosion and increased run-off, management practices must be applied that will not only stop deterioration but permit vegetative cover to regain in density and effectiveness. Artificial revegetation seems desirable. Aside from water-shed protection requirements, such action is obviously essential to permanency of livestock industry—particularly sheep and goat rearing in the Ceded districts. On a limited area where serious erosion is in progress special measures of an engineering character such as the installation of flumes at the head of active gullies, the construction of check-dams, the scattering of brush and the building of temporary retaining walls, may be adopted.

Coming to particulars, the good amount of uncultivated waste in the Hindupur and Penukonda taluks, if properly handled, will not deteriorate by soil erosion and may afford better grazing grounds and incidentally not silt up the several tanks in that zone.

(iii) In years of scarcity the minor irrigation sources will not be of use, as they will also be dry because of their wide evaporating water area. The severity of famine in the black soil areas can be mitigated if drinking water is assured separately for men and animals. One of the effective means of ensuring water-supply during drought is by the construction of widely distributed and properly designed small reservoirs and farm ponds somewhat like the local "Vakrani" which will store run-off from storm-waters for use during prolonged dry periods. Great material benefit is being derived from approximately 350 such reservoirs constructed in North Dakota (U.S.A.), the heart of the drought area, between 1933 and 1935 by the Civil Conservation Corps camps. This tract was one which was fed with water transported by trains. The cheapest and most practicable type of reservoir in most cases is formed by constructing an earthen dam, which may be built directly across a drainage line or may enclose an artificial depression to be filled by a diversion ditch or pipe line from a natural stream or drainage way. The cost of such reservoirs varies widely with the size and with local conditions. For the programme in North Dakota 150 (Rs. 425) per acre foot (325,850 gallons) of storage space has been set as the maximum cost allowable. In India where labour charges are comparatively very low, the cost will naturally be considerably less. Most of the expenditure, however, represents labour and equipment which the farmer himself is usually able to supply or may be an item of famine relief work. Investment of the spare resources of the villagers in pond construction during slack seasons will frequently be more than offset, in a short time, by savings from livestock losses during droughts.

The success of any reservoir depends on the use of approved methods of design and construction of the dam and spillway to insure against excessive leakage, to reduce maintenance requirements, and to make ample provision for the handling of overflow water without washing out the spillway or dam. The reservoir may be located so that trees or steep slopes shelter it from hot dry winds, and, if possible, the long axis of the reservoir should be selected to lie crosswise to the prevailing winds. The most effective means of reducing evaporation losses is to construct reservoirs with a minimum area of water surface for a given storage capacity, since the rate of evaporation is proportional to area exposed. The ideal basin from the standpoint of evaporation, therefore, is narrow and deep. Records of south-western reservoirs in North Dakota (where the annual rainfall is 20") show those over 12 feet deep go dry much less frequently than shallower reservoirs. Reservoirs should be constructed so that the depth will be greater than the maximum possible evaporation above the "use draft." A second important factor to consider in locating and designing reservoirs is loss of water by seepage. Seepage in a new reservoir is reduced by ploughing up the strip on which the dam will rest to secure a good bond and by packing the earth-fill thoroughly during construction of the dam. If

the fill is not composed of suitable materials, a clay-core wall, extended well into impervious material, should be provided in the body of the dam. The bottom of the basin should be packed thoroughly. If the water is not to be used for human consumption, the best method of packing the bottom is by enclosing stock on the reservoir site when the earth is wet. Marked success in reducing seepage losses has been obtained by the use of bentonite, a form of clay which swells very greatly on wetting. Water-sheds or catchment basins that are overgrazed or otherwise subjected to gullyng and sheet erosion should be avoided until amply protected by a new growth of vegetation, for a reservoir fed by such an area would soon be filled with eroded soil from the slopes above. The average water needs of livestock are 10 gallons per head per day. A reservoir for temporary use to augment other sources of supply during dry seasons need not be so large as the one for permanent use. The actual design to suit local conditions and soil profiles will have to be thought out by the Engineering Department. A perusal of the following publication is suggested:—

W. C. Lowdermilk and F. F. Barnes—Stock Ponds in the Great Plains Drought Area. Soil Conservation, 2: 44. 1936.

(iv) An increase in the number of wells in select areas will improve the situation. In the blacksoil areas there are some valley regions, and a "nalla" flows in the rainy months. If wells are dug in such regions we are likely to meet with fairly good water for raising crops. The same will be the case by the side of water-courses like the Hagari, etc. No doubt the water of these will be high in pH unlike the Tungabhadra water. These well-waters being not good will cause alkalinity after some years in the area irrigated with, but the wells will have to be used as a famine reserve to get over the severity of the season.

In the case of the redsoil zones, for example, of the Anantapur district if wells are dug in the valleys, one may almost be sure of good water for irrigation. In such zones wells ought to be increased.

During the 1935 famine of the Anantapur district the Kadiri taluk was fairly free from the grips of scarcity. The country is of rolling topography. The population is mostly confined to hamlets in the valleys where wells exist. There are a good number of wells owned privately or under "Dasabandam" condition. I came across a Dasabandam well in Katarupalle owned by about 12 Dasabandamdars and the *ayacut* owned by 24 cultivators who were utilizing the well by mhoting in turns even at night with the use of petromax lights. In fine, due to the existence of a number of such wells the population in each hamlet could fall back upon at least half an acre of protected area, and, probably, this has been the reason for not having any famine works in that taluk.

I am also informed that a number of these *Dasabandam* wells are getting resumed by the Government as they are not kept in good repair. This indicates that if Government dig a number of wells as a famine protection, the maintenance will have to be in their hands and not with the *ayacut* owners. The Famine Code may be suitably amended to execute such wells from the Famine Fund. The minor irrigation branch of the Revenue Department may do these works and also keep it in good repair. The repair and upkeep will have to be made good from the enhanced assessment that will have to be charged to the *ayacutdars*. Only the capital outlay may be met from the Famine Fund.

2. (c) *Contour bund forming*.—In the Bellary blacksoil region, the average rainfall in a year is about 20 inches. This is probably the place of the lowest rainfall in the Presidency. There are a good number of areas in the Presidency where the rainfall is about the same, or slightly higher, e.g., Coimbatore, with a rainfall of 23 inches, where the average acre yield of Sorghum (Jonna) is 800 lb. of grain and 2,000 lb. of straw. In the Bellary area the average acre yield is only 200 lb. of grain and 1,000 lb. of straw. In the Coimbatore tract the rainfall is better distributed, whereas in Bellary nearly half of the total rainfall is received between August and October. It is very common not to have any rain after the main crops of cotton and sorghum are sown. The crops will have to depend merely on the rain water that has soaked in the soil between August and October.

These rains of the August-October period are not usually spread over many days. They are received in heavy precipitations within short periods, e.g., 3 to 4 inches in 2 to 6 hours.

The Tungabhadra Project soil survey reveals that 80 per cent of the area has blacksoil with a high clay content. Naturally the soil is very slow to absorb the rain water. Though it is slow to absorb moisture, it has one good quality. As it is slow to take in, it is also slow to give up moisture. In technical language, the blacksoils, as they are clayey, have slow permeability. Because of the slow permeability of the blacksoil, even though there are no rains after sowing, some crop return is obtained.

It may be safely said that the soil is no doubt good, and it is the distribution of rain and the undulating nature of the tract that contribute largely to the poor yields. The blacksoils of the Cuddapah formation, e.g., Jammalamadugu, have a better distribution

of rainfall, and the tract is comparatively one level plain. The acre yield of sorghum in the Jammalamadugu tract is between 800 to 1,000 lb. of grain. The main cause of this higher yield seems to be the greater amount of rainfall that soaks in the soil for the benefit of the crops.

In one of the experiments during 1936-37 at the Dry Farming Station, Hagari, it has been observed that in an unbunded and unploughed condition, which is a replica of the average cultivators' land, only 10.1 per cent of the rainfall obtained between the most rainy period (September-October) was absorbed in the soil, thereby nearly 90 per cent of it was lost in run-off; whereas in the plots close by surrounded by bunds (10 cents of land enclosed by 7-inch bunds 28.6 per cent of rain soaked in, reducing the run-off losses by 18 per cent.

It is obvious that if the land is level, comparatively there will be less run-off; in other words, the rain water that has not soaked in will not gain so much speed as on a slopy land. To terrace all the arable land to an ideal dead level will be very costly and unthinkable. But if the land is chequered into a number of compartments enclosed by bunds, the rain water that has not soaked in immediately will in a way get arrested in its flow by the bunds along the contour. By the movement of water within the plot enclosed by bunds, there will be a gradual levelling up of the sides, and, in a way, a fairly level plot will be established. A good amount of water will stand in the plot, and soak in the soil for the benefit of the crop grown there.

Added to the loss of rain water prevailing in the present cultivators' practices, there is a loss of fine valuable soil carried off. In one of the experiments of the station there was a loss of 4 inches of rain out of the 9 recorded, the run-off waters carried with them 6.6 tons of fine soil, not to speak of the nutrients in solution of the run-off. The loss will be graphically understood if it is expressed in terms of the depth of soil that is washed away. Six tons of soil is equivalent to one-twentieth of an inch of soil over an acre of land. In 60 years or within one generation of the landowner, 3 inches of good valuable top soil is lost to him in sheet erosion. If there are bunds or impediments along the contour to the run-off waters laden with silt, a good amount of water standing in the plots deposits the silt there itself, thereby lessening the chance of land decay by erosion.

In the United States of America where ownership of land has been comparatively recent, and holdings are very large, the State has been successful in planning out a scheme for improving the land to take in more moisture, and lessen the soil loss by a system of contour ridging, furrowing and terracing. Because of the large holdings and better economic conditions, with mechanised farming these ridges and furrows are formed by the use of the tractor. A whole tract is thus handled on a co-operative basis and State guidance. But in this poor country with its ancient agriculture, and division of property, such a system cannot be applied straightaway. To suit the local conditions the knowledge about the good effects of contour bunding, etc., will have to be adapted. If contour bunds are put up across the slope at definite intervals, some landowners will be deprived of a good proportion of their lands occupied by the bunds. It will lead to a reallocation of ownership along the slope so that each landowner has the benefit of the bunds down the slope on each contour. By this the land between the contour bunds will get gradually terraced, and much more rain water will soak in the soil, and less fine soil will be lost in erosion. This can be done by the head of the district, and technical departments of Engineering and Agriculture collaborating with the Revenue. Unless it is done with the co-operation of the landowners, it is not possible to get the obviously good results obtained in U.S.A.

In the absence of definite data by experiment here, I shall give below how much good result has been derived in U.S.A. by adopting contour ridging, furrowing and terracing—

Readings of soil moisture penetration on 1935, May 17th and 18th (Goodwell-Oklahoma).

Total rainfall—1.79"		Depth of penetration in the soil.
		INCHES.
Ridged on contour	.. .. .	20.33
Not ridged on contour	.. .. .	8.75
Terraced on the contour	.. .. .	21.69
Not terraced on the contour	.. .. .	16.04

To the question if the arable land is provided with bunds, etc., will it lead to lessening the supply of water of minor irrigation sources, I submit the following:—

In plots "ploughed and banded" of an experiment, in 1936-37 at the Dry Farming Station, Hagari, there was a soaking of 40.6 per cent of rain water.

only. This represents probably the maximum moisture that can be retained in the land. The rest, about 60 per cent, would have been the run-off. Most of these run-off waters have finally to reach the minor irrigation sources. There is one advantage to the tanks. They will not get silted up so soon if the arable land is provided with contour and other field bunds, for they prevent a good deal of soil erosion. By this probably the minor irrigation tanks will have a greater amount of water.

2. (d) *Dry farming*.—Here I shall submit how individual farmers can obtain more return from their dry lands than what they have now. In years of average rainfall their incomes—so far as experimental evidence is available—can be enhanced by 30 to 51 per cent, and in a bad year the improved method suggested may yield something to fall back upon instead of getting nothing from their lands.

There is the practice in the blacksoil tract to plough the land periodically to get rid of deep rooted weeds such as hariali (*Cynodon dactylon*). Of late, iron inversion ploughs have become common, and the advice of the Agricultural department has to be sought as to which plough will have to be used to get the best result. The ploughing is best done after a crop of Korra (*setaria italica*) for there is a greater period of fallow between the ploughing and the sowing of the next crop of cotton.

After the midsummer rains, the clods raised by ploughing will have to be crushed and the land levelled to a certain extent by the use of a heavy *guntaka* (which the cultivators are familiar with). At this stage or if the clods do not crumble well, with the next rains each cultivator's holding will have to be divided into a number of small plots enclosed by bunds. The bunds may be 5 inches to 7 inches high. They are easily formed by using the "Bund former" designed by the Agricultural department. It can be drawn with a pair of bullocks. How often the land will have to be studded with bunds on the contour, will depend on the gradient of the field. The steeper the land the greater the number of bunds to be put up on the contour. Least water held by contour bunds flow away along the contour, and to make water stand and soak in the fields with the same bund former bunds will have to be put up on the slope also. The distance between the bunds on the contour will have to be in multiples of the inter-distances of the tynes of the *Gorru* (local seed-drill) so that no land is unnecessarily wasted without sowing, the bunds occupying the space between crop rows.

I have described what the cultivator has to do in the year he ploughs his land. In the other years when he does not plough the bunds that are slightly damaged by the time the crop is removed will have to be redone by the use of the bund former immediately after harvest so that even an occasional thunder shower in summer will not go a waste.

When I said that the contour bunds should be in multiples of the interdistances between crop rows, it is obvious that the drilling of the land, and interculture between crops along the contour are advocated. If crops are sown along the contour and if there are rains subsequently, the crop rows in addition to the contour bunds act as impediments to run-off waters and check the attendant soil erosion. The importance of contour sowing of crops is well illustrated by the following figures published by the Soil Conservation Service of the U.S.A. :—

Locality.		Percentage of slope.	Precipitation in inches.	Soil loss, tons per acre.	Water loss run-off, percentage of precipitation.
FINE SANDY LOAM.					
Guthrie (Oklahoma) ..	Cotton-rows contoured ..	6.9	35	21.0	11.3
	Cotton-rows down the slope ..	6.8	35	59.0	13.7
MARSHALL SILT LOAM.					
Clarinda (Iowa) ..	Corn-rows contoured ..	8.4	26	..	..
	Corn-rows down the slope ..	8.4	26	11.0	11.5

It is a common habit with the local agriculturist to drill the crops—irrespective of the slope—always in the direction of the longer side of his field as he will finish the sowing quicker. I have often found that the boundaries of fields in the blacksoil area have their greater side along the slope. Despite the extra time it may involve in some cases to sow along the contour, it is worth it.

For four years an experiment at the Dry Farming Station, Hagari, has been in progress, where, by the use of 7 inches high bunds formed by the bund former, very good results have been obtained. The results of three years are published in pages 124 to 125 of the Villagers' Calendar, 1938. I give below the results of the four years so far available.

Economics of bunding experiment.

Year.	Crop.	Yield per acre.		Percentage increase over control.	Extra expenses due to bunding over control per acre.			Extra income due to bunding over control per acre.			Net profit due to bunding over control per acre.		
		Bundled.	Control.		RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
1934-35	Cotton	217	143	51	3	12	0	6	3	0	2	7	0
1935-36	Sorghum	711	525	35	2	11	0	7	8	0	4	13	0
1936-37	Cotton	323	162	100	2	6	0	13	7	0	11	1	0
1937-38	Sorghum	186	33	464	1	7	0	7	2	0	5	11	0
		960	536	79									
Total for four years					10	4	0	34	4	0	24	0	0
Average per year					2	9	0	8	9	0	6	0	0

Being an experiment in small plots, where conditions of treatment ought to be rigorous and accurate within human possibilities, the extra cost for bunding and keeping the bunds intact has been Rs. 2-9-0 per acre. But in the course of large scale bunding in the cultivators' fields around the station it has been found that, in a day, with a pair of animals, the bund former, and two men, nearly 12 acres have been handled. This makes me believe that, in a season, even after spending some money to rectify the breaches of the bunds, the cost of the bunding will only be about 4 annas per acre.

The cost of the implement will not be more than Rs. 18, but many cultivators cannot afford to possess this, as there are a good many landowners who have only one animal and do the agricultural operations in co-operation with another similarly situated. Just as they harrow and drill their crops in co-operation, they may do the bund-forming similarly. Bigger landowners may be persuaded to own bund formers of their own. But, for the help of others the State may give them *takkavi* loans to own the implement. Even then many applications may not be forthcoming. It suggests to me that large scale bunding can be quickly pushed through, and the practice will continue only if the State lends these implements free. As bund-forming will increase crop return, and lessen the chances or sufferings of famine, it is my humble submission that the State should make, out of the Famine Fund, a number of these implements. They may be stored in the villages with the village official, to be loaned free to the cultivator and some agency there should be to collect them again after the sowings are over. In fine, the Famine Fund instead of being merely in the shape of Government paper or securities, it is suggested that part of it may be in the shape of dead stock.

2. (e) *Afforestation*.—This is necessary in the interests of the agricultural population. Want of proper handling of the waste land, and forest areas has resulted in soil erosion. Further, greater areas are necessary for improving the grazing facilities for livestock. To effect all these improvements afforestation is essential.

In the black-soil area of the Bellary district very little of land is left uncultivated, as the rural population cultivates almost the whole area to get something, as yields are low according to the present methods. Strong winds prevail for many months in the year. These strong winds desiccate the soil and contribute one more factor to the low crop yields. Added to this when the soil is dry, and if the wind is strong there is a loss of fine soil by wind erosion. If some definite zones are planted with trees to act as wind brakes, the velocity of the wind and the consequent soil desiccation and wind erosion will be lessened. It will be no doubt difficult to ask some landowners to plant trees, and not grow annual crops. But a beginning may be made on unassigned lands.

In the black-soil areas the water table is low and the water of doubtful utility to raise trees. So tree-planting belts will have to be confined to places adjacent to ponds naturally formed, or the ones created as suggested in answer to question No. 2 (b) (iii).

Conditions in the red-soil areas are more favourable, as sub-soil water, when available, is good. But in places where the water table is low, pond water alone will have to be used for raising wind brakes.

The kind of trees that are likely to be successful are indicated by the existing flora in the locality. Besides, a survey of the deep-rooted voluntary vegetation on the

black-soil is also helpful. It is obvious that deep-rooted species only have to be preferred. In the black-soil areas, the following are bound to succeed:—

Acacia arabica.

Prosopis spicigera.

Prosopis juliflora.

Zizyphus jujuba.

Azadirachta indica.

By the side of water-courses like the Hagari where the water table is higher, more valuable timber trees may be grown, e.g.—

Dalbergia sisoo.

Casuarina equisetifolia.

Albizzia lebbek.

In the red-soil areas of the Anantapur district which border the Mysore Province, *Pongamia glabra* is the striking flora on uncultivated lands. But *Tamarindus indica* will be more useful, as one meets with very well grown trees on these red soils.

2. (f) *Alternative or subsidiary sources of employment*—(i) *Large-scale industry*.—Cotton is grown in the Bellary tract on a very large scale and it is strange to find that most of it is exported. Sholapur also is in the Bombay-Deccan famine zone, and I believe there are five spinning mills there. If at least one is started in Bellary it will afford employment to so many wage-earners. There is enough money in the tract in the hands of a few, but they are shy to venture on something new to the tract. If the Government gives an impetus by taking a few shares it will give confidence to the moneyed men to venture on it.

(ii) *Cottage industries*.—There is already, in select areas, wool hand-spinning and cumbli making, among the *Kurubas*. This needs extension, if need be by the formation of co-operative societies for the pooling of raw material and for the marketing of the finished product. Unlike the Tiruppur tract, hand-spinning of cotton is not much in vogue here probably because cheap Japanese cloth is made available to the villager. The cotton that is earned as wages for picking kappas is usually bartered with the village shop-keeper to get some grain for food. In most of such transactions the shop-keeper gains a good deal. If there is sufficient propaganda in the villages for hand-spinning and there is an agency to distribute the spinning wheel, hand-spinning will be rejuvenated and very old people incapable of field work may earn something thereby.

2. (g) *Use of sparked water*.—Though I have no practical experience of its use, from my knowledge of dry farming conditions, I can say without hesitation that it is inapplicable in the case of cropping under rain-fed conditions. Moisture in the soil being the prime limiting factor, if plants are stimulated to grow vigorously by the application of electricity, one can easily presuppose that a greater demand for water from the soil will be made by the plants. The result will be that the limited quantity of soil moisture will be quickly exhausted, and when the plant ears to develop grain, there will be drought resulting in no grain yield. The plant will naturally dry up earlier.

SECTIONS II, III AND IV.

No answer.

SECTION V.

The possibility of providing famine relief by works of more appreciable benefit to the community than stone breaking, e.g., irrigation works of suitable size.

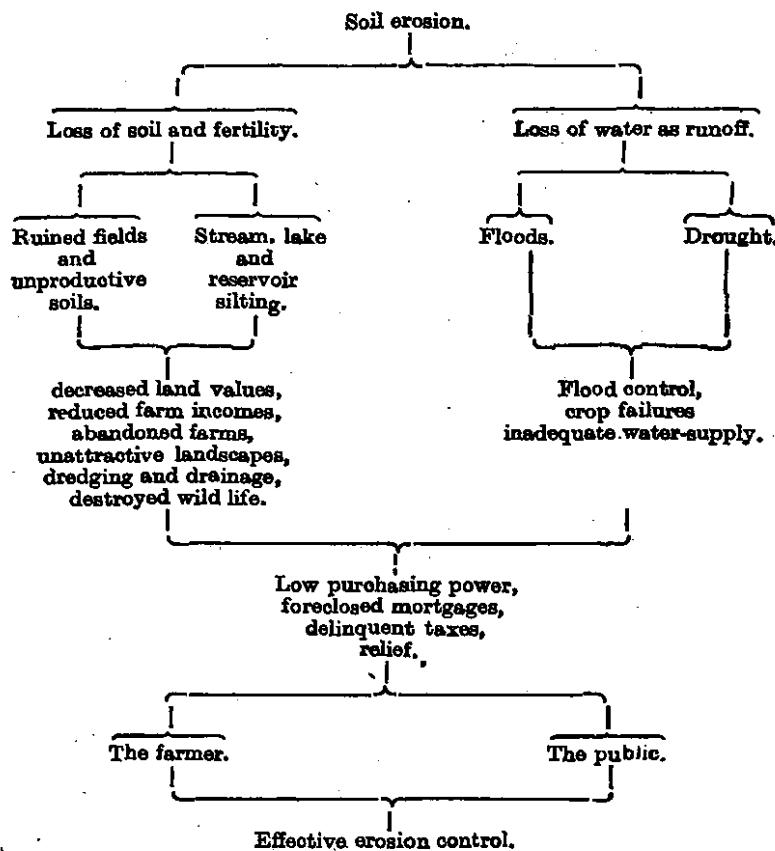
1. *Ponds*.—I have already suggested the construction of ponds on up-to-date design some of them for human needs, and some for cattle [vide answer to Section I, question No. 2 (b) (iii)].

2. *Village improvement*.—The famine labour may be utilized to systematically remodel the village. The advantage of this is that a part of the labour is from the village itself. It is not an uncommon sight to note around the village barrow pits or depressions (especially in the black soil areas) where water stagnates in the rainy months, and becomes a place for breeding mosquitoes. Such places may be filled up or improved by digging the necessary drains, etc. The manure pits of villages may all be centralized

according to a definite plan and may be dug to the necessary depth, so that the manure is not washed away in the rainy season. The village streets, etc., may be renovated in such a way that there will be no unsightly water stagnation in the wet months.

3. *Soil conservation in the interest of the community.*—The production of food grains and the rearing of stock which serve as food for man depend on the prime requisite, the soil. If this is not properly conserved, and allowed to get eroded, it is not only a loss to the farmer, but also to the community. The importance of the soil conservation is graphically represented in the diagram below, which is adopted from a publication of the United States of America :—

Soil erosion affects the general public as well as the farmer. (Missouri Agricultural Experimental Station Bulletin 349, 1935).



It is a common sight to note in the country side that the courses of the storm drains on the two sides usually held by landowners get gradually cut up and valuable soil carried away in the stream. This is the end of a series of neglects. If the higher areas are not well taken care of, as stated in a previous paragraph 2 (b) (ii), the run-off waters gain speed, and carry with it increased amounts of soil. Successive sheet erosions develop gullies here and there and gullying is the beginning of the trouble. By propaganda the landowners may be made to do the necessary safeguards within their fields, but there are some areas where a conjoint action is necessary. In the lower reaches, where fields get cut up by storm drains, the famine labour may be utilized to protect the sides of storm drains with stone pitching, which later in rainy years the neighbouring landowners should reinforce with sod apron-like margins. This is suggested as a famine labour work as all the landowners affected by erosion will not easily co-operate and stop this drain. Further, in some cases the drain will be so long that one set of villagers will not be able to effectively do it. Hence, I urge that for the good of the community at large, large scale anti-soil erosion works will have to be undertaken by the State and famine labour will come in handy for such works near the villages.

SECTION VI AND VII.

No answer.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—In paragraph 1 (a) of your written memorandum you suggest that loans might be granted to the ryots for digging wells or they may be dug at the cost of the State from out of the Famine Fund. Do you think that in view of the series of bad seasons, the Ceded Districts ryots has the capacity to borrow or is in a position to offer security for the loan?

A.—He cannot give security on the dry land as it exists now, but when he knows that there is possibility of digging a well and that water can be had for irrigation, the value of the land will increase.

Q.—The value of the land will increase only when you know that the well that may be sunk will be in a position to irrigate or that it will be a successful well; but the loan will have to be granted only on the value of the land as it existed before the well is sunk?

A.—The technical departments of the Government are there to say that a well can be dug at a particular place, that it would be a success and that there is possibility of irrigation. If the cultivator is given that advice and if it is favourable, then the value of the land will naturally increase.

Q.—On the prospect of the land which will become irrigable, do you think the Government would grant the loan?

A.—It is possible to say so in places like Kadiri in Anantapur district. We are concerned with an area where there are no wells, and where according to our experience we know that wells are a possibility in all valleys and nallas.

Q.—You feel that apart from the value of the well the value of the land also will increase for giving sufficient security. For that you must sink wells, and if you go on digging wells and supposing in the end the sinking of wells proves a failure and the Government also go on giving loans, will it not result in wastage of money? Don't you think therefore that a geological survey of the whole area in order to find underground water-sources will be helpful and will also avoid wastage of money?

A.—Even such a survey will cost a great deal of money and such an elaborate thing, I do not think, is necessary. But it is possible to say from a general look at the whole topography of the place where wells can be sunk. For instance, we know that on the eastern bank of the Hagari river there is a certainty of wells being usefully dug, but still many ryots do not do so for want of capital.

Q.—Supposing the Government bore wells and if they are successful and the ryot is made liable for the cost of sinking them because otherwise he won't be inclined to meet the cost, can you expect the Ceded Districts ryot who has gone through many unfavourable seasons to stake everything for the sake of getting water which may after all prove a failure? Can you expect him to take such a risk? Don't you think that Government should make trial borings or trial sinking of wells and only if they are successful, the ryot should be asked to take over the liability?

A.—When I mentioned about wells, I had in mind only the case of the Anantapur district and not the Bellary district.

Q.—But even in the Anantapur district, don't you think that it would be better that Government should first of all know that they are certain of getting water, instead of throwing the whole burden on the ryot?

A.—Wells may not be a possibility in the Bellary district, but will be a possibility only in valley areas of the red soil tracts of Anantapur where wells do not exist.

Q.—Do you think that the Ceded Districts ryot has much to learn from the Agricultural department except in the matter of bunding in a particular way?

A.—Bunding is the most important thing.

Q.—You say something about contour bunds. Why?

A.—Because from my experience I have found that most of the lands are divided down the slopes.

Q.—What is the method you suggest for setting right the lands in this district?

A.—It requires a revision of the policy. If it cannot be done, it should be done at least in the case of future land subdivisions. The reason why the cultivator takes to cultivation down the slopes is, he wants to finish his operation soon. However much one may explain to him he won't take to improved methods without thinking a number of times. My contention is the time taken and the extra labour, if any, involved in the greater number of turnings on the contour are worth it. We have got figures to prove that.

Q.—So, you think that till bunding becomes popular, the State may purchase these improved implements out of the Famine Fund and place them at the disposal of the village officers or the village panchayat for the free use of the ryots?

A.—Yes. I have also made a suggestion that famine relief should not be entirely in species.

Q.—Can you conclusively say that there is no deleterious effect on the soil by silt irrigation?

A.—The Agricultural chemist may say definitely, but I have given my opinion from my general knowledge.

Q.—You think that the experiments conducted at the Research Station in Siruguppa are so valuable that they should be continued as a permanent feature?

A.—On that question, I think there are others who are more competent to answer.

Q.—In another part of your written memorandum you have suggested that dry irrigation involves some capital outlay and in that connexion you have stated that land mortgage banks should come forward to help the ryot. But do you think that it involves much capital outlay?

A.—Yes. I know in a certain place the Government through the Electricity department tried to get water even from a depth of 500 feet, but at 800 feet they came across water and then they put up pumps for irrigation, and when the land was offered there was nobody to come forward and purchase it, because there was no money.

Q.—I am drawing a distinction between wet and dry irrigation?

A.—Even if dry land is brought under dry irrigated cultivation, it requires terracing, levelling, etc., and that will cost about Rs. 10 per acre. Our cultivators have not even that amount. When we ask them to buy implements worth Rs. 7 or 8 they have no money and they have to resort to takavi loans.

Q.—You suggest repairs to vakkaranis and the creation of more vakkaranis. Do you think the creation of more vakkaranis and the repair of them will serve any purpose especially in view of the light rainfall?

A.—That will mitigate the effects of famine. I conceive of a famine where there will be no drinking water for either human beings or livestock. I have suggested that because it will be some improvement because even that quantity of water may not be evaporated.

Q.—In regard to dasabandam wells, you suggest that a certain number of them should be taken over by Government if necessary?

A.—Recently I had been on tour in the Kadiri taluk and noted the agricultural conditions there, and because of these wells, the people are free from the grips of scarcity. I have also stated that most of these wells have been resumed because they have not been kept in good repair.

Q.—You suggest that in cases where such wells exist, instead of allowing them to be abandoned, they could be made use of for purposes of irrigation and for that purpose the State must spend money on them and maintain them.

A.—I think nobody has abandoned them unless the water is bad and if the water is good, nobody will abandon them.

Q.—You have yourself stated that a number of these wells have been resumed by Government because they have not been kept in good repair?

A.—Yes, they draw water but they do not remove the silt or do other necessary repairs.

Q.—If there are such wells and if they are kept in such a bad condition without any repair do you suggest that the State can maintain them and charge water-rate?

A.—I think such abandoned wells will be very rare except in the case of absentee landlords.

Examined by Sri SITARAMA REDDI: Q.—Do you think that dry farming is of such importance that it would be better if the Government take up this question and see that every taluk headquarters has got a demonstrator and a sufficient number of implements stocked for the purpose of doing propaganda among the villagers so that they may get a better return?

A.—I think we have one demonstrator for almost every taluk.

Q.—In how many villages has the department of agriculture demonstrated in the fields to the owners the advantages of these improved methods?

A.—Almost every taluk has a demonstrator and that demonstrator has to concentrate his work on eight main villages. Though I am not directly in charge of propaganda, I know the demonstrators have been doing such work in all these villages.

Q.—I am asking you whether except in the Bellary taluk, improved implements have been adopted by the farmers. So far as I know, I do not think anything has been done in that direction and no farmer knows anything about them and it seems no effort has been made to demonstrate them in any village. If I am wrong I would like to be corrected?

A.—I am in charge of research work, but still I am in touch with the officer for propaganda and I am told by the Assistant Director that in this year (1938-39) 3,600 acres have been under demonstration in his jurisdiction both in Bellary and Anantapur districts.

Q.—How many of these implements have been kept in stock in each of the taluk headquarters?

A.—I think there are about two or three in each demonstrator's depot.

Q.—Do you agree that more attention should be paid to this work by the department?

A.—This is the most important work in a famine area. Intensive propaganda should be done. Though it is not my work I have done propaganda to the extent of 350 acres near the Hagari farm. If they adopt this bund forming I am sure they will stand to gain.

Q.—If there is heavy rain, don't you think the bunds will get washed off?

A.—Even last month we had heavy rainfall which was a record for the last few years. Only if there is abnormal rainfall there may be breaches, otherwise there will be very little damage.

Q.—In regard to contour bunding you say that in the United States of America where ownership of land has been comparatively recent, the State has been successful in planning out a scheme, but that in India where holdings are divided every year, this system of contour bunding cannot be undertaken. Your idea is in spite of the fact that the holdings are small the State should intervene and do it because it is beneficial to the ryots?

A.—Here land gets fragmented year after year and it has been so from generations and so it is not possible unless it is done on a co-operative basis and unless all the owners come to an understanding.

Q.—Supposing the State does it at its own cost and gives some compensation, do you think it is worth while?

A.—I think it will cost a lot. If they adopt ordinary bund forming it will be all that is necessary.

Q.—You have mentioned something about village improvement. Have you visited a famine camp?

A.—I have passed through the main road.

Q.—Do you know that in addition to breaking of stones they have also to collect such material?

A.—Yes.

Q.—Do you suggest that along with their usual work, village improvement also should be taken up or it should be taken up as an alternative to mere stone-breaking?

A.—Also as an alternative to stone-breaking.

Q.—You think that special attention should be paid to village improvement and that it is worthwhile doing it?

A.—Yes.

Examined by Sri K. SUBBA RAO: Q.—You say that if the Tungabhadra project is to be executed, the Government ought to be in a position to give advice to the landowners what crops they should grow, etc. Do you mean to say that unless the Government departments are going to take up refined methods of agriculture, it cannot be done?

A.—From the questionnaire it is seen that the water from the Kurnool-Cuddapah, canal is not being utilized properly, and so it is not possible to ask the ryot to grow particular kinds of crop. Under the Irwin canal I understand they have been able to dictate to the ryots what crops should be grown.

The CHAIRMAN: There, they have a Revenue Code which enables them to do so, but we have no such thing here.

Q.—You say that the landowners should not be allowed to grow what crops they like. Do you think we ought to have State control over the crops?

A.—Yes, over the rotation of crops.

Examined by Mr. H. R. DOGRA: Q.—You suggest village improvements. The number of coolies necessary are very small. If this work also is undertaken, don't you think it will result in the employment of a large supervising staff?

A.—But this cannot apply to the present hierarchy of establishment. You must change them also. Of course I am not conversant with the staff that is now employed, but there must be an officer in charge of a thousand people and another higher officer and so on.

The CHAIRMAN: There is only one officer now in charge. The charge officer who is in the grade of deputy tahsildar is in charge of six to seven thousand people. As it is, all people are concentrated in definite areas. If village improvement is to be undertaken that superior officer who has control must also have to move from place to place.

Mr. DOGRA: It is not possible.

Examined by Mr. F. M. DOWLEY: Q.—You stated in reply to a question by Sri Suryanarayana Rao that the value of the land will increase if a well is dug?

A.—Yes.

Q.—The same would apply to successful irrigation?

A.—Yes.

Q.—Have you any conception of how much the value of the land will be improved?

A.—I won't be able to answer definitely with reference to Bellary. But, I had some experience of Coimbatore in connexion with land acquisition. There a dry land costs Rs. 700 an acre and they pay separately for the well as well. As for the garden lands we paid Rs. 1,200 per acre.

Q.—That means that the price of the land commandable by a well will be increased?

A.—Roughly by about Rs. 500 per acre. That is in Coimbatore.

Q.—When you wrote paragraph 1 (a) of section I, had you anything in view?

A.—No, but in the subsequent portions I have stated that the minor irrigation sources have got silted up.

Q.—In paragraph 2 (a) you say that if the Tungabhadra project is to be executed, Government should be in a position to give advice to the landowners as to what crops they should grow? How do you suggest this should be done?

A.—If the Siruguppa station is not enough I think they may have to take some more land for doing large scale experiments.

Q.—Experiment work should be done in the present Siruguppa station?

A.—Yes. The good results obtained should be carried on on a larger scale.

Q.—You talk of reservoirs made in America. I take it that water from these reservoirs is meant for cattle and not for irrigation?

A.—That will mitigate the severity of famine.

Q.—Under the head "contour bund forming" you have quoted certain figures relating to rainfall and cultivation in Coimbatore and Bellary. The land that you refer to in Coimbatore is irrigated land, I suppose?

A.—No, dry land.

Q.—So, it is all dry land depending entirely on rainfall?

A.—Yes, and the yield is a thousand lb. an acre.

Q.—No irrigation at all?

A.—No.

Q.—And the irrigated land in Coimbatore yields 2,000 lb.?

A.—Yes.

Examined by the CHAIRMAN: Q.—Are you not drawing water from the Hagari river?

A.—There is no well in the river-bed, but there are some very near.

Q.—What is the quality of the water?

A.—It is not quite as good as Tungabhadra water.

Q.—There is a prevailing belief that Hagari water is very highly deleterious?

A.—Because it is black soil surface drainage water, it is bound to be not so good.

Q.—You had the water analyzed?

A.—Yes, I have not got the figures now.

Q.—You say that run-off water carries 6-6 tons of fine soil. Can you give me the area to which that relates?

A.—We have got experiment plots to measure each run-off. The 6-6 tons per acre is what was collected in the rainy months September-October 1938.

Q.—Then in regard to what you say about contour bunding. You want the department to enforce these things. Unless we are prepared to recommend legislation on these lines, under the ryotwari system, the Revenue department has no power of controlling agriculture at all. The essence of the contract is that so long as the ryot continues to pay the assessment fixed on the land he can do whatever he likes, of course with certain minor restrictions?

A.—The Government must have some agency to advise the cultivator.

Q.—They can advise, but they cannot control. You were quoting the example of the Mysore Government. In Mysore they have got a system by which the ryot has to sign a contract which has certain rigid conditions and for failure or violation of the terms of the contract he is sued in a revenue court. That makes it comparatively easy for the Government to dictate to the ryot what crop he should or should not grow. Here, under the ryotwari system we have no such thing.

Examined by Mr. L. B. GREEN: Q.—I would like to know from you whether it would be a feasible proposition to sink wells near the margin of the Hagari river or even in the river-bed?

A.—I think it would be a very good proposition.

Mr. DOWLEY: Q.—Have you any idea of the quality of the water if wells are dug a mile away from the river?

A.—I know in the village Yrepi-kaggal on the Hagari there are about 22 wells and all of them are yielding well.

Mr. L. B. GREEN: Q.—What sort of crops are grown under those wells?

A.—Garden crops such as chillies, onions, and nowadays they are also growing Cambodia cotton and also ragi.

Q.—Is it necessary in your opinion to conduct demonstrations of well sinking?

A.—There is no need for that demonstration; only it requires a little more propaganda and monetary help.

Q.—You refer to cottage industries and you enunciate the view that cumbly weaving can be developed by forming co-operative societies. I may say that my department has already formed two co-operative societies for the weaving of cumblies, but our great

difficulty was the scarcity of wool. Can you say whether it is possible to find pasturage so that we can have at least a normal supply of wool?

A.—I would say that the soil in Bellary is good, but in Anantapur the soil is bad arable forming. But taking the clue from the livestock station at Hosur, I think it is possible to grow grass in most of the useless lands in Anantapur district and if they are brought under grass, we can get more sheep and there will be plenty of wool and the people will also become prosperous.

Examined by Sri T. A. RAMALINGAM CHETTIYAR: Q.—You said that in a certain village there are about 22 wells on the bank of the Hagari river. How many years old are they?

A.—Thirty years old.

Q.—What is your experience of cultivation under these wells? Is the yield deteriorating or is there trouble about cultivation?

A.—The land, no doubt becomes alkaline after some years but in those lands ragi and certain other crops can be grown.

Q.—If a well commands 5 acres, a careful ryot will grow dry crops in 2 acres and in the other area, grow rotation crops?

A.—The question will then arise that the cost of digging the well would be too much as compared with the value of the crops.

Mr. DOWLEY: Q.—How many acres will a well be able to command?

A.—Five acres.

Sri T. A. RAMALINGAM CHETTIYAR: An extent of three acres is taken as the standard in our district.

Q.—When you suggest the digging of more wells you mean that it should be done only after a study of the underground water-sources?

A.—Yes.

Mr. DODRA: Q.—Don't you think that the excavation of more wells will drop the water table?

A.—It may be so scientifically, but it does not very much matter.

Mr. DOWLEY: Q.—You say that Rs. 400 is the total capital expenditure on a well?

A.—Yes, if the water is within 12 to 14 feet.

Mr. DODRA: Q.—What is the water-level?

A.—In summer it is at the 12th feet and in winter it is at the 8th feet.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—With reference to wells you say that Government might undertake the construction of wells?

A.—I had specially in view the case of Anantapur district.

Q.—Do you think that people will be prepared to pay every year for the wells?

A.—If they draw water from the wells.

Q.—May be, but in a good year they may not be prepared to draw water from the wells? The experience of the Cuddapah-Kurnool canal comes in there?

A.—But that is not in the Anantapur district.

Q.—You think that it is not a question of alkalinity. When once you dig a well it will be useful for ever?

A.—Yes.

Q.—So, you think the ryot will take water every year and there is no question of declining to take it?

A.—He has not invested any money on the sinking of the well and when he takes water from it, he has to pay for it. For instance, I may tell you this. I went to a village where there are 24 owners paying certain shares according to their capacity and they are drawing water from a single well working 20 hours in turns even using petrolmax lights.

Mr. DOWLEY: Q.—Do you know how much they pay?

A.—I have not got any exact idea about it.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—So, for the Anantapur district and the valley portions of Bellary district you recommend the digging of wells at Government cost for supply of water?

A.—Yes.

Mr. DOWLEY: Q.—But is it economical? It would not pay for Government to dig wells at the cost of Rs. 400 and get a return of Rs. 6-8-0 per acre?

A.—I know in the case of private owners of land, they do not mind if they do not get a sufficient margin of return from their investment. But in the case of departmental officers, all their actions are controlled and governed by rules, so much so, the Government staff will not undertake works, which, they know, will not yield the minimum return fixed by Government. That is why most of the works are not undertaken by Government.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—Would you recommend Government taking the power to rotate crops?

A.—Yes. In the Tungabhadra scheme Government should do so.

Q.—So if there is going to be some legislation with regard to the Tungabhadra scheme, you would recommend in that legislation this item?

A.—Yes.

Q.—What is the depth of black-cotton soil in Bellary?

A.—Nearly 56 per cent of the soil area surveyed is more than 3½ feet.

Q.—So you consider the effect on the Tungabhadra scheme will be the same as that in the Siruguppa soil?

A.—Yes. The Siruguppa area is one of deep black soil.

Q.—My purpose in putting this question is this; you said the effect of Hagari water on the land is deleterious?

A.—Yes, but the deleterious effect is due to the water of the river; it is not due to the soil.

Examined by Sri SANKARA REDDI: Q.—You say under "Use of sparked water" "if plants are stimulated to grow vigorously by the application of electricity, one can easily presuppose that a greater demand for water from the soil will be made by the plants, etc." You say this will be a failure. Supposing there is a possibility of such plants being fed by sparked water, for plants absorb food from air, do you think that moisture will not be absorbed in that way?

A.—As far as modern science has advanced, it has been found that plants cannot directly feed on air. Only some microbic plants like bacteria can in a way feed on air; ordinary plants cannot feed on air.

Q.—Don't you think the experiment is still worth trying?

A.—The experiment is being made; an officer of the department has been sent to Mainpuri. In my answer to the questionnaire I have reported what the condition is at the present stage. If any stimulant is given to plants they may need more moisture from the soil, then the plants will exhaust quickly the limited moisture in the dry land. No plant can absorb food through any other medium except through the medium of water.

Q.—Then with regard to cottage industries, you have said, "if there is sufficient propaganda in the villages for hand-spinning and there is an agency to distribute the spinning wheel, hand-spinning will be rejuvenated and very old people incapable of field work may earn something thereby."

A.—Yes. I have got some experience of the Tiruchengode taluk in the Salem district. I have seen people unfit for any other work, people actually crawling, in the literal sense of that word, and such like extreme cases in which they have taken up this work, and they have been able to earn something thereby.

Q.—Now, in Kadiri, no relief work was opened. Some thirteen hundred people took up this work; but after a month, they could not find a market for their yarn; and consequently they had to stop work. Can you suggest how they can find a market?

A.—That is an attempt at making it an economic proposition. I have stated in my answer that only in cases of people who are fit for no other work, hand-spinning can be recommended.

Q.—Do you think it will be advisable to utilize this yarn in the jails?

A.—I think that is a large question as it will involve a change in the purpose of the cottage industry. For charka, as I said in the written evidence, will give occupation only to very old people.

Q.—But what do you say with regard to the finding of the market?

A.—I do not think I can suggest anything.

Q.—Can you give an idea of the average net income from 1 acre of land?

A.—I have not got any records with me at present; but I can give only a rough idea of the yield on dry land. If you grow grain, and if you spend about Rs. 2-8-0 per acre, you will get about six to seven rupees per acre, evaluating the cost of grain and straw. If you grow cotton, and if you spend Rupees 3-8-0, you will get a sum of Rs. 10.

Mr. DOWLEY: Q.—Do you confine these remarks only to Bellary?

A.—Yes, excluding any charge for expenses, the cultivators' own labour.

The CHAIRMAN: Q.—What about groundnut?

A.—It does not pay in Bellary black-soil area, as *mungari* season is mostly a failure.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—Is it not the practice here to grow commercial crops?

A.—Except cotton, others do not usually pay in terms of rupees, annas and pies.

Sri SANKARA REDDI: Q.—Can you give an idea of the average net income?

A.—Sorry, I am unable to give figures now. The report on the cost of production of crops conducted by the Imperial Council of Agricultural Research will give correct details.

Examined by Diwan Bahadur N. SWAMINATHA AYYAR: Q.—With reference to the Tungabhadra project you say "the Government ought to be in a position to give advice to the landowners what crops they should grow, and what income they will derive from them. The landowners should not be allowed (in their own interest) to grow the crops they like." Would you say the power of control was better?

A.—It will be much easier to give such an advice, if experiments are taken up now. By the time the project headworks are complete data as to what crops to be grown will be available, and even if the project is sanctioned this year, it will take 10 years for water to be available for irrigation.

Q.—For 30 years, the Hagari station has been there; were you able to recommend anything beyond the deleterious effect of the Hagari water and how it can be cured? Was anything done to recommend a rotation of crops?

A.—The station was first started 32 years back. From 1906-09 research was carried on there on the cultivation of rice with Tungabhadra water. Then dry land farming was carried on. The purpose of the station then was to irrigate with Hagari water. Irrigation research was done first in black soil and afterwards in a mixture of black soil and sand. This was done to see what crop can be grown with the water available on the eastern bank, and it was found ragi and sweet potato, onions, whichever could be grown. This was only a demonstration.

Q.—I have read the reports of the Hagari station issued from time to time, and I remember various results have been claimed by it?

A.—From 1909 onwards dry land cultivation has been done. The irrigated area has been kept going with a view to produce fodder crops and for the improvement of ragi.

Q.—When that facility existed, I fail to see how a rotation of crops could not be built up?

A.—After all it has only a minor affair since 1909.

Q.—Is it only a minor affair? For my part I should say it is an important thing?

A.—As I said in the beginning, irrigation research did not continue beyond 1909 at Hagari station.

The CHAIRMAN: Q.—Why was it converted into dry land cultivation?

A.—The old idea was to grow rice; but the modern idea is to grow other crops. Irrigation research on rice then showed poor returns, for want of green manure. These experiments were closed in 1909. The land (black soil) was utilized later for dry land crop improvement.

Sri N. SWAMINATHA AYYAR: Q.—In written answer you say thus: "Most of these run-off waters have finally to reach the minor irrigation sources. There is one advantage to the tanks. They will not get silted up so soon if the arable land is provided with contour and other field bunds, for they prevent a good deal of soil erosion. By this probably the minor irrigation tanks will have a greater amount of water." If the minor irrigation tanks are not silted up, the capacity of the tank will increase. But how can they store more water?

A.—When there is not silting up the tank will hold more water.

Q.—I say, the capacity of the tank to retain water will increase. But how can it hold more water?

A.—Even under the ideal conditions, there will be 40 per cent of run-off water moving.

Q.—Yes, out of 100 per cent, you have taken off 40 per cent and the balance is 60 per cent. The run-off water will come in and fill this 40 per cent. Thus you see storage of the tank will remain unimpaired. The quantity of water in the tank will be 100 per cent only and not 140 per cent. What you have allowed for soakage, the run-off water will come in and fill?

A.—If there are no bunds a greater amount of water will come in.

Q.—Yes, the tank is silted by soil erosion and the tank cannot keep water. But that is another point. But how can there be more water in the tank; how can it hold more water than it can?

A.—There are two points; one is silting up; and the other is quantity of water. Less silting will increase more water, as evaporation ratio will be less.

Q.—If you allow silting up of bed more water will flow over the tank; but with greater absorption of water in the tank, how can the tank hold more water than it actually can? The contour bunds, about which you write, have you ever seen one constructed?

A.—I have not gone out of India. I do not think anywhere else except in America they have done it.

Q.—Why, in Ceylon they have done it. Why I ask is, you have put much reliance on the pamphlet. I have read these and find there is no finality. I suppose the journal is intended only for propaganda?

A.—These are not experiments but actual results of work done on a large scale. There is a separate department attached to the Federal Government in America for this purpose and it is only the actual results that are published. The journal is supplied very cheap.

Of course, as science advances things are bound to change; but this is not propaganda?

Q.—Probably propaganda is done on business lines?

Mr. DOGRA: Q.—Probably for the sale of tractors?

A.—If it is business, it should be paying.

Q.—I have been reading these pamphlets; they have never been consistent. Contour bunding is not such an easy thing.

The CHAIRMAN: Q.—It is very expensive?

A.—Yes, it is very expensive. Only in Nellore district and that too in the upland tracts, do we meet with contour bunds. Even there, they are not of recent growth. They were formed long before the British Government came in; they were done in the time of the ancient Rajas. I think the results of the experiments carried on in Ceylon have been issued in the form of a big book.

The examination of Mr. J. W. PRITCHARD, Collector of Bellary, was then taken up.

Written evidence.

SECTION I.

1. The only real solution of the problem of prevention of famine in the Ceded districts is the Tungabhadra Project. The rainfall is so small and uncertain (particularly in this district) that failure of crops on a large scale is frequent and inevitable unless an assured source of irrigation for as large an area as possible can be provided. The only possible source of such a supply for an extensive area is the Tungabhadra.

Any other measures can only be palliatives. Of these, I consider afforestation on a large scale to be one of the most important, as this will assist to some extent in precipitation of rain, help to conserve the rain that falls, and also provide a certain amount of employment.

2. (a) (i) There can be little doubt that the project will go a long way to prevent the recurrence of famine in the parts now particularly liable to it. In the area actually served by the project, it should entirely prevent any possibility of famine, and even in the areas not immediately served by it, it will be of considerable assistance, as the lands under it will provide a source of employment for surrounding villages, which will be of particular value in seasons of scarcity. The existence of a large protected area will also prevent the rise of prices in bad years, which, though much less marked than formerly, is still considerable.

It is difficult to say whether the ryots would take to the cultivation of paddy, etc., on an intensive scale; I am not at all satisfied however that it is desirable that they should. I consider it would be better to encourage extensive irrigation of superior varieties of cotton, cholam, ragi and other occasionally irrigated crops. This would also to some extent mitigate the problem of a possible extension of malaria, which is feared if the project materializes.

2. (a) (ii) I have no suggestions.

2. (a) (iii) There are no other practicable major works in this district as far as I am aware.

2. (b) (i) and (ii) It is true that the number of these sources and the area irrigated under them is decreasing. The main reasons for this are—

- (1) That, with few exceptions, they are very precarious sources of supply. Wet cultivation is much more expensive than dry, and therefore, particularly now that the price of paddy and other crops has fallen considerably, it is not profitable for the ryots to risk extensive wet cultivation when the chance of losing it through lack of water is considerable.
- (2) The tanks are becoming silted up.
- (3) Supply channels where they exist have been very badly neglected owing to the lack of co-operation among the ryots and the fact that there are a large number of absentee landlords.

There is no remedy for (1). Silting up of tanks can be mitigated to some extent by encouraging ryots by every possible means to remove and utilize the silt which is valuable as manure. Where tanks are mostly fed by supply channels or vankas, it may be possible to prevent silting up to some extent by devising some form of silt trap when the supply enters the tank. (3) is a very vexed problem. The real remedy is in the hands of the ryots themselves. I am not in favour of Government taking over silt clearance in these channels generally,—though it might be done partially where the channels are particularly long,—as it is much more expensive for Government to do this, than for the ryots to do it by their own labour. I agree however with Mr. Swaminatha Ayyar's suggestion that the ryots should be assisted in this by the formation of berms, etc., to facilitate this silt clearance.

2. (b) (iii) and (iv) It is not quite correct to say that minor irrigation sources and wells will fail and be of no use in seasons of distress—for two reasons. In the first place failure of dry crops in these districts is often due not only to deficiency of supply but also to untimely supply. The latter is much more important in these districts than in many others. Where water is stored either in tanks or wells, the time the supply is received is not of quite the same importance. A greater margin of safety is available. The supply in wells also does not depend entirely on the rainfall of any particular season. They will be more severely affected by a series of poor seasons than by one really bad one. There is very little scope however for increasing the number of tanks in any part of the district, but especially in the black-cotton soil tracts which are the most affected by famine. Where the rainfall is so light, a very large catchment area is necessary to secure an adequate supply. There is generally little possibility of securing this. In the black-cotton soil also, such tanks are very rapidly silted up.

In red-soil areas increase in the number of wells would be of some help; in black-soil areas it would be useless as the water is almost invariably brackish and deleterious to cultivation. (See my report to the Board of Revenue—L. Dis. No. 1538/38 A-8, dated 19th June 1938.)

2. (c) I believe contour bunding will be of considerable help if properly done. Bunding is quite common even now, but is not done in the most effective way. There are a few minor irrigation sources in these black-cotton soil tracts that its effect on them need not be considered.

2. (d) I have no experience of this.

2. (e) I have given some suggestions as to how ryots and local bodies can be encouraged to plant trees in my report L. Dis. 1831/38, dated 14th June 1938, concerning the observation of tree-planting week. But this will not be adequate. Reafforestation under State control is necessary and more determined attempts must be made to preserve and improve those forests which are now under control of panchayats. These have generally been shockingly badly mismanaged, and are rapidly deteriorating. This is to a small extent due to lack of funds, but mostly to lack of co-operation and shortsightedness of the ryots concerned. They cannot be made to realize that they are doing themselves much future harm for trivial immediate benefits. Much closer control than is now possible is necessary.

2. (f) (i) Cotton spinning and weaving should be possible as a large-scale industry, unless the climate is found too dry. Its development would be facilitated if improved strains of irrigated cotton are introduced as a result of the Tungabhadra scheme. I do not think any other large-scale industry is possible, though mineral resources might be investigated. Manganese and hæmatite are available.

(ii) The best cottage industries to encourage are the existing ones—handloom weaving, carpet making, blanket weaving and beedi manufacturing.

2. (g) I have no practical experience of "sparkled water." I am not impressed by what I have read of it. Nature seldom gives something for nothing. I consider it has no bearing on the prevention or mitigation of famine.

SECTION II.

3. I agree entirely with the statement of policy given in the Code. It would be a great mistake to mix up the problem of dealing with famine or scarcity after it has occurred, and the much greater problem of its prevention. It would be a still greater mistake to mix it up with the general problem of agricultural unemployment and the improvement of the economic position of the ryot, which, though no doubt more acute in these districts, is one common to the whole Presidency.

4. I consider no modification necessary.

5. (a) I consider it essential, as the willingness of workers to undergo the intentionally arduous conditions of a test work is the only safe test whether relief is necessary. There are sufficient provisions in the Code to deal with cases of real hardship.

5. (b) No.

6. No.

SECTION III.

7. None.

8. (a) and (b) Detailed reports on this have been sent by myself and my predecessor in D. Dis. Nos. 1311/38, 1883/38 and 2356/38. As pointed out by my predecessor, the daily wages earned by an average family is more than such a family is getting in neighbouring non-famine areas, and the work is certain and regular. This amply compensates also for the fact that they have had less employment than usual prior to the opening of the works. Figures prepared for each camp show that the wages is not quite sufficient to provide the quantities prescribed in the table when the price of cholam is 13 seers or more to the rupee. This is presumably due to the price of other items as compared with cholam in a normal year having been slightly under-estimated. The prices of these items however do not rise as rapidly as that of cholam, hence the higher the price of cholam, the more adequate the grain equivalent for other items becomes.

I do not recommend however any increase in the wages of either workers or dependants (except possibly classes V (c), V (d) and V (e). This may seem inconsistent, but in fact is not if the principles on which famine wages are fixed are considered. They are to be the lowest amount sufficient to maintain healthy persons in health—in the present famine they have not only done so, but, as my predecessor's report shows, are sufficient to allow emaciated persons to become normal. The explanation is that the scale of quantities prescribed is more than the average workers in this district is accustomed to in a normal year. No doubt their normal diet is nutritionally deficient, but any extra wage given would not be spent on improving their diet. Part even of the present wage is usually spent on betel. Amendment is however necessary as regards food supply to dependants at kitchen and the instructions also need making very clear as they are not generally at present understood by kitchen superintendent and charge officers. There is generally a bigger deficiency in the money available here for other items than in the case of workers for two reasons:—

(1) Class V (c) and V (d) and (e) preponderate and in their case the quantity of other items was increased under the revised scale without increasing the grain equivalent.

(2) Individual wages are not calculated and no rounding, which is more often than not favourable to the worker, is not adopted.

It is also in practice impossible to prepare seven different kind of soups. Only one is prepared, with the result that the higher classes get much less than their proper diet.

I would therefore propose that the grain item for each class which is adequate should remain as it is, but that one scale only for other items should be worked out. The needs of the higher classes would be roughly met (as it is now) by giving them a rather greater quantity of the soup.

As in this case it is possible to ensure that any increase is actually spent on an improved diet, I would recommend that the provision limiting the amount to be spent on other items to the difference between the grain equivalent and grain item should be abolished and kitchen superintendents required to provide the actual quantities prescribed by the Code, subject to a maximum according to a price list of the various item to be fixed by Collector. In other words, the amount to be spent would be limited by the price of the other items, instead of the price of cholam. This would ensure a better diet, and the cost would not be great.

I have one other small amendment to propose, viz., that cash allowance for children up to two years of age instead of only children in arms should be given to the mother. It is difficult for such young children to attend dining sheds.

8. (c) The only possible way would be to give them their wages in food at kitchens. This would require a large staff and would also be most unpopular with the workers.

Other amendments to Chapter VIII.

Section 132.—Where pregnant women do not deliver within the 3 weeks they have been permitted to absent themselves from work, Charge officers may be permitted to allow them further absence for a reasonable period without examination by the Medical Officer, on a certificate from their Village Munsif, as it is often impossible for them to attend the camp for such examination.

8. (*d*) Doubts were expressed as to whether children (or wards in the case of orphans) of persons themselves on gratuitous relief, are also entitled to gratuitous relief. They are under section 137 (*e*) but this might be made plainer.

I have no other amendments to suggest.

SECTION IV.

9. The task work system requires no modification. Workers can earn full wages if they like.

SECTION V.

10. The area in which famine usually occurs is the black cotton soil tract. As already pointed out there are few irrigation works there, and little possibility of starting new ones successfully. It has been suggested, and indeed is provided in the Code that village works shall be one of the main forms of relief provided. But I am of opinion that these are not suitable for times of widespread distress in this district. The villages are widely scattered and the works that can be done small ones. A very large number of such works would therefore have to be opened to provide sufficient work within a reasonable distance of the workers. Though the charges for establishment, etc., for each work would be small in comparison with a public work, it would in the end prove more expensive owing to the numbers of works. Constant inspection, which is so essential, would also be difficult. The most suitable work for this area is a road work, as this provides work over a fairly extended area, and can be easily supervised. They are useful works and can be made more so if small grants are made to the district board to complete work not finished when the works are closed. Further, consolidation work can fairly readily be done when water becomes available, and the suggestion in the Code that it should only be tried failing other work should be deleted.

I would also suggest that small but useful village works such as improvement of streets, deepening of small kuntas, etc., can easily be taken up as minor departmental works in conjunction with major road works; this has been done this year in one case so far, and provision should be made for it in the Code.

SECTION VI.

11. Such expansion will be of some use in times of more scarcity, when it is doubtful if famine will have to be declared. The provisions may be retained.

SECTION VII.

12. The staff employed on works is the minimum possible if they are to be efficiently run. The scales of pay prescribed is not excessive. Some expenditure might be saved by allowing camp officials to occupy houses in villages where available, instead of in sheds specially constructed. I do not consider however that the establishment and other charges are unduly high in proportion to the amount spent on relief. I can suggest no cheaper method.

13. *General.*—On the whole the Famine Code is an admirable one. Almost every conceivable contingency is provided for. I have, however, one major point I wish to raise and a few minor amendments experience has shown to be advisable.

The major question is that of staff. The proper running of a famine camp depends entirely on the Charge Officer, Work Agents and to a lesser degree the kitchen superintendent. It is very necessary that the best possible people should be selected for these posts. But there are difficulties. Charge officers are of the Deputy Tahsildars grade. The work is very hard and the conditions under which they live are unpleasant. Physical fitness is essential if it is to be properly done. The most suitable persons are young and active men who have had some experience as Deputy Tahsildar or Stationary Sub-Magistrate. Many of the Deputy Tahsildars who have completed their probation do not fulfil all these conditions. But unfortunately service as Charge Officer does not count for probation. If Deputy Tahsildars who have not completed their probation are appointed (and they are often the most suitable person) their future is prejudiced as there is a break in their probation. The Collector has therefore either to let famine work suffer by not posting the best people or injure the prospects of those he does post, for no fault of theirs. Further, as service in a famine camp though much more unpleasant and arduous than ordinary work, is detrimental to their interest, such probationary Deputy Tahsildars are naturally anxious to get away from it if possible. I would therefore very

strongly recommend that such service should count as probation. I see no reason why it should not, as the position is a very responsible one, and any officer who can successfully manage a famine crop, is fit to be in charge as a Deputy Tahsildar. I would also recommend that Collector should be enjoined to select with great care officers for inclusion in the list of Charge Officers maintained and that an age limit of at most 42 should be observed. Similar difficulties are experienced in the case of kitchen superintendents. In order to control them properly, it is desirable that as much of the staff of famine camps as possible should be officers in or likely in the future to be in the permanent employ of Government. But at present most of the kitchen superintendents are outsiders, since the scale of pay does not in general allow the employment of permanent clerks, and probationers are not allowed to count this as service. I have had a good deal of trouble with such kitchen superintendents suddenly resigning and leaving the camp. This would be obviated if they were all in Government employ. I would therefore recommend that permanent clerks on pay up to Rs. 50 should be allowed to be employed, and that in the case of Madras Service Commission probationers, service as kitchen superintendents should be allowed to count as probation.

Minor amendments.

1. School-going children of workers cannot attend school if they are being fed at a kitchen. It is also very difficult to provide schools on the works as these serve a number of villages. The Code may be amended to allow cash doles to be paid to dependents' children if they are attending a school. Teachers will furnish certificates of attendance and the attendance can be checked by surprise by Circle Officers.

2. Section 95.—It is desirable that the Executive Engineer (Famine) and Collector should have up-to-date knowledge of what work is going on and at what places. Provision for giving this information may be made in Form D (VIII).

3. Sections 160–163.—This does not properly describe conditions in Bellary. The rains start in June, but there is only a temporary decrease in workers on relief, and numbers rise again.

4. Appendix D 93 (1).—Inspecting officers are directed to get information from the Charge Officer as to where each gang is working. But the only way he can give this is from memory. It would be useful, both for this purpose and for Charge Officer himself if a rough daily record of this were kept.

93 (III) It will frequently happen that workers have attended morning muster and either gone away subsequently or are temporarily absent for legitimate reasons when a check is done. Enquiries should therefore be made *before* starting the check about this, as if they are only made when a discrepancy is discovered. Some excuse will be trumped up.

5. Appendix G.—It is useless to supply tickets to children attending kitchens. They invariably get lost.

6. I would suggest that Collectors in charge of districts where famine operations go on should be directed to make and retain for use in future famines, notes on practical difficulties they encounter and how to deal with them, etc.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—Do you think that before relief works are started, it is necessary to expand the programme of ordinary works, then open test works and finally convert the test works into relief works?

A.—It depends on the seasonal conditions. If there is almost complete failure of crops and it is almost certain famine will have to be declared, test works can be started straightaway. If the situation is doubtful and distress is not widespread, expansion of ordinary works may be useful.

Q.—So you do not advocate all the three stages in each and every case?

A.—No, discretion is vested in the Collector under the Code.

Q.—You had occasion to study the question of grain equivalent. May I ask whether at any time you made calculations to find out what bearing the fluctuation in the price of grain had on the prices of other commodities and how far the fluctuations affected the wages based on the grain-equivalent method?

A.—The price of grain fluctuated considerably more than that of other items and that in consequence the portion of the grain equivalent intended for other items was in some cases insufficient.

Q.—Was it brought to your notice at any time that the balance of the grain-equivalent after deducting the grain item was not enough to purchase the other items as prescribed in the scale?

A.—Yes.

Q.—Does that not show that the grain-equivalent system is not fair and that it would be better to fix the wages by arriving at the cost of each item according to the price prevailing in the market?

A.—The wages should be fixed not only by the price of grain but also by the prices of two or three of the other items. It means a lot of work.

Q.—It may involve a lot of work. But you agree the present method causes great hardship to the coolies. It is true the grain-equivalent system has been introduced for the sake of simplicity. But do you not think it will be fair to the coolies and also safe to Government to know the correct basis on which the wages are fixed?

A.—It means you will have to revise the scale of wages almost once every week.

Q.—I do not know if I am correct in interpreting section 129 as giving the Collector discretion to alter the basis within a limit of 20 per cent?

A.—I am afraid that is not the correct interpretation of the section. It says he shall not alter by more than 20 per cent.

Q.—Are you satisfied with the present system of classification of workers?

A.—Yes, except V (d).

Q.—As it is very difficult to separate children from their mothers, I would suggest the following classification. For children below one year, I would recommend cash dole; for children between one to three years, I would recommend one scale of diet and children above three years, I would put them on a separate scale. Do you agree to this?

A.—I would propose cash dole to children below two years.

Q.—Then about the reclassification of the dependants. Do you recommend any further classification?

A.—No.

Q.—With regard to pregnant woman, is it a fact that if the delivery does not take place within three weeks and she fails to undergo further medical examination she will not be entitled to the wages of the class to which she belonged? Does not this 'further' medical examination impose a strain on the pregnant woman? What is the procedure followed in your district if the pregnant woman does not deliver within three weeks and does not appear for further medical examination? Is she being paid the dependant's allowance? Do you think it is necessary to amend section 132 of the Code to remove any doubts that may exist in regard to its interpretation so that a pregnant woman may become entitled to the wages of the class to which she belonged till the time of her delivery?

A.—Probably. In this district pregnant women are not being given only dependants' wages after three weeks but charge officers have been given discretion to extend this period on the certificate of the village munsif for a reasonable period even without re-examination by the doctor.

Q.—May I draw your attention to sections 134 and 137 of the Code? Under section 134, mothers are entitled to dependants' allowances during the period of illness of their children after vaccination. Under section 137 (e) all persons whose attendance on the sick or infant children in their own homes is absolutely necessary, are entitled to gratuitous relief. Do not you think there is some incongruity in the treatment accorded under sections 134 and 137 (e)? Would you suggest the insertion of the wording of section 137 (e) for the first sentence in the paragraph dealing with mothers in section 134?

A.—Apparently there is.

Q.—If the rains set in suddenly while the workers are doing the work, then under section 134 (b) they are entitled only to a off-day allowance. Don't you think it is a hardship to deprive them of their due wages for a circumstance which is beyond their control? Having come all the way from their villages, they may even be willing to work in the rain.

A.—Presumably they were given off-day allowance as they were considered to need less on days when they did not do manual work.

Q.—Supposing the rain sets in at 3 o'clock in the afternoon. They have worked in the forenoon and for some time in the afternoon. I suppose it is fair they should be paid the full wages?

A.—After check-measurement the wages will be given.

Q.—No check-measurement is taken. They are only paid as per section 134 (b)?

A.—I have not come across such a case.

Diwan Bahadur N. SWAMINATHA AYYAR: It is not on every day there is rain.

Sri R. SURYANARAYANA RAO: Now almost every day it is raining.

Mr. CHAIRMAN: Is not that hypothesis a little bit remote.

Sri R. SURYANARAYANA RAO: No, Sir. At Peddavararam I have come across such a case.

Mr. CHAIRMAN: For one day, you say.

Sri R. SURYANARAYANA RAO: Mr. Pritchard does not deny that the work has to be stopped.

Mr. H. R. DOGRA: Excavation work in a rainy day is easier.

Sri R. SURYANARAYANA RAO: I want the members of the Committee to realize the difficulties of the workers in the famine camp. They have to forego wages for a cause which is beyond their control. It has to be remembered that they are not for the work but the work is for them.

Sri R. SURYANARAYANA RAO: The point of view of Sri Swaminatha Ayyar differs from mine, and there is no use arguing. I can understand a case where work was stopped before mid-day. But if it is a case where the work was stopped after mid-day, I fail to see why the whole wage should not be paid.

Q.—Suppose a worker falls ill, suppose he gets an attack of malaria or supposing he gets an attack of guinea worm?

A.—There is the hospital, and he can be an in-patient; he will be given food there.

Q.—But in the camps doctors generally ask patients to go home. Do you know that there are several cases in which dependant's allowance can be paid, or gratuitous relief given, but these are not given merely because by the time doctors recommend them, the period of disability is over? You need not take the case of the pregnant woman. Suppose there is a fracture of the thumb, the doctor does not allow him to work.

Diwan Bahadur N. SWAMINATHA AYYAR: There is the Workmen's Compensation Act.

Sri R. SURYANARAYANA RAO: That Act does not apply here.

A.—He can report himself as an in-patient; there is provision for hospital in the famine camp. After all such cases are very rare.

Q.—Fever cases are not very rare; guinea worm cases are not very rare?

You know there are several workers coming from long distances. Don't you think in such cases they should be given a distance allowance?

A.—As far as possible work was given near their village, and payment of distance allowance would not be practicable, as there would be too much opportunity for fraud. Workers would represent falsely they belonged to distant villages.

Q.—Is it not hard to put people coming from long distances on the same work along with those coming from short distances the latter finishing the work earlier than the former?

A.—I don't think so.

Q.—The Code provides, under section 163 (c), 15 days' doles for those fed in the kitchen and those on the gratuitous relief. Do you think that those who go back to their villages especially small pattadars will be in equally bad condition?

A.—I don't think so.

Q.—Do you think that in the case of the coolies there is scope for saving out of their small earnings?

A.—I did not say they were saving but that they were better off in a famine year than in a normal year.

Q.—There have been accidents in these camps. Whose duty was it to see that the regulations laid down for carrying on the work are followed? Is it the charge officer or the work agent?

A.—All of them. Most of the accidents are due to workers not heeding the instructions given them. They go on digging deeper resulting in under cutting.

Q.—Do you think that the accidents are due to the workers persisting in their ways in spite of warnings that they should not dig below?

A.—Yes; they still do it if they are not watched.

Examined by Sri H. SITARAMA REDDI: Q.—In your written evidence, you advocate that re-afforestation under State control is necessary. What is your experience of the present management of forests by the village panchayats?

A.—It is very bad.

Q.—Do you think that it would be better to take away control of these forests from the village panchayats?

A.—Yes.

Q.—Do you advocate that it should be transferred to the Forest department preferably?

A.—The Forest department may take over large ones and the Revenue department scattered ones.

Q.—You have taken up some villages where village improvement works are done. You don't take up the inside improvement of the village such as the improvement of the village streets and other things?

A.—No.

Q.—Don't you think that it would be desirable to take up such works also?

A.—Yes, as an adjunct to the big work.

Q.—I don't advocate taking up of village works on a large scale. I mean that when the road work is going on along a particular route and when there is a village nearby would you not take up the improvement of the village and also the formation of an approach road to the main village as an adjunct to the main work?

A.—We have done something on these lines.

Q.—The present Code does not give that facility. There are some obstructions. I think we should be able to do village works in conjunction with the main works. Do you think the present Code provides for that?

A.—The present Code does not contemplate it.

Q.—Is it necessary to amend the Code?

A.—Yes.

Mr. CHAIRMAN: The Code derives from the idea of settling labour in camps and that is the reason why that particular item of work, though perfectly desirable, has to be done under the supervision of the main work.

Sri H. SITARAMA REDDI: Q.—Is it not desirable to amend the Code?

The CHAIRMAN: I think we are all agreed about that.

Sri H. SITARAMA REDDI: Q.—When there is a main work going on can you not put a special gang and get the work done?

A.—We have done so.

Q.—I believe some objections are raised by the Accountant-General or at least from the Executive Engineer's office?

A.—The Public Works Department do not like such work because there is difficulty in fixing the task.

Q.—Is it your experience that between the Public Works Department and the Collector there arises some sort of conflict in the execution of the famine works?

A.—There are slight differences of opinion but not much.

Q.—You suggested just now that there will be difficulties. Is it not desirable to make the Collector's orders final in these matters?

A.—The Collector's orders are final, except on technical matters, where any serious difference of opinion will be brought to the Commissioner's notice.

Q.—Are the orders of the Collectors always carried out?

A.—Yes, so far as I know.

Examined by Sri KALLUR SUBBA RAO: Q.—Do you approve the suggestion that land under the Tungabhadra Project, if it comes into existence, must be set apart for the people in the famine area which is not served by the project to go and settle there?

A.—Most of the lands are already owned. There is not sufficient Government land for the purpose.

Q.—Are you afraid of malaria setting in if Tungabhadra Project comes into existence?

A.—Yes, it is very likely.

Q.—Do you suggest dry crop in preference to paddy?

A.—Yes.

Q.—As regards silt clearance have you anywhere enforced kudimaramat to do all these things?

A.—Yes.

Q.—Are people doing it heartily?

A.—The only way in which we can enforce kudimaramat is to do it ourselves and collect the money.

Q.—If people are not willing to come and work and there is no co-operation between the ryots don't you think that a kudimaramat tax of half an anna in the rupee set apart for kudimaramat work, i.e., keeping tanks and channels in order will be very useful?

A.—Yes.

Examined by Mr. H. R. DOGRA: Q.—You recommend that village works should be included in villages which are near the main works. What kind of works?

A.—Filling of pits in villages, gravelling of streets wherever possible.

Q.—Is there any difficulty of including approach roads in the main item of work?

A.—It is not strictly according to the Code.

Q.—Would it not come under kacha road work?

A.—The Code divides works into departmental and village works. Most of the approach roads would not come under the definition of departmental works. They are too small.

Examined by Mr. F. M. DOWLEY: Q.—As regards Tungabhadra Project, do you think the ryot will need guidance to work a systematic irrigation successfully or in their present stage of knowledge that if you were suddenly to start the project to-morrow would the ryots make a success of it?

A.—It is very doubtful.

Q.—The last witness said that he thought it would be necessary to introduce legislation to compel the ryots to grow suitable crops at the right time when information regarding the suitable crops and the best time for growing them has been ascertained from the experiments now being conducted at the Siruguppa farm. Would you agree to that?

A.—No.

Q.—If you admit that the ryot at present if you put water on his area to-morrow would probably make a mess of it, how are you going to improve things to the extent necessary to make the project a success?

A.—We will have to teach them.

Q.—You don't think it would be necessary to introduce legislation to compel them?

A.—No. It would be better to convince them.

Q.—How long would it take to convince them?

A.—It depends on the demonstrations you have.

Q.—What is the average size of a holding in Bellary?

A.—It is larger than usual.

Q.—The last witness said that the ryots were so poor that they could not pay even Rs. 7 for a plough?

A.—I would not agree with that.

Q.—Admitting for a moment that the last witness's statement was more or less correct, how can the ordinary ryots cultivate the Tungabhadra area if they have to spend money on getting their lands ready?

A.—It would have to be done by a loan.

Q.—Would it be possible to break up the present holding if systematic irrigation of land could support a family in reasonable comfort on a smaller area than the average holding and colonize the area in this place? A man might be able to cultivate and bring into systematic irrigation an area of 5 acres whereas he may not be able to do so with an area of 15 acres.

A.—In any case he can grow dry crops on the remainder of the holding.

Q.—If he is compelled to pay for water whether he takes it or not on his entire holding what would happen then?

A.—How can I say anything about that.

Examined by ABDUL RAWOOF SAHIB Bahadur: Q.—You refer to the probation of Deputy Tahsildars. Did you find any difficulty in sending out Deputy Tahsildars for famine duty?

A.—Yes. I had great difficulty in sending out Deputy Tahsildars.

Q.—So far as kitchen superintendents are concerned, you suggest that permanent Government servants should be posted for such duty because the outsiders at times suddenly resign and leave the camp?

A.—I think it is essential.

Q.—Did you feel any difficulty with the other subordinate staff, say maistris?

A.—Yes. But I cannot suggest any improvement because there are not sufficient men available.

Q.—Can you send Revenue peons from each taluk to work as maistris?

A.—I never thought of it.

Q.—In the several charges that are working in the area are there any weakly gangs?

A.—Weakly gangs are working in one or two camps.

Q.—Were they not found necessary in other charges?

A.—No.

Examined by Mr. L. B. GREEN: Q.—Do you advocate the setting up of spinning mills or combined spinning and weaving mills?

A.—A spinning mill is more important, I think.

Q.—You have some apprehension that if a weaving mill is set up it might be necessary to import better quality of cotton from outside?

A.—I have no technical knowledge of it but I am rather doubtful if suitable cotton is available locally.

Q.—But you can spin 20's with the local cotton. You refer also in your answer to question No. 2 (f) (ii) with reference to cottage industries to carpet-making and blanket-weaving, etc. The deterioration in the condition of blanket-weaving in this area had been attributed to lack of grazing facilities for sheep. Is it possible to improve grazing facilities?

A.—Yes, by afforestation.

Examined by Sri T. A. RAMALINGAM CHETTIYAR: Q.—What will be the price of land per acre in the locality which is going to be served by the Tungabhadra Project?

A.—It varies between about Rs. 30 to Rs. 100.

Q.—What would be the cost of bringing it under irrigation?

A.—That has been estimated for irrigated dry as Rs. 5 an acre.

Q.—Do you think the people would bring all the lands under cultivation?

A.—I don't think so.

Q.—In that case would you suggest the Government purchasing the extra land, bringing them under cultivation and selling them by auction?

A.—If you mean compulsory acquisition there will be great opposition. People who are able to purchase land have already purchased.

Q.—About the possibility of difference of opinion, if the whole thing is placed under the Collector and an officer of the Public Works Department is given to him as an assistant would it meet the situation?

A.—The proposal is not very clear. It is a technical matter.

Q.—I am asking whether you consider it an improvement if an Assistant Engineer is to work under the Collector instead of under the Executive Engineer?

A.—I think not. I think the whole famine operations should be under the Executive Engineer.

Q.—You don't suggest any change in the present arrangement?

A.—No.

The CHAIRMAN: No serious differences of opinion between the Revenue and Public Works Department have come to my notice so far.

At this stage the Collector gave the following information regarding the size of an average holding, its value, etc. :—

Average holding in Bellary taluk is 16 acres. The cost of bringing under irrigation is Rs. 8 per acre of black-cotton soil and Rs. 10 an acre in the case of red-soil lands under dry crops. The average value of black-cotton soil is Rs. 60 per acre and that of red-soils is Rs. 40 per acre.

Examined by Sri SANKARA REDDI: Q.—Supposing this year is a normal year, what will be the earning capacity of those people who are sent away after the closing of the works? Will it be more or less than the famine wages?

A.—In ordinary times a man gets work, woman gets work sometimes and children get no work at all. But in famine we pay wages for all. So taking the earnings of a family it will be less in a normal year than during a famine year.

Q.—In that case when their earning capacity is so poor, can they save anything for slack seasons?

A.—No.

Q.—Much less can they save anything if the succeeding season is also a failure, the Code in its introduction says: "Such failure over a restricted area in a single season after a year of normal plenty, will not of necessity produce famine or even such a degree of scarcity as to call for State intervention." In that case, if a large percentage of people are unable to save anything for a slack season and much less if a succeeding year is also a failure, then every failure of rain and crop will entail distress?

A.—Some distress. My figures relate only to the coolies who own no land. It does not apply to the ordinary ryot.

Q.—What is the percentage of landless people in this district?

A.—I am afraid I cannot tell.

Q.—What is the percentage of indebted families in Bellary?

A.—I cannot say.

Q.—A single failure over a taluk or two will entail distress in your opinion as the earning capacity of the labourers is very poor?

A.—No.

Examined by Diwan Bahadur N. SWAMINATHA AYYAR: Q.—I would like to draw your attention to the opening sentence of your written evidence. After reading it, would you agree that there will be sure demand for irrigation every year under those conditions?

A.—I cannot say.

Q.—Can you imagine that crops can still thrive without irrigation?

A.—Yes, they do thrive.

Q.—Would you consider that they will considerably improve by irrigation in these areas?

A.—Yes, I think it would.

Q.—In a district like Anantapur and Bellary a demand for irrigation water is more likely to be certain in most areas than other districts. Would you on that account introduce compulsion for payment of water-rate?

A.—I think it would be desirable.

Q.—Would you kindly explain kudimaramat as practised in this district? I understand kudimaramat as a kind of labour which the ryot will have to contribute at a time when it is actually required so that the irrigation sources might be improved?

A.—That is the theory but in practice they don't do it.

Q.—Many of the minor irrigation tanks are neglected because of the difficulty of combining in the villages. They have been neglected for years. If they are within village limits we can use our influence and probably persuade the ryot to do his work because it is to his benefit but in cases of long channels where it is going to benefit more than one village don't you think that Government should step in and do the work?

A.—I think they should.

Examined by Dr. R. ADISHAN: Q.—In your written evidence you have stated that "the scale of quantities prescribed is more than the average worker in this district is accustomed to in a normal year." Is it your general impression or is based on any survey undertaken?

A.—It is only a general impression.

Q.—You yourself admit in the next sentence that the extra wage given would not be spent on improving their diet. Supposing you have some safeguard by way of giving part of their wages in kind to prevent abuse, would you oppose an increase in the wages even then?

A.—I see no objection if it is going to improve their food.

Q.—In the last sentence you say there is generally a bigger deficiency in the money available for other items, etc. Is there greater fluctuation in the price of grain or in the price of pulse?

A.—I should think grain. I am not sure of pulse. The other items fluctuate less.

Q.—In ordinary times the price of pulse and the price of other stuff like oil do not fluctuate as much as the price of grain. What objection there could be to have a constant quantity of pulse just as grain under each of the classes and arrive at a ratio between the pulse and other stuffs?

A.—I think it is complicated enough at present.

Q.—You say that "I have one other small amendment to propose, viz., that cash allowance for children up to two years of age instead of only children in arms should be given to the mother." What sort of doles do you recommend?

A.—Cash doles.

Q.—In the case of babies in arms, the great majority of them are breastfed. But in the case of the other children they would require more nourishment.

A.—They are the same as the present class V (c). My point is that it will be very difficult for these children to go to the kitchen.

Q.—Supposing a mother has got two infants in the workspot, do you think the presence of two children would interfere with the wage-earning capacity of the worker?

A.—It might.

Q.—Under section V in the last sentence you suggest that "small but useful village works such as improvement of streets, deepening of small kunta etc., can easily be taken up as minor departmental works in conjunction with major road works; this has been done this year in one case so far and provision should be made for it in the Code." Is this your personal impression and has it been appreciated by the general public?

A.—Yes.

Q.—Would you then advocate that village improvement should form part and parcel of the famine operations?

A.—Yes.

The Committee rose for the day.

11th September 1938.

The Committee reassembled at 10-30 a.m. in the Collector's Court-hall, Bellary, with Mr. C. A. Henderson in the Chair.

The following members were present:—

Mr. F. M. DOWLEY.

„ H. R. DOGRA.

„ L. B. GREEN.

Dr. R. ADISESHAN.

Sri Diwan Bahadur N. SWAMINATHA AYYAR.

„ T. A. RAMALINGAM CHETTIYAR.

„ H. S/TARAMA REDDI.

„ R. SURYANARAYANA RAO.

„ N. SANKARA REDDI.

„ KALLUR SUBBA RAO.

ABDUL RAWOOF SAHIB Bahadur.

Mr. D. I. R. MUIR, the Secretary, was also present.

The examination of Sri B. BHIMA RAO, B.A., B.L., M.L.C., Advocate, Bellary, was taken up.

Written evidence.

I. I suggest that the Tungabhadra Project is an imperative necessity for the prevention and mitigation of famine in the areas which are chronically subject to famine and adverse seasonal conditions. The impression that is left on my mind after my tour in the district (Bellary) in 1937 and 1938 is that there is no salvation for it, unless the project is ushered in expeditiously. Otherwise, people are subject to acute distress, of a chronic nature and famine relief measures will have to be resorted to once in two or three years at enormous cost. The acute distress has become pronounced in the famine area of Bellary district for the last ten years. There is no other project or measure, which could be suggested or recommended, that would afford general relief from distress in the famine affected areas.

II (a) (i) The questionnaire assumes that the conditions in the Kurnool-Cuddapah Canal area may be repeated in the area to be irrigated under the Tungabhadra Scheme. It may not be so. Conditions may be imposed to compel intensive irrigation of dry commercial crops, if not, wet crops, and higher assessment may be levied therefor, instead of the ordinary assessment for dry lands. Even if the return is only 3 per cent on the capital to be invested, instead of the 4 per cent that is estimated, the project should be undertaken and proceeded with. It is only by this means that famine can be averted in the accustomed area in Bellary, Anantapur and Kurnool districts.

(ii) If a hydro-electric scheme is coupled with the Tungabhadra Project, there is every certainty that it will yield adequate return for the capital invested, I recommend that this suggestion may be considered and acted upon.

(iii) I do not know of any other major project, which would relieve distress in the famine zone of my district, Bellary, Siruguppa, Alur, Adoni and Rayadrug taluks.

II (b) (i) and (ii) It is a fact that the number of minor irrigation sources and the area irrigated by them are decreasing. The opinion held by the ryots is that the Public Works Department are not properly looking after the sources and works and the Revenue Department does not take due interest in the cause of ryots. The ryots of Kanekal in Rayadrug taluk are repeatedly complaining to the authorities that the tank in the village has got silted up, that whenever water flows in the Hagari Channel, it is not let into the tank in proper time by the Public Works Department and hence they cannot get sufficient water for four months to irrigate their lands. The present Collector has been apprised of the fact and is now looking into the matter.

I suggest that a local representative committee may be appointed and it may be empowered to adopt measures to have the silt of the tank removed, water let into the tank at the time of floods in the river Hagari, and to attend to the distribution of water to the ryots.

(iii) The statement is correct.

(iv) Increase in the number of wells may improve the situation. No doubt, generally, we get brackish water, when we sink wells in black cotton soil area. That is our experience. But I have heard directly from Mr. Venugopal, Geologist and Engineer in Raichur, Nizam's Dominions, that it is easy for an experienced geologist to find out the spot, which would yield good drinkable water, that thousands of wells have been sunk in Raichur and Gulbarga districts, where the soil is similar to the one we have in the famine area in Bellary district, that is, black cotton soil area. The gentleman assured me that in about 90 per cent of the cases, the wells have yielded good drinkable water and cost about Rs. 900 each on an average. I wrote about this subject to the Premier in April 1938 and I learn that some correspondence is going on with the aforesaid gentleman.

The procedure adopted by Mr. Venugopal may be investigated and adopted in Bellary district also. This will facilitate irrigation under wells and also provide drinking water in the villages, where it is not obtainable now.

(c) *Contour Bund forming.*—The moisture retained in a particular year may enable the ryot to gather a richer and better harvest than if there were no bund farming. But I doubt very much, if the moisture obtained in a particular year will enable the ryot to raise a crop in a succeeding rainless year. This process cannot mitigate distress due to famine.

(d) *Dry-farming.*—I do not think any dry-farming methods will make the ryot independent of the monsoon.

(e) *Afforestation.*—Afforestation is eminently desirable. But I doubt the success of the scheme in the famine area. Water is requisite for planting and the growing of trees and we do not have it. We do not see any trees from Hagari to Uravakonda or Kuntakal. The trees that can grow in black-cotton soil are margosa, tamarind or babul.

(f) (i) *Large scale industry.*—A spinning mill should be established in a central locality. The yarn that is manufactured should be supplied to villagers, who should weave them into cloth. The cloth produced should be sent to the nearest market or taluk centre and sold there. If non-official agency is not available for the purpose it must be made subject to official supervision in the Department of Industries and Co-operation. This will revive the main cottage industry in the villages and relieve unemployment.

(ii) *Cottage industries.*—Manufacture of paper may be adopted as a suitable cottage industry. In these days of patriotic fervour, local-made paper will sell very well. I remember in my student days in Penukonda (Anantapur district), my father was getting hand-made paper from Nyamaddala in Dharmavaram taluk of Anantapur district. The industry is now no more there. It can be revived there as also in other villages.

(g) I cannot give any suggestion about "sparked water". I have no practical experience about it.

III. I do not agree with the statement of policy with regard to famine relief. It need not be and ought not to be, according to the standard of comfort in normal times. But the principle laid down is beyond breaking point. The wage should be sufficient to maintain persons in normal health and not in a state of starvation and exhaustion. The present wage was fixed several decades ago and does not provide sufficient nourishment to the labourers to maintain themselves in normal health. Standards of proper nourishment to persons have considerably advanced in recent times. I suggest that the wage should not be less in any case than what is spent for a prisoner in jail. The excess amount will not be in any way substantial but it is absolutely necessary to incur it in order to maintain the persons in normal health. The labourers in famine camps feel that the wage is inadequate and does not afford suitable nourishment to them. In the Bombay Presidency, they are giving a higher wage.

VI. *Description of various measures of relief.*—I consider that the present measures of relief involve a colossal waste of human energy without any tangible benefit to the public at large. Further the manner in which the relief works are conducted and especially the breaking of stones in the hot sun detract from humanitarian considerations. I, therefore, suggest that the relief works to be undertaken should be conducive to yield the highest amount of benefit to the public. I suggest the following measures:—

- (a) Construction of wells in villages where supply is insufficient and deficient.
- (b) Construction of vakkarnies in suitable places.
- (c) Spinning of yarn and weaving of cloth in their homes in villages.
- (d) Construction of roads where it is possible to consolidate it efficiently and properly and where they could be maintained in proper repairs during succeeding years.

Note.—Roads now constructed from out of the famine relief operations such as the ones from Nandavaram to Nagaldinne and other places get damaged after rains and are not used by cartmen and the public.

- (e) By aid to industries in the villages.

SECTION 3.

Scale of wages and amount of the diet scale.

I have already submitted that the diet scale should be in accordance with the present standards of nutrition and the wages should be enhanced so that they might not be less than the amount of wages and diet given to a prisoner in the jails.

SECTION 4.

Size and nature of task in famine works.

9. I consider that the task work system should be abolished. I have seen that the size of the task allotted to some of the labourers cannot be performed by them for reasons beyond their control. Some of the labourers go about for long distances in search of stones and cannot get them in the black cotton fields in several villages. They should not be made to suffer on account of the fact that they are not able to find any stones. Care should be taken that every one of the labourers does his work during the period and the daily wage should be paid to the labourer for the work turned out by him as is done in the Bombay Presidency.

SECTION 5.

I have already made suggestions as to the possibility of providing famine relief to workers of more appreciable benefit to the community than stone breaking.

SECTION 7.

Reduction of expenditure on Famine establishment.

12. I consider that the expenditure on famine establishment is heavy and can be reduced without loss and efficiency. It is unnecessary that charge officers should be of the rank of the sub-magistrate or acting sub-magistrates or persons selected to act as sub-magistrates. It is unnecessary to send for such persons from other districts in the Presidency paying considerable amounts by way of travelling allowances to them. I consider that clerks in the senior grade who are drawing a salary of Rs. 60 and upwards may be employed as charge officers and they would perform their work as efficiently as those who have been acting as sub-magistrates. This procedure will considerably reduce the amount which is spent on establishment on famine reliefs.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—You complain about the Kanekal tank. You have stated that the ryots of Kanekal are repeatedly complaining to the authorities that the tank in the village has got silted up, that whenever water flows in the Hagari channel it is not let into the tank in proper time and so on. Your complaint is that the tank is silted up and that the silt is not removed?

A.—Yes.

Q.—Your other complaint is that the Public Works Department does not let in water into the tank at the proper time?

A.—Yes.

Q.—Do you know for how long this arrangement of the work of letting water into the tank being in the hands of the Public Works Department been in force? Was it at any time under the Revenue Department?

A.—I do not know when it was under the Revenue Department. But I know that the present arrangement is the Public Works Department are in charge of letting water into the tank at the time of the floods in the Hagari river.

Q.—Who is in charge there? Is it a maistri or supervisor or any other officer?

A.—Here it is a maistri who is in charge.

Q.—You say this fact was brought to the notice of the Collector?

A.—Yes.

Q.—Did you hear anything from him in reply to that?

A.—It was at the time of the conference in July and he said that he would look into the matter.

Q.—Have you any suggestions to offer in order to prevent this?

A.—I would suggest that the question of letting water be handed over to a local committee. Otherwise there is likely to be considerable delay in that the man on the spot has to report to his superior officer and getting his reply; by that time the flood water would have gone away and the tank will not get the necessary water.

Q.—Your information is that the maistri there cannot allow water to flow into the tank without the authority of a superior officer?

A.—That is the information I got.

Q.—Is there an irrigation panchayat?

A.—I know there is a panchayat which has not been working properly.

Q.—Perhaps the irrigation panchayat has nothing to do with the letting in water or the distribution of water?

A.—I suppose so.

Q.—You have no other suggestions to offer to rectify a thing of this sort. Don't you think that when there is faction it is difficult to entrust this work to local people and so it would be better to give this work to a third party preferably to a Government servant?

A.—Yes, it may be preferable, but if there are two factions in a village you may entrust it to one party this year and to the other party the next year and if that system does not work satisfactorily, some other public servant may be deputed to look into the matter.

Q.—Am I to take it that it is because the maistri is there and he has to obtain orders from above that there is delay in the matter of letting in water?

A.—Yes.

Q.—Supposing the maistri has instructions to let in water whenever there is flood in the river, have you any objection?

A.—I would have no objection if he is instructed to let in water in proper time without waiting for orders from the superior officer.

Q.—If there is flood in the river can he prevent the water from going into the channel?

A.—Some arrangement has to be made to let in water into the tank.

Mr. F. M. DOWLEY: Q.—Do you know why this tank has been handed over to the Public Works Department?

A.—I do not know.

Q.—The reason was that owing to factions in the village the majority of the ayacutdars insisted on the Public Works Department taking it over and I understand that the position still persists?

A.—I know even now there are factions in the village and it is preferable that the work is in charge of some Government department, but they must be instructed to see that the water is let into the tank in time. I hear there has been considerable delay in the matter for the last two years and I have been hearing representations to that effect.

Q.—My information is there is no difficulty. In flood time the water must go there and if it is not diverted breaches would occur.

A.—The complaint is there is not sufficient water in the tank. As a matter of fact, last year they had water only for two months.

Mr. CHAIRMAN: Q.—Is there sufficient water in the river to supply to the tank?

A.—There is sufficient water at the time of the floods.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Is there sanction for the erection of a sluice every year?

A.—Yes.

Mr. F. M. DOWLEY: Q.—Last year the full ayacut was irrigated. In 1931 Government spent Rs. 80,000 for repairing the channel and tank and it was at the instance of the majority of the ryots that the

control was handed over to the Public Works Department and that too was decided I think at a conference held at Kanekal by the Collector at which the ayacutdars were also present. I think the factions still continue in the village?

A.—Yes.

Q.—There are two parties; one wants Government control and the other wants to keep control. That is not an easy matter?

A.—Yes, but the Public Works Department may be instructed to see that enough water is let in time and that the maistri should not wait for instructions from above. I am only anxious that supply should be assured.

Sri R. SURYANARAYANA RAO: Q.—You have stated something about Mr. Venugopal and I have made every effort to find out what he was doing but nothing was forthcoming?

A.—I addressed a letter to the Prime Minister immediately after coming here and asked him to make enquiries from the Nizam's Government. I have not heard so far anything about it. Otherwise, I would have myself carried on correspondence with him.

The CHAIRMAN: Q.—The letter from the Committee's Secretary was returned by the post office?

A.—I shall make enquiries and find out his exact address and if necessary I shall myself correspond with him and submit to the Committee whatever I get. Or, the Committee may depute one of the officials of the Public Works Department to go to Gulbarga or Raichur and ascertain details.

Sri R. SURYANARAYANA RAO: Q.—Have you any knowledge of forest panchayats and whether the forests have suffered under those panchayats? Is that one of the causes of disafforestation? As you favour afforestation, is it necessary that panchayats should be deprived of control over these forests?

A.—Panchayats are not working properly and so forests have deteriorated and so they may be restored to the Forest department.

Q.—You have made certain suggestions about large-scale industries and Mr. Green will deal with those things; but I want to know from you whether you have realized the difficulty of marketing, because you know that is a standing impediment even in the case of small-scale industries? Large-scale industries like mills can take care of themselves. Have you any suggestions to offer?

A.—I think the work must be entrusted to some department of Government to provide facilities and then non-official agency also will be forthcoming to assist in marketing.

Q.—In spite of all the facilities you know even khaddar is not having good sale?

A.—There the reason is different; khaddar is costly and 90 per cent of the people would go in naturally for cloth which is cheaper.

Q.—So also, Japanese cloth is cheaper than Indian mill-made cloth?

A.—After all the difference between the Japanese cloth and Indian mill cloth is very small. But on account of patriotic sentiments people would go in for Indian cloth.

Q.—That is an argument even for khaddar and how long can you rely on patriotic sentiment alone? Should not the business aspect also be considered? Have you any suggestions to make for improving marketing?

A.—My own idea is that Government should entrust the Industries or the Revenue department with the work and should also issue instructions that they should specially attend to this branch of work.

Q.—Under item VI you have made certain remarks against the relief measures undertaken. Are you against village communications being improved even in black cotton soil?

A.—Nothing of the sort. I am for improving village communications.

Q.—You have referred to the Nandavaram to Nagaladinne road?

A.—Yes, what I want is that the roads should be consolidated. What happens is these famine roads are not consolidated at all up to the next rains and the result is they are washed away so that neither the cart-men nor the public can use them. I know this

particular road and I had occasion to go that side but it was impassable and we had to go by the side of the road.

Q.—Unfortunately consolidation cannot be undertaken unless the rains stop. Have you any suggestions to offer?

A.—Even after the rains some period elapses before you stop famine relief; and during that period consolidation work could be taken up.

The CHAIRMAN: It is being done now.

Sri R. SURYANARAYANA RAO: Q.—It may not be possible for them to complete the work. Would you suggest that the incomplete portion should be completed by the district board?

A.—Yes.

Q.—In addition Government also may give grants to enable them to complete the work?

A.—Yes, whatever reasonable proportion they consider necessary. I am only anxious that the large amount that we have been spending on these famine relief works should not be a waste and that they must be of permanent value.

Q.—In section 4, you say that the task work system should be abolished. What system would you advocate in its place?

A.—I want to see that the men and women do their work for the day. I have seen for instance, female labourers going about four or five miles away in search of stones; even then they could not get stones and many of them have told me they were not paid even one anna; and it was not their fault if no stones were available.

Q.—Your idea is, don't prescribe any task and see that everybody works during the prescribed 7 or 8 hours and are given their full wage at the end of the day?

The CHAIRMAN: May I ask whether you have considered the question of the increase of establishment if the work of all the six or seven thousand persons have to be supervised. At present there are two work agents each supervising the work of about 3,000 people. According to you the establishment has to be increased.

Mr. H. R. DOGRA: Q.—Supposing you prescribe work. How is it possible for the establishment to see that every one is doing his own work?

A.—I have found in some cases it was not the fault of the workers that they are not able to turn out the task. That is why I suggest this method.

Sri H. SITARAMA REDDI: Q.—May I take it that you would like the work to be such that it should be possible for the workers to complete within a particular time?

A.—Yes. The nature of the work also should be such that people may get work easily.

Mr. H. R. DOGRA: Q.—You agree to task work being prescribed to suit local conditions?

A.—Yes.

Sri R. SURYANARAYANA RAO: Q.—In the Hebbatam area it is difficult to get stone. You suggest, without loss of efficiency, expenditure on famine establishment may be reduced as you think it is heavy?

A.—Yes.

Q.—Had you any occasion to study the working of a famine camp for you to feel that the famine staff is more than adequate?

A.—My impression is that those in the ministerial ranks next to sub-magistrate should be appointed as charge officers. What they do now is those who are in the list of sub-magistrates are appointed, but there are several others who are superior or even senior to those officials and they can also be entrusted with the work of these charge officers. There will also be no necessity to import men from outside. Why should people drawing Rs. 50 and who have experience of work in the district be deprived of this chance of promotion? They may be as efficient as the others who have been appointed.

Q.—What has happened is, there was a technical difficulty. It was in their own interests that they were not appointed, not that collectors wanted to bring people from outside. In fact the collectors

have been protesting that this technical difficulty should be removed to enable them to make use of the people of their own district?

A.—I wish that difficulty could be removed. It would also lessen the cost.

Examined by Sri H. SITARAMA REDDI: Q.—You say in paragraph 2 (ii) that if a hydro-electric scheme is coupled with the Tungabhadra project, there is certainty that it will yield adequate return for the capital invested. To what use do you suggest that the electricity generated there should be put?

A.—For instance lighting of towns and villages, industrial purposes, large-scale industries, cottage industries and for other large industrial projects should they come into existence.

Sri R. SURYANARAYANA RAO: Q.—Would you also use the power for baling out water from the wells?

A.—Yes, if it is found to be economical.

Sri H. SITARAMA REDDI: Q.—What is your experience about the money spent on the hutting accommodation in all these camps?

A.—The information that I got is that there was considerable wastage of money. I will give one instance. We generally get 8 square yards of matting for one rupee.

Q.—You mean the kind supplied to famine camps?

A.—Yes. They are purchased even now locally from those who manufacture at 3 per rupee and are being supplied to the Famine department at 2 per rupee and thus the contractor who supplies these mats gets a clean profit of 50 per cent. If he purchases these mats for Rs. 40,000 he bills for Rs. 60,000 and in this way he gets Rs. 20,000.

ABDUL RAWOOF SAHIB Bahadur: Q.—What about transport charges?

A.—They are provided for separately.

Q.—Is that so?

A.—That is my information.

Sri H. SITARAMA REDDI: Q.—Has it come to your notice that the thatties that are supplied to these camps get torn up or become useless within the course of a week or sometimes a fortnight and then they are thrown away and are being changed quite often?

A.—Yes, they get rotten in the course of a month. Again they have to be replaced; the contractors go to the same mat-maker and the same process is gone through.

Q.—Can you say from your experience, that the kind of thatties supplied provide adequate protection?

A.—No, even then they feel the difficulty.

Q.—They are neither rain-proof nor wind-proof?

A.—Quite so.

Q.—What would you suggest as an alternative?

A.—I would suggest zinc sheets may be purchased and if necessary they may be sold and we can get at least half the value.

Mr. H. R. DOGRA: Q.—Don't you think it will be hot?

A.—Even under mats they feel hot.

Sri H. SITARAMA REDDI: Q.—You think it does not make much difference?

A.—Yes.

Q.—Do you know that even the pots that are required are being taken from Bellary and not purchased locally?

A.—My information is that they are taken in lorries and this means enormous cost in addition to the cost of the pots. This wastage should be prevented.

Sri R. SURYANARAYANA RAO: Q.—Even these thatties are made in certain villages, but it seems the subdivisional officer insisted on the contractors supplying them.

Sri T. A. RAMALINGAM CHETTIYAR: Don't you call for tenders in these matters?

Mr. H. R. DOGRA: No.

Witness: I know in a certain private famine relief committee, they arranged the supply of mats themselves and as per the rates given by the Government they made a profit of Rs. 1,200 which they handed over to the local relief committee and they spent it for other relief purposes.

Examined by Dr. R. ADISESHAN: Q.—In section (II), you say that the diet scales should be in accordance with the present standards of nutrition and the wages should be so enhanced so that they might not be less than the amount of wages and diet given to a prisoner in the jails. By that do you mean to say that the outturn of a famine labourer is as high as that of a convict in the prison?

A.—If really the labourers have got the materials on hand probably they might do as much work as the convicts in jail do. It is not the fault of the labourer if such kind of work is not given which is not adequate. Apart from the outturn the nature of the work also is different. That is, the work turned out by a coolie is different from that of a convict and from the business point of view it is certainly a loss. But that, I think, is not his fault. Such kind of work is given to him.

Examined by Sri T. A. RAMALINGAM CHETTIYAR: Q.—With reference to the Tungabhadra project, it seems to be a very costly scheme and unless the forecast is realized in a very short time I think it will not be a reasonable proposition?

A.—What about the Mettur and other projects?

Q.—The outlook is not so bad as it is here. So, I would like to know from you in how many years the whole forecast will be realized. You have the experience of the Cuddapah-Kurnool canal where even those areas which are commanded by the canal do not take water. That is one difficulty?

A.—Here there is more necessity for using the water. But, under the Cuddapah-Kurnool canal area there is more rainfall than in this famine zone and so they do not take water sometimes. But here there is necessity for utilizing the water. So, conditions under the Cuddapah-Kurnool canal will not be repeated and my enquiry is to the same result.

Q.—Supposing Government bring in legislation that people whose lands are commanded should pay. Do you think they would agree? And would there be no complaint?

A.—No complaint. In fact I have consulted several landholders in this district and they are for taking water; only, they want some graded system of assessment year after year.

Q.—The second question is, will the people be able to bring all their lands under cultivation and will they be willing to do that? Yesterday the Collector told us that the average holding should be 50 acres. Even then, will they bring all this acreage under cultivation or will they grow dry crops in a large area and bring only a small area under wet cultivation?

A.—Water is also given for dry crops.

Q.—Even though they have a large area and they take water only for a smaller area the tax that they will have to pay for the water they use will be only less?

A.—No, they may be taxed for all the lands under the project, or they should relinquish that portion of the land in favour of Government for assignment to others. If they cannot make use of the land we will have to charge them for all the lands in their occupation.

Q.—Will they agree to such a course, i.e., without taking water for all the lands will they be prepared to pay the tax for the area in their possession?

A.—They must be made to agree.

Q.—We were told by the Collector that if we make any such proposal there will be rebellion?

A.—I don't think there will be rebellion.

Q.—Not exactly rebellion, but that shows the feeling of the people?

A.—I have had a talk with people who own a thousand acres and they have told me if they are not able to cultivate all the lands they are prepared to pay the assessment in full, but in a graded manner. All that they are keen about is the introduction of the Tungabhadra project.

Sri KALLUR SUBBA RAO: Q.—Do you approve of the idea that no man should have more than 50 acres if they cannot bring the whole of it under cultivation?

A.—I am in favour of legislation to that effect.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—If you undertake legislation and say that the whole land should be brought under cultivation, you say the people will be willing for it?

A.—I have consulted various representatives of the district and they are for bringing the whole area under cultivation.

Q.—Within five years?

A.—Whether it is within five, six or seven years, does not matter.

Q.—There will be no objection in the case of those not able to bring the area under cultivation?

A.—No.

Q.—The question will arise as to what valuation should be made?

A.—Not their own valuation.

Q.—You are prepared to value the lands at the present rate?

A.—Yes. now and not when it is finished.

Q.—You think there will be agreement on this?

A.—Yes.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—You think bigger ryots will induce the smaller ryots to come over there and cultivate the entire area?

A.—Yes.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—With reference to crops to be grown, there are some difficulties, for instance, the alkalinity of the soil. For that they are making experiments in Siruguppa. There will be difficulty of enforcing rotation of crops?

A.—The ryots will agree, though in the first instance they may object, but if Government officers insist on rotation they will see the reasonableness of it and in the end agree.

Q.—Will the people agree if legislation is made for control in regard to rotation of crops being placed in the hands of Government?

A.—Yes.

Q.—Don't you think that people would like to be free in matters like this and will they protest?

A.—No. The same attitude was taken up by the ryots in Munda when the Mysore Government wanted to insist upon landowners under the Irwin canal cultivating sugarcane. They said, why should you impose conditions and we shall grow the crops as we like. After persuasion and tact on the part of the officers they induced some of them to grow sugarcane. Now I see that everyone is anxious to grow sugarcane and have accepted the conditions imposed by Government. Here also the ryot may in the first instance feel that it would be an interference with his liberty, but once you persuade him I don't think there will be difficulty in asking the people to grow this or that crop.

Q.—Under the Irwin canal the question was different; a large portion of the land was in possession of the Government and they assigned it to others under certain conditions. That facilitated matters? Supposing the Committee propose that only after an agreement is reached on these matters they may consider the taking up of the scheme, you think the people will agree beforehand?

A.—Yes.

Q.—You are thinking of starting a spinning mill for giving employment. Have you had experience of a spinning mill so far?

A.—Bellary does not seem to be quite as rich as Coimbatore. Here the capital required was not forthcoming.

Q.—Was any attempt made by anybody?

A.—There was one mill which was stopped. It was first started in 1882 and after working it for some years, one Mr. Venkata Rao who was running it, later on sold it to a gentleman at Bombay.

Q.—You think want of capital is the reason?

A.—Yes.

Q.—With reference to the marketing of cloth, you think Government will have to take it over?

A.—Yes.

Q.—Even now they are finding it difficult?

A.—The reasons may be different.

Q.—You want organization in the producing centre as well as at the other end. Do you think it is due to the fact that they are not businesslike

or that they suffer because the agency that has been brought into existence is not able to cope with it?

A.—The trouble is at both ends. They must also see to the particular design of cloth that may be in demand.

Q.—So, if there is somebody who will say what particular designs are in great demand then it will be possible?

A.—Yes.

Q.—For that you require an elaborate machinery?

A.—Yes.

Q.—So, as things stand at present you are not for leaving it to private agency?

A.—No. Because if it is private agency there is profiteering and so it is better to have it under Government agency.

Q.—Even now there are a number of handlooms?

A.—Yes.

Q.—You have also got cumbly weaving?

A.—Yes.

Q.—You think that apart from famine relief measure, it is the duty of the Government to organize these things?

A.—Yes.

Q.—Have you got any idea of the yarn that is used in weaving?

A.—No, I have no idea.

Q.—Your cotton here can be manufactured into 30s?

A.—Yes.

Q.—You can supply this yarn to a large number of handloom weavers in this area?

A.—Yes.

Q.—You have also got a number of places where you can locate these mills?

A.—Yes.

Q.—Can you suggest any particular place?

A.—Tungabhadra, Hagari, Bellary or Adoni if there is sufficient water-supply.

Q.—Even there do you want the Government to start them or will the people start?

A.—Some Government support is necessary to encourage people.

Q.—You want the organization to be by Government?

A.—Not entirely by Government.

Q.—Are there people likely to come forward and do it, supposing Government take shares for a lakh of rupees?

A.—I think we can get an agency to manage the mills if Government take shares.

Examined by Mr. L. B. GREEN: Q.—In section V you refer to the possibility of establishing a spinning mill in a central locality. The question of Government support for a spinning mill either at Bellary or Anantapur has been under the consideration of Government since 1932. I would like your opinion as to which of the localities suggested would be the best place for the establishment of a mill?

A.—Bellary would be a proper site, but Pamudi will have better facilities in the matter of water-supply.

Q.—Do you think Pamudi would be a good locality?

A.—Tungabhadra also may be considered because there will be water facility always. There will be no trouble. Next I would prefer Bellary.

Q.—If a mill is set up you think Government support is necessary?

A.—Yes.

Q.—To what extent?

A.—To the extent of one-third capital.

Q.—You think the balance can be found from the Bellary district or all the Ceded districts put together?

A.—If Government take shares to an extent of 7 lakhs, we may raise the other portion from all the Ceded districts by canvassing.

Q.—You won't object to capital coming from outside?

A.—No.

Q.—You think a spinning mill alone would be enough or spinning and weaving mill combined?

A.—I want only spinning mill because cottage industries can be developed in regard to weaving, for in several villages there was weaving before. I want to avoid competition with the handloom weaver.

Q.—Under the head cottage industries, you refer to hand-made paper. You say the manufacture of hand-made paper was carried on. Do you know what raw material was used?

A.—I do not know what raw material was used, but I have got a sample of the paper on which my father has written my horoscope and I have no objection to give it from which you can make out from what raw material it was made.

Q.—You say there is possibility of hand-made paper industry being revived?

A.—Yes.

Q.—Government have deputed ten youths to undergo training in the manufacture of hand-made paper and when they return on the completion of their training they will set up centres for making hand-made paper in different areas of the province. I would like you to let me know whether you have considered there are facilities for hand-made paper in these districts?

A.—I believe it exists. I know at the time of the educational exhibition which was held recently in this place there were seven or eight exhibits of hand-made paper by the students of the school. It is that that made me suggest that.

Q.—Will you give me information about the material of which that paper was made?

A.—I have not investigated the matter, but I shall make enquiries of the headmaster of the school or the Educational Officer and send the information to the Secretary as soon as it is got.

Q.—You refer to various measures of relief. Apart from hand-loom and cumbly weaving, what are the village industries which could be developed with Government support?

A.—Cumblies and cloth and afterwards paper industry, tanning also can be undertaken as a village industry. There is also carpet-making in Adoni and it can be introduced in other centres also.

Q.—Have you special knowledge of cumbly-weaving in Salem?

A.—I have no special knowledge.

Q.—If it is to be made a cottage industry don't you think there is paucity of wool?

A.—I am not aware of it. If good pasturage is available it can be done.

The CHAIRMAN: Q.—In regard to the question of compulsion, you say conditions may be imposed to compel intensive irrigation of dry commercial crops. May I know, how you would suggest that to be done?

A.—My suggestion is the ryot must pay the amount of assessment whether he uses water or not. If he is not able to cultivate the whole area, we may ask him to give up or relinquish it in favour of Government and they may assign it to others. That would compel him to cultivate the whole area even by bringing coolies from outside.

Q.—Your condition is that lands not cultivated by the water should lapse to Government?

A.—Yes.

Q.—How will you insist on these conditions?

A.—By agreement.

Q.—You think that could be done? How?

A.—That could be done only if we introduce special legislation.

Q.—You say "I do not think any dry-farming methods will make the ryot independent of the monsoon." Have you heard of the results achieved by modern dry farming?

A.—Yes, I have heard of it.

Q.—Still you think those methods are not beneficial?

A.—I do not think it will relieve distress caused by famine.

Q.—I do not quite understand what you say about afforestation. You say it is eminently desirable, but you doubt the success of the scheme in the famine area? Do you think it is desirable or not?

A.—It is desirable.

Q.—Then why do you say it will not be a success?

A.—The first requisite is water for planting and growing of trees, but the difficulty is we have no water in the neighbourhood.

Q.—Under section 6, you say in your written evidence, "the manner in which the relief works are conducted and especially the breaking of stones in the hot sun detract from humanitarian considerations," I take it you mean that it is an unpleasant task, which people object to?

A.—Yes.

Q.—Would you be surprised to learn that they take great interest in breaking the first stone?

(No answer.)

Examined by Mr. F. M. DOWLEY: Q.—It has been said there will be no objection to introducing legislation to make people pay for the water compulsorily, that is to say, whether they take it or not? I suppose you agree with that?

A.—Yes.

Q.—And you also are for making the owner cultivate the whole of his land. Do you mean to suggest that he should be compelled so that if he is unable to do so, Government should buy the land?

A.—Yes.

Q.—At what rate should Government purchase the land?

A.—At the current rate.

Q.—So may I take it that you don't advise Government to take up the land until somebody is definitely unable to cultivate it?

A.—Yes.

Q.—What do you mean by Government acquiring the whole area?

A.—That is, Government taking away the lands from those who are unable to cultivate it and selling them to others for cultivation.

Q.—Will it be more businesslike if Government sell excess lands at once limiting the extent to 100 acres to each person?

A.—I have no objection; but people may say it is socialism or some such thing.

Examined by Mr. H. R. DOGRA: Q.—Under section VI (d) you say as one of the measures of relief: "(d) Construction of roads where it is possible to consolidate it efficiently and properly and where they could be maintained in proper repairs during succeeding years." But at the same time you say "the breaking of stones detract from humanitarian considerations."

A.—I say breaking of stones in the hot sun is not humanitarian.

Q.—Then how can they do consolidation work when the rain sets in if they do not keep the stones ready?

A.—Why, in winter they can do breaking of stones whether the famine is prevalent or not. In fact you can adjust the whole thing in such a way as to do the breaking of stones when the sun is not hot.

Q.—But the work starts in summer?

A.—Last year we began only in December.

Q.—These stones can be spread only when the rain sets in, and so we have to keep the stones ready before that?

(No answer.)

Examined by Sri KALLUR SUBBA RAO: Q.—You admit that Tungabhadra scheme does not serve the whole famine area?

A.—Yes.

Q.—You approve of the proposal of Government taking away lands from those who are unable to cultivate them and handing them over to those who can?

A.—Yes. I think there will be people ready enough to purchase those lands. People from other districts may come.

Q.—Are you in favour of restricting the extent of land that one should possess, that is, each man possessing not more than 100 acres?

A.—Yes.

Q.—You said about spinning mills, that Government should take one-third of the capital. Why should not Government take the whole responsibility?

A.—I think the public also should take a share in it, so that they can have experience in it, and also so that they can co-operate with Government.

Q.—Do you restrict the public only to the Ceded districts?

A.—I don't think the Ceded districts will contribute the necessary capital, and so private enterprise will come from other districts also. I want the public also to take a share in it, so that ultimately as in the Madras Pencil Factory, the Government can entirely leave the enterprise in the hands of private agency. In the beginning I have no objection to the Government taking a major portion of the share and the public only a small share.

Q.—I think you know of the existence of the kudimaramat system the people contributing labour. May I know what your experience is?

A.—They are not doing anything at all.

Q.—Do you think the conditions are such now that Government can ask people to take up its responsibility and ask the people themselves to do it?

A.—Probably they can do it by making some arrangements; by contribution of labour, or by payment of some money for labour; or if they do not even do that Government can pay for that.

Q.—What about the Kanekal experience? There are factions in the village. The local representative committee will form one group; in fact they will form a major group; and the minority group will be against doing any labour and there will be perpetual quarrel. To avoid it are you in favour of the proposal that half-an-anna in the rupee should be set apart for the village kudimaramat, and then asking the people to enforce labour?

A.—Yes.

Examined by Sri N. SANKARA REDDI: Q.—In your written answer you have said that the present relief measures involve a colossal waste of human energy, and you have suggested one of the relief measures, spinning of yarn and weaving of cloth? Is it not the general experience that such yarns and cloth find a market for some time, and then afterwards there is nobody to purchase them? Will that not also be a colossal waste?

A.—There will be some delay in finding a market; but eventually they will be used. And you should see that Government officials and non-officials encourage the use of local-made cloth. There will be some delay at first, but eventually the whole thing will be consumed.

Q.—Will it not be better if khaddar or local-made cloth is supplied to the police and also to the Government servants who are now entitled to clothing?

A.—Yes.

Examined by ABDUL RAWOOF SAHIB Bahadur: Q.—You say in the first sentence of your written evidence that "the Tungabhadra project is an imperative necessity." You are aware of the demand for the formation of provinces on linguistic basis?

A.—Yes.

Q.—You are also aware that this project will be in two provinces?

A.—Yes.

Q.—You are also aware of the implications of this?

A.—Yes.

Q.—In the light of this, would you prefer the project first and the formation of the province next, or vice versa?

A.—I prefer the project first.

Q.—You know the project will be taken up only if it is productive. From the report I find it will give a return of only 4 per cent?

A.—Even if it is three per cent I would urge the project should be taken up in the interests of the famine area.

Q.—Yesterday the Collector said that it will cost about Rs. 8 per acre for the ryot to convert the land into wet from dry. Do you think the ryot will be able to spend that sum?

A.—Yes.

The CHAIRMAN: The Collector said Rs. 8 will be the cost required for converting the land into irrigable dry and not dry into wet?

SEVERAL MEMBERS: Yes.

Q.—Even from that point of view, you say the ryot will be willing to spend Rs. 8?

A.—Yes.

Q.—Coming to the starting of spinning mills, you say, Government should invest some capital in them. Is it to create confidence in the people so that they may invest their money you advocate it?

A.—Yes.

Q.—You suggest Tungabhadra as one of the centres for starting mills. Tungabhadra is not a cotton-growing area such as Bellary and Adoni?

A.—There will be plenty of cotton coming from the Nizam's Dominions; and I think, even on our side, we have sufficient cotton.

Sri KALLUR SUBBA RAO: Q.—You said you would prefer the project first to the formation of the province. What is the connexion between the two?

A.—Our apprehension is if the province is formed the inauguration of the Tungabhadra scheme will recede. For the reservoir will be in one province, that is the Karnataka Province, and the main area served by the scheme will be in the Andhra Province.

Consequently the question of contribution of money for the upkeep of the scheme will arise, the question of distribution of waters will crop up; the Karnataka Province may refuse to contribute anything as they are not benefited—all these things will create confusion and trouble. So we prefer the project first.

Q.—So if the project is formed, you have no objection to the formation of the province being postponed?

A.—That is beside the mark; that is another question.

The CHAIRMAN: Q.—May I go one step further? You say, "project first, province next." Do you anticipate trouble if the province is formed first and the project taken up next?

A.—Yes. As I said with regard to irrigation, about the distribution of channels, about the distribution of water and about the contribution of money by the two provinces, a lot of trouble and disputes will crop up.

Q.—The question arises by implication. Suppose the whole scheme is put under one administrative area. Do you favour the suggestion?

A.—I am not prepared to answer that question.

ABDUL RAWOOF SAHIB Bahadur: But these difficulties are not insurmountable.

The examination of Sri V. M. GIRI, Secretary, District Congress Committee, Bellary, was then taken up.

Written evidence.

The Ceded Districts are subject to chronic famine. The intervals between famine years have been very short, about five years and sometimes less. So it has been a continuous famine as it were for the past decade or two. This area comprised the territory of the "Never to be forgotten Vizayanagar Empire," a few hundred years ago. Accounts of the Portuguese and other European travellers, who visited the Capital, i.e., Hampi, near Hospet, during their travels tell us of the glory, wealth and prosperity of Vizayanagar. From the narratives of these writers it is clear that there was a flourishing trade, the Empire being served by as nearly as sixty ports. The happiness of the people during those days could be due to the flourishing trade, irrigational facilities provided by the Emperors, encouragement of fine-arts and indigenous industry. Even to this day one can see the irrigational facilities provided by these Emperors, viz., the Raya channel, Truth channel and the channel near Ramasagar, near Hospet, in Bellary district. These channels get their supply from the river Tungabhadra. In addition to the channels, we find a large number of tanks built by these Emperors in and near about Hospet. The 'Rayakeri' and the 'Danakana kerri' near Hopset and the Danoji tank, are proof of the forethought of these Rulers in providing them as means for storage of water. Therefore it is that we urge that the present Government should seek to remedy the poverty, distress and consequent famine, in this area, by providing irrigational facilities, i.e., by inaugurating the major project the Tungabhadra, immediately, and eradicate famine once and for all. We wish to emphasize that the Government should tide over all the difficulties in the way of its immediate materialization.

Nature has been unkind to this area, because the rainfall has been scanty, capricious and hence ill-distributed during the year. The average rainfall in the Ceded Districts has been very low, the lowest being in the districts of Anantapur and Bellary, i.e., about 22 inches in the year. Even this if received in the proper months could have yielded a little crop to the ryot but being ill-distributed often spoils the crops. During years of deficient rainfall, the crop yield being very low, almost nil, there has been a recurrence of famine. The previous famine was in 1935, and it has made its appearance again in 1938.

Consequent on a famine being declared the usual measures of relief have been undertaken by the Government and they are:—

- (1) The suspension of the current year's land revenue.
- (2) The remission of the arrears of land revenue in accordance with the rules under the Land Revenue Code.
- (3) Starting of famine relief works, such as laying out new roads, collecting metal for existing roads. Generally metal collection work has been undertaken as famine-work, though provision for other work has been made under the Code.
- (4) Advancing Takavi Loans at cheap rates of interest for buying seeds, or bullocks or fodder for cattle.

(5) Giving out doles to children, old and disabled men and women, and to middle-class families.

(6) Opening of free kitchens for disabled dependants of relief workers.

All these measures if taken in time may be able to keep the villagers alive. One cannot expect the finances of the ryot to improve by these measures, so much so, after a famine year the ryot finds himself—

(1) more indebted;

(2) is deprived of his cattle (being unable to support them, sells them for a pittance);

(3) has to invest heavily in purchasing new cattle after the famine to begin his sowing operations;

(4) his lands are uncared for in summer during the famine, resulting in a deterioration of their productivity;

(5) is demoralized owing to the dole; and

(6) is in poor health having lived on poor food during a famine year.

The ryot is the main-stay of all other professions in a predominantly agricultural country like ours. The distress of the ryot affects the rest of the population directly or indirectly.

During a famine the Government loses by—

(1) Suspensions and remissions of assessment which directly decrease the income of the Government.

(2) Famine relief measures are a heavy drain on the resources of the Government.

(3) People suffering from pangs of hunger, take risks in satisfying that hunger by committing crimes, which have to be put down by Government. This means an extra expense to the Government.

It would appear that the Government has incurred from these famine-relief works from the year 1876 to 1932, nearly three crores of rupees, by way of direct cost, for the districts of Bellary, Anantapur and Kurnool. This takes no account of the indirect cost by way of suspensions, remissions of revenue, or the loans granted for purchase of fodder and the losses of the ryot which are enormously greater.

These considerations should weigh with the Government in seeking a permanent remedy to prevent famine in these districts.

Major project.—The Thungabhadra Project presents itself from all accounts as the one and the only remedy to prevent famine. The project has been under investigation from 1902, undergoing scrutiny and investigation at the hands of various Engineers, and supported by all of them as the one remedy to prevent famine in Ceded Districts. The scheme as at present is estimated to cost Rs. 10 crores, and irrigate a million acres.

We should like to point out that the cost is not heavy comparing the cost to the Government from famine-relief works, in the past, though we feel that the question of cost should not be the main consideration, when it is to result in the permanent well-being and prosperity of a large population. The Thungabhadra Project is a scheme depending on an unflinching source of water-supply and therefore the best remedy for affording complete protection to the ryots of the Ceded Districts, usually subject to famine. Taking the Bellary district, the project-waters run through the taluks of Bellary, Adoni, Alur, Siruguppa and Rayadrug, i.e., the Eastern taluks, which are the black-cotton soil area. The western taluks are comparatively better suited for minor irrigation works, and sinking of wells, as the soil is red in most parts. Thus the whole district can be covered up by the major project and other minor irrigation works and wells, suitable to the areas.

We have some knowledge of irrigation under canals. The conditions obtaining in Kurnool district, under the Cuddapah-Kurnool canal have been referred to in the Questionnaire. The waters of the Cuddapah-Kurnool canal were intended for paddy and other valuable crops, but the waters, we learn, were insufficient to grow sugarcane the more remunerative crop. This has been the cause for raising of dry crops during years of deficient rainfall.

We are of opinion that the analogy of the Cuddapah-Kurnool canal is not correct, and the ryots could be induced to use the waters for wet crops by the assessment being kept at the level of the dry assessment during the first five years, and increased gradually thereafter. A fair portion of the area coming under the project is fit for raising garden-crops. The low assessment would give an impetus to the ryot, to grow these garden-crops and other wet-crops. The Government can also make the use of the waters compulsory on the part of the ryot. Thus the project can be made to yield the best results.

We suggest the development of a Hydro-Electric scheme, along with this project, as is done in many parts of the Presidency. We are sure such a scheme will make the project more remunerative.

The canals under the project may be made navigable with a view to easy and cheap transport. The question might be thoroughly investigated in relation to the existing conditions under the Cuddapah-Kurnool canal.

We cannot sufficiently emphasise the absolute necessity for taking up the Thungabhadra Project immediately, as a permanent solvent, for the whole area affected by famine.

Minor Irrigation schemes.—These have been referred to in Clerk's report. The Chikka-Hagari and Chinna-Hagari schemes have been discussed. But we think that the attention of the Government should not be deflected from the main project referred to above, for the present. The early inauguration of the Thungabhadra should engage the sole attention of the Government.

The tanks form another source of minor irrigation. These have been neglected in the past and instances of these having been sold are also to be found. The feeder channels have silted up and washed away in some cases. If that is so, the number of these sources are about to decrease and consequently the area under irrigation by them. It is observed that the amount spent on the upkeep of these sources is very low. Removal of silt in the feeder channels, repair of the courses of these channels, will feed the tanks. We do not agree that the failure of the monsoon will make them useless in seasons of distress. The storage of water in years of plenty will mitigate the rigours of famine by providing water for men and cattle, where these are the only sources of supply of water. So we think that an active scheme of reclamation, restoration and reinforcement of bunds of tanks, should be undertaken by Government. The 'Kudimaramath' practice can fruitfully be revived and given a statutory basis.

In addition to these, we suggest the digging up of Vakranis, wherever there are vankas, which will supply fresh water to the village folk. This can be considered a part of the scheme for supply of protected water-supply in rural areas undertaken by the Government.

Wells.—The necessity of digging up of more wells in order to supply the elementary needs of the people, cannot be disputed. But this need has to take into consideration the nature of the soil and the water. We agree to a certain extent with the statement in the Questionnaire, that in black-soil areas the sub-soil water is usually blackish, non-potable and probably deleterious to crops. But there is a hope that the sub-soil water has a tendency to change its state, or grow less brackish, in case they are situated near streams or Vankas. These aspects might be considered in any scheme of extension of wells in black-soil areas.

Contour bund-forming.—There are difficulties in the way of well irrigation on a large scale, as evident, from the above. Then the next remedy that suggests itself to us is the extensive bunding up of the tract. This will in no way affect the supplies to the minor irrigation sources. We do not understand what is meant by contour bunding. But if it is of the type carried out in United States of America—vide their report on agricultural operations in 1936, the scheme is costly and hence deserves to be examined by Government. The bunding experiments carried on in the Agricultural Research station, Hagari, are helpful and worthy of being copied by the ryot, as is being done already by farmers near the Hagari station.

The experiment at Hagari has resulted in the retention of rain-water and moisture in a greater percentage. This prevents the fine soil being washed off after a heavy rain. Experiments carried on in United States of America, one of the biggest agricultural countries, show that the soil is denuded of its fecundity by continued washing of fine soil during rains every year. It is contended that the soil gets impoverished every year and so the United States of America Government have carried on extensive bunding to gain the advantages of retaining moisture in the land, and prevent the washing away of fine soil by the run-off water during rains. We would urge the Government to emulate the example of United States of America.

It has been proved from the statistics available at the Hagari-farm, that the bunding experiment has yielded good results. The crop yield even in a famine-year like the present is (As. 12) twelve annas. Further, it has helped in retaining 18 per cent of the rain-water, while without bunding only 10 per cent is retained. The increase is appreciable, worthy of achievement and is a boon in a famine-year. Another advantage from bunding is the filling up of breaches and fissures in the land. To increase the retention of the moisture in a larger degree, the Hagari Research-farm, is using a basin lister. We are of opinion that these methods should be made popular with the ryot, by having demonstration station in every taluk, by suitable literature and by propaganda.

Dry-farming.—The Hagari Research station has been experimenting with certain types of cotton and cholam. The result obtained by them show that these types are good for our soils. The Agricultural department should popularize these types, which give a better outturn to the ryot.

Afforestation.—To ask for more rains of the skies would look preposterous to fatalists who think rains obey an agency beyond the ken of human intelligence. But deductive science has indicated that rains obey certain Nature's laws, and this can be controlled to some extent.

When a Province in the United States of America began to suffer heavily for want of rains, investigation led the scientists to the real cause of the successive bad years. They found the forests in that province completely denuded of their trees and deduced that denudation to be the cause for the failure of rain. The authorities took the cue and started to afforest naked hills by regular, organized arboriculture. They found the results answering their efforts and expectations, and have thus set before us an example worthy of imitation.

Coming nearer home we observe that the forests of Sandur State and Anantapur near Thornagallu Railway station, are denuded of trees regularly, which are carted to Bellary as fuel, every market-day (Friday). A long line of these carts could be seen on the Bellary-Hospet road, on Thursday nights. We are not aware of any fresh planting of trees in these forest areas. Any visitor to this or the neighbouring district of Anantapur can well be impressed by the fact, that for miles and miles he sees not a single green patch, but barren tracts, extending almost to the horizon.

Once it is admitted that forests full of trees attract rains, then we shall have to create such forests, by regular and systematized arboriculture. This area has been referred to as "Dandakaranya," in the Ramayana giving us an insight into the nature of the region.

An experiment tried by a former Collector of Bijapur district in the Bombay Presidency is worthy of mention. He is said to have issued orders to his village officers, to observe a particular day as an 'arbour' day. On that day the villagers had to take out a procession in the village and plant trees in the Government open ground adjoining the village. The arbour-day was observed in many villages in the district. These efforts should be organized so that the trees planted grow up to be fairly big.

We would suggest to the Government to undertake the following method of arboriculture:—

- (1) The Government is giving waste lands to Harijans. If Government proposes that the lands would not be assessed for 30 years provided the tenant plants and preserves a particular number of big trees (margosa, tamarind and mango) in a portion of the field to be fixed at the time of transaction, it will act as an incentive. The income from the trees should be enjoyed by the tenant, but he should be bound to show a particular number of full grown trees within ten years of the passing of the lease.
- (2) Then there are the alluvial lands on the river banks. Government should not hasten to levy assessment over these lands. They should give them to the adjoining owners free of any assessment provided they agree to plant and preserve at least babul trees on this soil. These trees will protect the main portion of the land from being washed away by the current and will also provide fuel to the owner.
- (3) The Local Boards and Municipalities should undertake schemes of arboriculture. The road-sides should be planted with trees and nurtured properly. This will provide shade also for travellers.
- (4) Hill sides are just the places for growing large forests. Forests on hill sides are useful in stemming the flow of run-off water during rains, thus allowing the water to soak into the soil and act as an even distributor of water. Moreover, the fine soil carried off by the waters, is deposited at the foot of the hill and near about forming an alluvial deposit, which otherwise would have probably found its way to the streams.
- (5) The existing forests are to be protected and fresh planting should be carried on. Any systematic and regular denudation of these should be prevented. These measures, we think, will help in afforestation of our district in a large measure. Let us hope that this in turn will have its effect on the amount of rainfall in this district.

Alternative or subsidiary sources of employment—Large-scale industry.—The Industrial Commission of 1870 opined that the only remedy for mitigating the effects of famine was the rapid industrialization of these districts. These districts being the black cotton

soil area, we are sure of the possibilities of a cotton spinning-mill, catering to the needs of the various hand-loom centres in the district, like Kurugodu, Hospet, Rayadrug and Yeminiganur. These are big hand-loom weaving centres and provide work for hundreds of families.

Cottage Industry (Existing).—The hand-loom weaving industry is the one cottage industry surviving up to this day all over the Presidency, which can in any large measure provide the means of livelihood for a fair percentage of the population. So it needs all encouragement. The Sale of Cloth Act (1938) passed by the Madras Legislature, is to be welcomed as coming to the assistance of a languishing industry.

The next cottage industry which merits the immediate attention of the Government is the Kamblī industry in this district. Kudithini, Janekunti, Kudligi and Harpanahalli are these centres producing these kamblīs (blankets made of wool). These are woven in hand-looms. The industry is in the hands of Kurubas who form a large section of the population of the district. They are fitted by hereditary training and occupation for the industry. But the industry is suffering on account of the import of cheap and soft Italian rugs. The demand has lessened, owing to coarseness of the kamblī. Bellary kamblīs are being exported up to Colombo in the south and Nasik in the north. It could be developed into a flourishing trade, if the Government could find a device by which these kamblīs could be made soft and pleasant for wear. Better designing and play-of-colours in the production of these kamblīs, will place the industry on a firm footing. Will it be too much to expect the Department of Industry to apply itself towards this end. Otherwise, the industry may in course of time get extinct. The starting of a sheep-breeding centre in the district, with a view to get better wool, might also be investigated.

The carpet industry of Adoni is another important cottage industry in the district. The introduction of better designs, and improved dyeing will place the industry on a better footing than at present.

Large number of hides are being exported from this district to metropolitan centres. We would request the Government to go into the question of developing a Tanning centre.

The All-India Village Industries Association have suggested, hand-made paper, bee-hive industry, and palmyra and date-palm jaggery as some of the cottage industries that could be developed all over the country, easily. We strongly recommended that adequate number of young men in the district be given training at Government expense in the training centre at Wardha.

Soap-stone industry is another of the industries getting extinct for want of encouragement. Utensils made of soap-stone were at one time used largely in this district. Vighams can be easily cut out of soap-stone. These soap-stone utensils being crude are being discarded by our women-folk and replaced by metalware and Chinaware. The possibilities of development of this industry might be gone into.

The development of all these industries will go a long way to mitigate the poverty and distress in the district, and therefore should receive every attention from the Government.

Sparked-water.—We have had no experience of the potentialities of sparked-water. The possibilities may be investigated by the Government.

Purposes of famine relief operations and Principles of relief.—We do not agree with the statement in section 127 that "while the State is bound to protect the people from starvation in time of distress, it is no part of its duty to maintain them at their normal level of comfort or to insure them against all suffering. The wage should be the lowest amount sufficient to maintain healthy persons in health." The duty of the State has increased in modern times. We are of opinion that the Government should not only maintain the Famine worker in health but develop the reserve power in him to tide over the difficulties and after-effects of famine. In an agricultural country like ours the well-being of the ryot should be the sole consideration.

Preliminary measures of enquiry and preparation when the rains fail.—The crop report, as it now obtains, is being sent by the Revenue Department, through the Village officer and the Revenue Inspector, and verified by the Deputy Collector. While submitting these returns, the Revenue Department, is likely in the nature of things, to prepare the same with an eye on Revenue, so we suggest that the Department of Agriculture be entrusted with the task of sending up these returns, or in the alternative, the Deputy Collector should take the assistance of the Legislators of the division, in sending up his final report.

Period of observation and test.—We do not think that the opening of Test-works should be a necessary preliminary to the grant of relief. Immediately there are signs mentioned under section 34 of the Famine Code, scarcity be declared and works of utility started either by Government or by the Local Boards with Government assistance, and

wages paid according to the scale of the Public Works Department. In this case works can be started near the home of the villagers, without reference to the number of these people attending to these works. Prevention is better than cure. But if even after this scarcity, works are opened, the number offering themselves for work shoots up, Famine relief works may straightway be started.

Declaration of distress and commencement of relief and description of the various measures of relief.—Chapter VI of the Famine Code enumerate the various measures of relief, preservation of cattle-being one of them. This has been usually done by granting Fodder-loans to the ryots. We are of opinion that the Government should take charge of the cattle, and thus prevent the selling of cattle by ryots to butchers, owing to their inability to maintain them. These cattle may be maintained at Government cost and returned to the ryot after the famine, since he would need them for agricultural operations. The ryot who resorts to the relief camp, cannot be expected to maintain his cattle during the period of stress.

Scale of wages and allowances and the diet scale.—The standard of wages fixed for famine labour is antediluvian and must be raised to the level of the Public Works Department wages. The scale of wages were drawn up in 1875. The scales of salaries of all Government officials are much higher now than those existing in 1875. The scale of famine wages should, in our opinion, be increased in justice to the labourer.

Besides, we would recommend that the Government should institute a system of equal wages for all adults, men and women for a eight hours work, which should replace the present task system. That the Ceded districts ryot normally eats thrice a day, must be taken into consideration in fixing the wages.

Section 97.—We think that the difference between classes I and II should be done away with, in view of an equal wage and eight-hour work suggested by us above.

The scale of diet allowed to a famine labourer is poor. He is normally accustomed to take onions, brinjals and greens. We have to bring to the notice of the Committee, that a convict in jail gets a better diet than the labourer at the camp who toils honestly. We think that the diet should be improved, by increasing the quantity of pulse, salt, ghee, oil and condiments and vegetables, on a par with jail-diet.

The grain equivalent system works a great hardship and should be abolished.

(c) To ensure that the worker spends his entire wages properly, we suggest the following:—

- (1) All toddy shops within a radius of 8 miles should be closed, immediately famine is declared.
- (2) Money-lenders, specially, Pathans, should not be allowed to harass these labourers.
- (3) Co-operative grain stores be opened near the camp.
- (4) Announcement of a Moratorium for the debts of these labourers might be considered by the Government.

Gratuitous relief.—Relief should be extended liberally and to all classes mentioned in the Code.

The size and nature of the task in Famine-works.—The Famine Code mentions a variety of works that should be taken up for relief immediately famine is declared, and mentions, stone-breaking in the last resort. But we are pained to remark that this has become the rule instead of an exception. The Code mentions about works of permanent utility, like minor irrigation schemes, removal of silt in tank-beds, and feeder channels, reinforcement of tank-bunds, etc. We would strongly urge the Government to insist on such schemes, and allow metal breaking in the last resort.

We are of opinion that schemes for hand-spinning in hand-loom weaving centres, should be introduced as relief-works. The Bombay Government, we hear, has set apart Rs. 10,000, for such a scheme in the famine affected areas of Bijapur district in the Bombay Presidency, this year.

Expansion of ordinary works as a normal preliminary to the period of test and observation.—Our experience of the famines of 1935 and 1938 show that expansion of ordinary works as a preliminary to Test-works, has not been observed. In our opinion, this should be done ordinarily. This would mean immediate relief and may obviate the necessity of opening of test-works, in case the distress is not acute.

Reduction of expenditure on Famine establishment.—We think that no reduction is possible in the establishment, for an efficient conduct of the Famine relief operations. We are however against the practice of appointing low paid clerks, as Charge-officers, for instance a person getting Rs. 50 or so, to get a jump to Rs. 150 or more.

We wish to point out that often contractors supplying materials to camps exploit famine and charge exorbitant rates. We would invite the attention of the Government to the enormous waste by way of middleman's profit and urge that this should be minimized.

The establishment needs an addition in one matter. Pregnant women in camps are given leave three weeks prior to delivery. At present, it is the male doctor who has to certify in regard to this matter. The services of a lady doctor are necessary and we would request the Government to consider this matter.

Compensation for accidents.—There is no provision in the Code for compensation in case of accidents. Even the Workmen's Compensation Act does not apply to accidents in famine camps to labourers in the act of working. We recommend that the Government will amend the Code, making suitable provision.

Section 40 of the Code.—The section provides for the appointment of a non-official Famine Relief Committee in each taluk and in each large town, by the Collector, immediately the alarm signals indicated in section 34 make their appearance. We are of opinion that the procedure of nominating members to this non-official Relief Committee by the Collector should be changed. Our opposition to nominations is based on the usual aversion to such a procedure for all public bodies. The members should be elected at a public meeting held for the purpose by the Collector.

In conclusion, we hope the Famine Code Revision Committee will give its best consideration to the above memoranda, and make suitable recommendations to the Government.

Oral evidence

Examined by Sri R. SUBYANARAYANA RAO: Q.—You have no personal knowledge of the irrigation system under the Cuddapah-Kurnool canal.

A.—No.

Q.—So from what you heard you wrote "The waters of the Cuddapah-Kurnool canal were intended for paddy and other valuable crops, but the waters, we learn, were insufficient to grow sugarcane the more remunerative crop."

A.—Yes.

Q.—What do you say to the compulsory levy of water-rate to make the Tungabhadra scheme a success?

A.—If it is raised gradually it is all right. There should not be a sudden rise.

Q.—What is your view with regard to kudimaramat?

A.—I am in favour of reviving it. The agency to enforce it is the Revenue department; but they have not been able to enforce it.

Q.—Do you think it can be enforced by village panchayats?

A.—Yes.

Q.—You have given a large number of suggestions regarding growing of trees: and you have quoted the work done in Bijapur district in the Bombay Presidency. Have you had occasion to see here how the panchayat forests have suffered most?

A.—The forests do not exist now.

Q.—Do you mean to say that due to grazing and cutting of trees, the forests have disappeared and that the forest panchayats should be abolished?

A.—I don't want the forest panchayats to be abolished. I would like to suggest that grazing facilities may be allowed discriminately.

Q.—Whom do you suggest should have control of the forests?

A.—Of course forest panchayats.

Q.—You say "We are of opinion that the Government should not only maintain the famine worker in health but develop the reserve power in him to tide over the difficulties and after-effects of famine." Is it your idea that famine has psychologically a depressing effect on the worker?

A.—Yes.

Q.—Is it your idea that the giving of wages and the support the State gives is not enough to restore confidence within himself which the ryot loses? So the policy under-lying the Code should be altered?

A.—Yes. I have said the dole system is demoralizing.

Q.—You are in favour of doing away with the three classes of workers, and have only one class of workers?

A.—Yes.

Q.—What do you suggest for the provision of compensation for accidents? The law as it stands makes a distinction between accidents occurring "in the course of construction of a road" and "for the purposes of construction of a road." If it is "in the construction of the road" compensation is allowed. Do you suggest the law should be amended?

The CHAIRMAN: Government can take it up if there is justification.

Q.—You are interested in the formation of provinces on linguistic basis?

A.—Yes.

Q.—Which will you prefer first, the Tungabhadra project or the formation of the province?

A.—For the present I will not trouble myself with that point of view. I will put the economic progress of the district as the first thing, and then only all the other things.

Q.—So I understand by implication the formation of the province recedes, for the present?

A.—Yes.

Examined by Sri H. SITARAMA REDDI: Q.—You say "All these measures if taken in time may be able to keep the villagers alive." Is it not a fact that these measures are all taken in time?

A.—What I mean is Government do not start famine relief works immediately there is scarcity or distress in the districts. They have to go through the three stages of work before they start famine relief work. What I suggest is that if these measures are taken in time, distress can be relieved.

Q.—Do you mean to suggest, if the current year's land revenue and the arrears of land revenue are remitted immediately there are signs of distress, the famine can be relieved?

A.—Yes. These things should be done expeditiously. Advancing of takkavi loans at cheap rates of interest, and similar things should be done after a period of famine is over.

Q.—You say the canals under the Tungabhadra project may be made navigable with a view to easy and cheap transport. Don't you think it will affect as a competition with railway and motor transport?

A.—I am not concerned with that. But I see we are having a project; it will be more useful and more remunerative if we make the canals navigable.

Examined by Mr. DOWLEY: Q.—We had to stop navigation in the Cuddapah-Kurnool canal. Don't you think the same thing will happen here?

A.—No, because in the Godavari and Kistna canals, navigation is going on even at this time of year. I don't think the experience of the Cuddapah-Kurnool canal will be repeated here.

Examined by Sri T. A. RAMALINGAM CHETTYAR:
 Q.—With reference to your answer about the formation of the linguistic provinces, we would like to know where we stand? Would you put the scheme above all other things?

A.—I would like Government to take it up, and that other considerations should not weigh with them.

Q.—A resolution was passed in the Legislature favouring the formation of the provinces on the linguistic basis. Do you mean to say that we should incur an expenditure of 11 crores and divide?

A.—There is no such suggestion at all. When there is a partition in family, naturally the assets and liabilities are divided.

Q.—Will you be able to bear the whole burden?

A.—I hear we are putting the cart before the horse. The first need for our district is the Tungabhadra project.

Q.—May I take it you prefer the project to the province?

A.—I would suggest even if it is possible that the new province will have to bear the whole liability, we will do it and get a subvention from the Central Government just as is done in the case of Sind.

Q.—Do you realize the implications of the scheme being taken up now? It means the formation of the provinces on linguistic basis will have to be postponed?

A.—It does not matter. So far as our district is concerned, my personal opinion is I would prefer the project to the province. No doubt I am the Secretary of the District Congress Committee; but this subject has not been put before it, and so I have no right to speak on behalf of it. The above is my personal opinion.

Examined by Sri N. SWAMINATHA AYYAR: Q.—As regards navigation in the canals you have to negotiate mountains and other natural obstructions. Have you considered that question?

A.—I am suggesting navigation only subject to that. I suppose this will be thoroughly investigated. I have read about it that it is possible.

Examined by Mr. L. B. GREEN: Q.—Under the head of alternative or subsidiary sources of employment you talk of industrialization of districts, and the possibility of establishing a cotton spinning mill. Do you consider the spinning mill should be a State enterprise?

A.—Yes.

Q.—All the capital should be from the State?

A.—Not all. About one-third, the rest of the capital can be from the district, provided the management is vested in the Government. For in the past such attempts have not been successful.

Q.—Under cottage industries, you refer to the Sale of Cloth Act. Do you consider the present licence-fee sufficient: or do you think it should be raised?

A.—The present rate is sufficient to protect the handloom industry.

Q.—You refer to the cumbli weaving industry. Have you any personal knowledge?

A.—No.

Q.—Have you any knowledge of the raw materials required and the marketing facilities?

A.—Marketing facilities are very poor. But the greatest difficulty is scarcity of wool. The supply is very short, and that is why I have suggested sheep breeding and that additional pasturing facilities should be given. I have no knowledge of how to increase facilities for pasturage.

Q.—You talk of foreign competition and foreign products?

A.—Yes, they are softer and more attractive and good in design.

Q.—Are they used by only the middle classes or by the agricultural classes also?

A.—Almost all classes use them now. Everybody is now getting fashionable.

Q.—Is there any competition from mills in Northern India?

A.—Yes.

Sri H. SITARAMA REDDI: In Poona, there is what is called calendering by machine, by which cumbli is pressed and it becomes soft. Some samples have been sent to Hospet to see whether it cannot be done by people there.

Q.—You talk of tanning industry. Is there any tanning done other than village tanning?

A.—No.

Q.—Do you think there is scope for tanning industry in the Bellary district?

A.—Yes. It is all hides.

Q.—You refer to hand-made paper. You recommend young men from district should be sent. In regard to this ten men have been sent for training?

A.—But none from this district.

Q.—Ten more will be sent shortly, and then your district will have its chance?

A.—I would suggest Government should take more men from this district in view of its famine conditions and poverty.

Q.—Do you think raw material necessary for the industry is available?

A.—It can be supplied from the leavings and paper-cuttings from the press. There are other raw materials also.

The CHAIRMAN: Q.—Are any agricultural operations done in summer?

A.—Yes, like clearing the field of weeds and the like.

Q.—In your written evidence you say that the ryots' lands are left uncared for in summer during the famine?

A.—Yes, when he is in famine camp.

Q.—You also say that he is in poor health having lived on poor food during a famine year. What is the reason for the poor food?

A.—That is the food given in the camps. The ryots are not given enough food in the camps. Ordinarily he gets an anna and a half. What nutritious food can he get for that amount.

Q.—What does he get normally?

A.—About 6 to 8 annas a day for the labourer. So far as the peasant proprietor is concerned, it will depend upon the extent of land he owns.

The CHAIRMAN: Q.—I know that in the Siruguppa-Adoni pipe line workmen were paid 3 annas and women 2 annas. The ordinary labourer never gets 6 annas or 8 annas a day in summer, i.e., from May to July?

A.—He gets 6 annas a day by doing ordinary coolie work as for, e.g., in house building.

Q.—Do you mean to say there is enough work to get him employed throughout the dry season.

A.—No. That is why subsidiary schemes are suggested.

Q.—You suggest the development of hydro-electric scheme under the Tungabhadra project. Are you certain that there would be sufficient head of water to make any hydro-electric scheme possible?

A.—I have no personal knowledge.

Q.—You say that the amount spent on the upkeep of these minor irrigation sources is very low. What is the authority for this statement? Where was it observed?

A.—It was found in one of the Land Revenue reports. I have not made a note of it.

Q.—You say that the amount spent on the upkeep of minor irrigation sources has been very low. Are you not aware of the special accelerated programme of improvements to minor irrigation sources throughout the presidency on which very large sums have been spent. Did you take that expenditure into account when your note was written?

A.—I have not been able to get at those figures.

Q.—But they were published?

A.—My point is that in view of the fact that some of the tanks are sold to private parties and the feeder channels are not kept in proper order, that more attention be given to these minor irrigation tanks and more money could profitably be spent on the existing minor irrigation sources.

Q.—On the last page of your written evidence under section 97 (c) you have made four suggestions. Item (2) says that money-lenders, specially Pathans should not be allowed to harass these labourers? Have you any evidence of the town money-lenders harassing labourers in this district and in what way are they harassing them?

A.—They demand repayment of their dues. The money-lenders lend money at an exorbitant rate of interest.

Q.—Would you suggest any measures to prevent harassing?

A.—I want some sort of restriction of their activities to prevent harassing.

Q.—Your next suggestion is the opening of co-operative grain stores near the camps. Who is going to co-operate?

A.—The villagers.

Q.—Do you mean the labourers on work?

A.—No. Not the labourers but a group of villages could start a store. I suggest that even the Co-operative department may open up a grain store there.

Q.—Do you think that would be possible having regard to the fact that in a famine year grain will be difficult to procure?

A.—The contractor is more intent upon his profit than in giving cheap supplies of grain to the labourers there. That is why I suggest a co-operative store will be useful.

Q.—Have you had any experience of a co-operative society of this kind?

A.—No. I have experience of a co-operative store at Hospet for taking over jaggery. That has been very useful to the ryots. The idea underlying that suggestion is that grain should be supplied to the labourers at a cheap rate.

Q.—The Government are always in a position to control prices. You say that the amount spent on the upkeep of minor irrigation sources is very low. The amount spent in Bellary on the accelerated programme of improvements from 1935 to 1938 is about Rs. 1,45,000. Would you still say that the amount is low?

A.—I do not say that the amount spent is not sufficient, but I say that there are many tanks that still need attention from Government by way of reclamation, restoration and reinforcement of bunds.

Q.—On that point are you aware that there are considerable facilities for ryots who are affected to make representations to the local village officers, Revenue Inspectors, Tahsildars, jamabandi officers and even direct to the Collector. Is it ever done?

A.—I do not know whether it is done.

Q.—You cannot give me any direct authority for the statement that the amount spent on the upkeep is very low.

A.—No.

Examined by Mr. F. M. DOWLEY: Q.—Would you have any objection to Government introducing legislation making the payment of water-rate compulsory if they bring in the Tungabhadra project? Do you agree that it would be feasible?

A.—Yes.

Q.—Would you have any objection to compel the owners holding more than what they could cultivate to sell the areas they cannot cultivate, at the prevailing market rate?

A.—They would naturally do it themselves.

Q.—You are not in favour of legislation to compel them to sell away, the idea being that the development of irrigation would be rapid?

A.—I cannot tell you.

Q.—Do you approve the idea of Government acquiring the whole area and breaking it into economic holdings?

A.—It would be a good idea.

Q.—You say under major projects in paragraph 2 "the western taluks are comparatively better suited for minor irrigation works and sinking of wells as the soil is red in most parts. Thus the whole district can be covered up by the major project

and other minor irrigation works and wells suitable to the areas." Do you think that the investigation and the execution of these minor works could go ahead of the Tungabhadra project and should be considered independent of it.

A.—They can go on independently so far as the western taluks are concerned.

Examined by Mr. H. R. DOGMA: Q.—Under scale of wages and allowances you say that "the scale of wages were drawn in 1875 and that because the scale of salaries of officials has been raised since then, the scale of famine wages should also be increased. Do you know that the wages are based on a grain equivalent?

A.—My point is that the needs of the people have increased considerably since 1875 and that the grain equivalent should be more so that better provision may be made for other items in the diet.

Q.—You say "We would recommend that the Government should institute a system of equal wages for all adults, men and women for a eight hours work which should replace the present task system." Should no work be extracted from them? If so, how and what?

A.—I discussed this question with some charge officers and I agree that the task system be maintained.

Q.—You say that stone breaking is declared to be adopted as a last resort. I don't know exactly where it is mentioned in the Code and what objection you have to stone breaking?

A.—Because that is hard work. Works of greater utility could be done.

Q.—Do you think it is harder than earth excavation in dry season?

A.—Probably it is harder. My suggestion is that works of utility such as the covering up of depressions in village sites, etc., be undertaken instead of breaking stones which lie for years and years.

Q.—Do you want the stone which is collected to be utilized even after the famine is over?

A.—Yes. They should be utilized and should not be allowed to lie idle on the road.

Q.—Have you any objection to the whole of the irrigable area covered by the Tungabhadra project being brought under one administrative province?

A.—Yes. We are now in the Madras province, we would like to continue in it and for the present take up the Tungabhadra project and think of our provinces later on. The whole district should remain *status quo*, as linguistic provinces will mean cutting up into two areas the Karnataka and Andhra.

Q.—Do you know that all projects are constructed from borrowed funds and don't you think that a person who wants to borrow should have enough assets?

A.—The Madras Government have enough assets for the purpose.

Q.—You say that the dole system demoralizes workers? What is the other method you would suggest?

A.—Spinning and handloom weaving.

Q.—In your written evidence you say that "people suffering from pangs of hunger take risks in satisfying that hunger by committing crimes which have to be put down by the Government." Do you think that only poverty is responsible for these crimes?

A.—During famine it is one of the causes of the increase in crime.

Q.—In your written evidence you say "that the attention of the Government should not be deflected from the main project." Hitherto so many minor projects have been stopped on account of the Tungabhadra project. Have you any objection to these projects being undertaken independently of the Tungabhadra project?

A.—I have no objection. But we believe that for the present the Government should confine itself to the major projects which will efficiently answer the needs of the usually famine affected areas in the districts of Bellary, Anantapur and Kurnool.

Q.—There are other areas which are famine stricken where there are several small projects which can irrigate ten to twenty thousand acres which have been put away on account of the Tungabhadra project. Have you any objection to undertake all these projects apart from the Tungabhadra project?
A.—I have no knowledge about them.

Q.—Regarding kudimaramat you say that the practice can be revived. Do you know that Government have not been able to enforce kudimaramat always in the villages?
A.—The practice was there in the past and it can well be revived.

Q.—Do you think that the people will voluntarily give free labour when required?
A.—You should ask them to give labour or a money payment in lieu thereof.

Q.—Do you approve the idea that a kudimaramat tax of half anna in the rupee should be levied and set apart for village improvement work when the ryots are not prepared to give their labour?
A.—I think that the suggestion could be considered.

Q.—Do you think people would agree to that suggestion?
A.—I can't say. I think kudimaramat would be better because that would make the ryots self-reliant.

Examined by Sri N. SANKARA REDDI: Q.—The items given in section 34 of the Code are said to be symptoms of the existence of famine or distress. In these days of improved means of communications and railway transport, don't you agree that the staple price of foodstuffs cannot be an indication of the non-existence of famine?
A.—It is one of the indications and not the only indication.

Q.—Can it be an indication when there is quick transport and competitive trade. Don't you think that this clause should be deleted from the Code?
A.—It may be deleted.

Q.—As regards contraction of credit, don't you think that this clause also should be deleted in view of the fact that in these days of depression there can be no contraction of credit?
A.—No. There is bound to be contraction of credit in times of distress.

Q.—Increase of crime is to be taken as one of the indications of the scarcity or distress. My point is that in these days of improved and quicker transport, robbery or thefts on a large scale is not possible even though there is distress. Don't you think that in these circumstances distress cannot be said to be non-existent because there is no increase in crime?
A.—I think it is an indication of distress, for we have heard that grain granaries have been looted and grain stolen for the sake of food in times of distress. These are all cases of theft.

Q.—Don't you think that they cannot commit crimes under modern conditions?
A.—No. They can do and there are instances. But it is just an indication.

Q.—Do you think that spinning can be effectively organized as a famine relief measure?
A.—I think it could be tried in weaving centres of the district. I have suggested a few centres in my written evidence, places where there are handlooms which can easily take this yarn.

Q.—Don't you think that it would involve any heavy loss to Government if taken as a relief measure?
A.—No, provided the management is given into the hands of an expert body like the All-India Spinners Association.

Examined by ABDUL RAWOOF SAHIB Bahadur: Q.—I find that the expression "we" has been used right through in your written evidence. Are we to take it as a reply from the District Congress Committee?
A.—Our committee appointed three persons to draft a memorandum for presentation to this committee.

Q.—Then I suppose it is a reply from the District Congress Committee and that you are speaking on behalf of that body?
A.—Yes.

Q.—Regarding opening of grain stores, are you not aware that in these famine camps there are such depots where rates are fixed by the Collector at which the contractor should sell. How is your suggestion going to improve matters?
A.—My point is that the contractors make a profit at the expense of the labourer. The contractors also make huge profits in the sale of thattis, tools, etc., used for erecting famine camps. Famine operations are exploited by contractors. This heavy drain of the ratepayers' money should be stopped by minimizing the evil to the utmost. I have suggested that these contracts should be so arranged that there is less profit to the contractors. If there is a Government depot it might be possible to sell grain at cost price.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—I think the famine relief committees may be entrusted with the work?
A.—They are better acquainted with the market conditions than the contractor.
Q.—Nothing prevented them from giving tenders?
A.—They are concerned mainly with giving relief and they did not know that they could also give tenders.

Q.—It is one way of helping the famine administration if the famine relief committees undertake this work?

ABDUL RAWOOF SAHIB Bahadur: Q.—You suggest only co-operative societies. Is the famine labourer exploited by the shopkeeper?
A.—Yes, to a certain extent in the grain depots.
Q.—How, when the rates are being fixed by the Collector?
A.—The quality can be altered.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Don't you know that none of these labourers purchase their grains at these depots but they go away taking their money?
A.—I would also suggest that they be paid in kind instead of in cash.

ABDUL RAWOOF SAHIB Bahadur: Q.—You say in your written evidence that "one cannot expect the finances of the ryot to improve by these measures, etc." How do you think it should be remedied? You have not suggested any means of remedying them?
A.—The remedy lies in expediting relief and by suitably altering the Code in the manner suggested so that he may have better food.

Q.—These are all after-effects of famine. Do you expect Government to make provision for after-effects of famine? Have you any suggestions for giving relief?
A.—I have not made any suggestions. I have merely mentioned the conditions obtaining before and after the famine.

Q.—You want State assistance to tide over all the difficulties. In what ways do you want assistance?
A.—In all ways that the ryot has been affected.

Q.—So far as the cattle are concerned you suggest that Government should take over all the livestock necessary for agricultural operations and maintain them during famine?
A.—Yes, just as they maintain the labourers.

Q.—You refer to the assignment of tanks. You have made no definite suggestions that these should be taken over by the Government?
A.—Where tanks have been assigned already, they should be reclaimed and restored.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Even when there is no condition while assigning that they should be given back when wanted?
A.—I made a general suggestion that in cases where these have been assigned freely Government should resume them.

Q.—You refer to the assignment of tanks. You have made no definite suggestions that these should be taken over by the Government?
A.—Where tanks have been assigned already, they should be reclaimed and restored.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Even when there is no condition while assigning that they should be given back when wanted?
A.—I made a general suggestion that in cases where these have been assigned freely Government should resume them.

Q.—You refer to the assignment of tanks. You have made no definite suggestions that these should be taken over by the Government?
A.—Where tanks have been assigned already, they should be reclaimed and restored.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Even when there is no condition while assigning that they should be given back when wanted?
A.—I made a general suggestion that in cases where these have been assigned freely Government should resume them.

Q.—You refer to the assignment of tanks. You have made no definite suggestions that these should be taken over by the Government?
A.—Where tanks have been assigned already, they should be reclaimed and restored.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Even when there is no condition while assigning that they should be given back when wanted?
A.—I made a general suggestion that in cases where these have been assigned freely Government should resume them.

Q.—You refer to the assignment of tanks. You have made no definite suggestions that these should be taken over by the Government?
A.—Where tanks have been assigned already, they should be reclaimed and restored.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Even when there is no condition while assigning that they should be given back when wanted?
A.—I made a general suggestion that in cases where these have been assigned freely Government should resume them.

The CHAIRMAN: Q.—We cannot resume lands which are in private possession. They can only be acquired.

A.—Then they should be acquired.

ABDUL RAWOOF SAHIB Bahadur: Q.—You refer to the denudation of forests. Is that not an indication that the forest panchayats have not been doing their work properly?

A.—I was referring only to the forests in the Sandur State as it affects the rainfall of this district.

Q.—Do you advocate re-forestation?

A.—Yes.

Q.—Don't you think that forest panchayats are responsible for denudation of a large number of forests?

A.—I have no personal knowledge.

Q.—I suppose the hand-spinning you have suggested is not for the famine labourer?

A.—It could be introduced as a cottage industry during famine to relieve famine distress. It is one of the ways by which a labourer can sit at home and work.

Q.—Do you want all famine workers to be given this kind of work?

A.—No, only in certain places where the people have hereditary training and where there are facilities for hand-spinning.

Sri R. SURYANARAYANA RAO: Q.—Have you examined whether the labourer would be able to earn

by spinning as much as he can by attending famine work?

A.—Yes, 8 hours spinning would give him much more than famine wage.

Q.—But it is only experts that can do so?

A.—That is why I have suggested that it should be introduced in certain places?

Q.—Then you don't advocate that it should replace famine work?

A.—No, I have made this clear.

ABDUL RAWOOF SAHIB Bahadur: Q.—You say that "we however are against the practice of appointing low-paid clerks as charge officers, for instance a person getting Rs. 50 or so to get a jump to Rs. 150 or more." Have you got any specific instances?

A.—Instances have been brought to my notice that people who are drawing Rs. 50 got a jump to Rs. 150. I don't know the names.

The CHAIRMAN: Q.—I am sure you cannot give one instance. When it came to your notice that these contractors are being paid far too much were any steps taken to bring it to the notice of the authorities, the Collector or the Famine Engineer or any one else?

A.—We discussed it with the representative of the district. It did not strike me to bring it home to the authorities and at the first opportunity I mentioned it in my memorandum.

The examination of Mr. S. J. BALRAJ, Executive Engineer, Famine Division, was then taken up.

Written evidence.

I give below my opinion on the questions regarding the Famine Code Revision :—

SECTION I.

1. *Measures for the prevention or mitigation of famine.*—The cause of famine is primarily failure of crops from insufficiency of rain or from war or pestilence. Out of these, the most common in the Ceded districts is due to insufficiency of rain. Any measure therefore to prevent or mitigate famine will be to ensure more rainfall or to tap any sub-soil water available. The average rainfall in these districts is about 23 inches.

With regard to ensuring more rainfall, the only practical measures will be to attract the water in the atmosphere. This can be done only by increasing the forest area and to see that more trees are grown. The hills in the Ceded districts, specially in the Bellary and Anantapur districts are bare of any trees. Huge boulders stand packed up one over the other. Timber producing trees are scarce. But we still find patches of fine trees in the old military grounds and round old temples. We could only assume that the soil was conducive to the growth of trees. But these had been deliberately cut down later. The consequence is that the soil in the hills had been eroded and the bare rocks exposed, which split and crumble owing to the extremes of temperature.

An attempt should be made to plant trees near the foot of the hills and in all available poramboke lands. The ryots should be encouraged to grow trees in their field boundaries. In every village one week in the year should be set apart as a tree planting week. Each villager should be encouraged to plant one tree at least.

More trees will mean more humidity and more rain. The trees in the hill slopes will prevent soil erosion and will promote more vegetation. The bare rocks will once again be covered with soil and with vegetation, and we may expect more rain.

Tapping the sub-soil water is another method in which the ryot could be profited and the rigours of famine mitigated. At present, the sub-soil water has not been tapped to the full extent. Less land is under irrigation in Bellary than in any other districts in the Presidency except the Nilgiris, Malabar and South Kanara. The total area watered by wells, tanks and channels in a normal year is only between 2 and 3 per cent of the net area cropped.

In some of the vankas sub-soil water is met with within a depth of 2 feet to 3 feet below bed even during dry months. This water can be utilized for raising dry and garden crops at least in the borders of vankas. Whereas in other districts we find picottahs and other baling appliances along the vanka margins, we do not see much of these in the Ceded districts.

More spring channels may be excavated and the water made use of. This will help those villages lying close to any river or vanka.

In the Ceded districts except probably in Cuddapah, we find that irrigation from wells is very small. If some agreement could be entered into among the ryots of villages, it may be possible to sink common wells to irrigate about 40 to 50 acres. A well for every 50 acres in suitable localities will help the ryots to tide over a period of drought.

Where there are copious springs, tube wells can also be tried.

There is another method of preventing famine. Instil into the minds of the people more self-reliance. Famine is not the correct word to be used for the condition prevailing. We can call it "Unemployment" or some cases "Distress." December to August is a period, when the ordinary ryot has no work in the field. Harvesting is over and time for ploughing has not come. Of course, if the season had been bad, some of the ryots may not have enough to eat. It is only these that have to be helped. Let us see how many people will attend the Famine camps if we give them their wages in grain and not in money, setting a task for full wages. We will surely find that the number of workers will go down considerably. Workers, who complain that the wages are not enough, refuse point blank a free feed in the kitchen. This either shows that they have enough to eat in their houses or that the wages, which they get in money are more than their requirements for food.

Generally, the man who works in the field is not paid in cash, but in kind. If we also start paying the wages in kind, we will be gradually weaning them out of their desire for famine works and they will be more self-reliant and prudent.

2. (a) (i) *Irrigation—Major.*—I have practical knowledge of irrigation under canals in the Coleroon Anicut System. If the ryots were left to grow what crop they liked, the same result as has been noticed in the Kurnool-Cuddapah canal will follow. The average ryot is very conservative in his methods. He does not easily deviate from the methods of his forefathers. He does not know any theory about agriculture, but only goes by practice and experience. He has to be taught and given practical demonstrations about rotation of crop, improved ploughing methods and contour bunding.

If the ryot himself is convinced by the Agricultural department that new methods of cultivation will improve the yield of his land, he will follow these and the failure of irrigation in the Kurnool-Cuddapah canal may not be repeated in the Tungabhadra Project.

If the Tungabhadra Project materializes, it is *not* going to prevent or mitigate famine in all parts now liable to famine.

I do not exactly know how the main canals of the Tungabhadra run. I presume, irrigation from the canal will be only for dry crops, and canal water may also be sent to some of the rain-fed tanks, where wet cultivation is being done now.

The main reasons for my saying that Tungabhadra Project is not going to prevent famine in all the parts now affected are as follows:—

1. Some of the famine area is outside the land covered by the project. Parts of Siruguppa, Adoni and Rayadrug taluks are affected in the Bellary district and the project is not going to help the taluks in Kurnool district excepting the Kurnool taluk. Neither is it going to help the famine affected area in the Anantapur district.

2. Very few people, who report to the famine camps are skilled workmen, who could be employed in the actual execution of work. They are not used to hard manual labour.

3. The people have no experience of irrigation for dry crops. In course of time they may, but not at present.

4. It may cost about Rs. 40 to Rs. 50 an acre to form terraces for dry irrigation and the average ryot has not this much of capital.

5. The Ceded districts are so thinly populated that it is doubtful whether there will be enough men for cultivating the land, when intensive cultivation is started in the whole project area.

No doubt a portion of the famine area, i.e., the northern portion of the Bellary and Kurnool districts will be benefited by the project and famine may be a thing of the past in these tracts. But the project will not prevent or mitigate famine in all parts now liable to famine.

2. (a) (ii) I have no suggestions to offer as I do not know how it is designed at present.

(iii) I have no suggestions for a more productive or protective work, which are practicable from an engineering point of view, as I do not know the country enough to give any suggestions.

(b) *Minor irrigation and wells.*—(i) The fact that the number of tanks in these districts especially in the famine area is very small and that the few tanks are highly

silted up and the fact that many of the wells are in a dilapidated condition go to prove that the area irrigated by these tanks and wells is decreasing.

In my opinion this decrease is due to want of rain, primarily, and to the laziness to work and consequent poverty of the people.

(ii) For improving the wells, the ryots must be encouraged to take loan from Government, which may be given to them on nominal interest or even without any interest at all. More co-operative societies should be formed.

Silting up of tanks is a natural event. But I suggest the following methods for at least retaining this action :—

- (1) Tanks are formed by bunding up the deepest portion of the valley and allowing the surplus water to escape at the flanks. This encourages the silt and the sand carried by the floods to be deposited at the bed of the tank. To avoid this, there must be surplus escape at the deepest portion of the tank in addition to the surplus escapes of the flanks. Provision of a weir at the deep bed of a tank is costly and that is one reason why the weirs are at present built at the flanks. But considering the ultimate harm, which the bunding up of the valley does in silting and diminishing the capacity of the tank it is worth while building these weirs at the deepest bed. These weirs should have undersluices, which should be operated as soon as the tank reaches F.T.L. If this is done, most of the silt deposited will be removed to the drainage course below.
- (2) The ryots should be taught about the value of this silt for his lands and he should be encouraged to remove this silt and use it for his lands.
- (3) Where the tanks have considerably silted up, the weirs must be raised so that the F.T.L. and capacity of the tank also are increased. The foreshore land which will be submerged by this raising of the F.T.L. should be acquired by Government.
- (4) Wherever famine labour is available in the vicinity of tanks, relief work should include the removal of silt from these tanks. Unfortunately these tanks are seldom in the famine area.

(iii) Minor irrigation sources are dependent on the season for their supplies and so are of no use in preventing or mitigating famine. But this is not the case with all the wells. These wells can always be deepened and some water may be made available except in years of extreme drought.

(iv) I do suggest that an increase in the number of wells will improve the situation.

Common wells should be dug for every 50 acres in water-bearing area. There must be an agreement among the ryots for the use of water from these common wells. As this will be only for dry crops each land could be irrigated once in ten days. So it will be enough, if there is enough yield for 5 acres of dry crop.

In the Erode taluk where the ryot is a hardworking agriculturist and where one could see the men working in the field all through the year, we see a well for nearly every field. The well water is invariably brackish. They raise bumper crops of chillies, tobacco, onions, etc., with this brackish water. While the lower Bhavani Project was being investigated, the objection of some of the ryots for taking Bhavani water was that it was not brackish and so unfit for raising chillies and tobacco. So the statement that brackish water is not fit for crops is not correct and not borne by facts.

2. (c) *Contour bund forming*.—I strongly recommend the suggestion of contour bunding as long as care is taken to correctly contour the land.

Extensive bunding up of the tract will to a slight extent diminish the supplies to the minor irrigation sources by reducing the run-off. But this will not materially diminish it.

The absorption by the soil is such a small percentage of the rainfall that there need not be any fear of the minor irrigation sources being depleted on this account.

2. (d) *Dry farming*.—I have no suggestions to offer.

2. (e) *Afforestation*.—(1) All the hills, even if they are rocky and barren should be taken charge of by the Forest department. Trees must be planted from the bottom of the hill slopes, where there is some soil. No cutting of shrub or branch should be allowed. When there is even a slight growth of grass and shrub, this will prevent soil erosion. In course of some years, there will be a deposit of soil a little higher up in the hill slope. This portion should be planted with suitable trees. Gradually in course of time, we will find the whole barren rock covered with soil and vegetation. We find that some trees are able to grow even in crevices where there is slight moisture and some little soil. These hills should be strictly reserved. No grazing and no cutting of dead branches should be permitted. Even the dried leaves should not be removed but should

be allowed to rot in the crevices and form into manure for small plant growth. This world of ours was once molten rock and from this sprang up our forests.

(2) All poramboke lands should be planted with trees. There are now tops of fine trees, which had been planted in the old military grounds.

(3) Trees should be planted all along road porambokes and road margins, in fact in all available vacant land.

I would recommend, that tamarind, margosa and kanaka trees can be planted. Margosa is a tree, which has a reputation to grow in very poor soil. But I leave the selection of trees to the Forest department.

2. (f) *Alternative or subsidiary sources of employment*—(i) *Large scale industry*.—This country has iron ore, manganese and gold and to a certain extent copper also. Attempts may be made whether these could not be quarried economically in a commercial way. There is no other large scale industry.

(ii) *Cottage industries*.—The present cottage industries in these districts are very few, cloth and blanket weaving and dyeing seem to be the only occupation and these too in a small scale as these are the occupations of only particular castes.

I would suggest that even poultry farming would be a profitable concern. If each family were to have half a dozen fowls and if there are some marketing centres, this cottage industry will be a success.

2. (g) I have no practical experience about "sparked water."

SECTION II.

Purposes of famine operations and principles of famine relief.

3. I completely agree with the statement of policy of the purposes of famine operations and principles of famine relief as laid down in the introduction of the Famine Code and section 137 thereof. The State should interfere only to protect the people from starvation in times of distress and the wage should be just sufficient to maintain healthy persons in health.

4. *Chapter II of the Code—Preliminary measures of enquiry and preparation when the rains fail*.—I suggest no modification to this chapter.

5. *Chapter III—Period of observation and test*.—(a) The opening of test works is a necessary preliminary to the grant of relief.

(b) In some test works we find the number of women is considerably more than men. If there is real distress we should expect a greater proportion of men as, in the Bellary district and I believe it is the same in other Ceded districts—there are more men than women. So I suggest that a test work should not be converted into a relief till we find the proportion of men to women is at least 1 : 2.

During test and also in relief period, payment of wages should be in grain, proportionate to the outturn of work. This will eliminate these people who come to work only to get some extra money to keep them in comfort. If this is done, the works will attract only those who are really without any grain for their daily consumption.

6. *Chapters IV and VI—Declaration of distress and commencement of relief and description of the various measures of relief*.—In section 58, nothing has been stated for arranging the staff required in the Public Works Department for carrying out the relief works. An additional sub-paragraph may be added as follows:—

"(i) Inform the Chief Engineer about executive staff required for carrying out Public Works."

I do not suggest any other modification to Chapters IV and VI.

SECTION III.

Scale of wages and allowances and the diet scale.

7. *Section 97*.—There is an impression that class III workers between the ages of 12 and 14, if they are employed on carrying or some equivalent labour can be classed under class II. To avoid this, class II workers may be defined as "Adults above 14 years of age employed on carrying or some equivalent labour."

Similarly under section 116, class IV may be defined as "Adults including hospital patients and persons attending them over 14 years of age."

8. (a) *Section 128 (a)*.—For dependants classes V (c) and V (d) the "wages or allowances in tolas of grain" is less than the total of "grain items" and "other items" in tolas. Whereas for the other classes of workers and dependants, the wages are more than the totals of "grain items" and "other items." This margin as per section 130

(a) (ii) is intended to cover any deficiency in the "other items" owing to a sudden rise in price of other items disproportionate to the rise in price of grain.

In order to give such benefit to classes V (c) and V (d) which are the majority of classes fed in the kitchen—"wages or allowances in tolas of grain" of classes V (c) and V (d) should be increased to 35 and 25—similar corrections should also be made in table given in page 134 of the Code.

Strictly as per Code, each class of dependant should have different proportion for the "pulusr" or the "other items." This is not done. All the total quantities of other items are mixed together and served equally.

Rest day allowances are given on the day previous to the rest day. Section 135 states that allowance shall not be given to those who have been less than three days on the work. If we take this literally, it means that if a person works for the first three days in a camp, and then stays away, he is entitled to one day's rest allowance for each week, the camp is continued.

As rest day allowance is paid on the day previous to it and as the person must come to the work on this day to receive the allowance, this day must be included in one of the three days. He must also be present on any two previous days in the week.

The wording of this paragraph may be altered as follows—"The allowance shall not be given to those, who have been less than three days on the works in that week including the day previous to the rest day, etc."

Section 132.—Pregnant women are allowed to absent themselves for three weeks before delivery. There have been cases where pregnant women have not delivered within this period. They are also in such an advanced stage of pregnancy that they are not able to attend the camp hospitals to get further certificate from the Medical officer. They are therefore not given the privilege of leave of absence for the days exceeding three weeks before delivery. For these days they lose their wages. I suggest that in such exceptional cases, full wages may be given for the remaining days before delivery. To prevent abuses this extended period of leave should never exceed seven days.

8. (b) The existing allowance for vegetables in the table under section 128 (a) is sufficient. It is normally possible in some famine camps to obtain vegetables on the existing scale. But for some interior camps vegetables have to be obtained from long distances. In such cases I recommend that conveyance charges may be paid separately and not included in the cost of this ration.

In normal years, the type of worker, who resorts to famine works is not accustomed to obtain this quantity of vegetable during this season. Usually he takes vegetable about once or twice a week.

8. (c) As suggested already I recommend that the wages be paid in grain. Otherwise there is no method by which we can see that the money is spent on his food. I have seen women buying bangles and men buying beedies with their wages.

8. (d) Chapter IX—*Gratuitous relief*.—I have no modifications to suggest to the provisions of this chapter, which are ample.

SECTION IV.

The size and nature of the task in famine works.

9. The task work system as explained in Chapter VII is the best for famine works.

Limited piece work system may be abolished for Public Works as it is very cumbersome to work out.

The following modifications are suggested to Chapter VII and Appendix D:—

Section 88 (10).—Under the duties of the charge officer is given the "adjustment of the task within the limits allowed in the authorized tables."

The charge officer is not competent to do this. In section 105 (correction slip), this duty has been assigned to the work-agent. To be in conformity with this section, item 10 in section 88 should be deleted.

Section 99 (b).—The total number of persons working in the different famine camps should not be the criterion for additional subdivisions. The necessity for a new subdivision should be based on the number of charges and the distance between each charge and the jurisdiction. So, when the Collector estimates that there are likely to be more than 40,000 persons on Public Works for a period of not less than three months or when the number of charges during the period is likely to exceed 8, he should arrange with the Superintending Engineer without delay for constitution of additional subdivision.

Appendix D (5).—For the same reasons stated previously the number of workers should not be taken as the criterion for additional charge. Additional subdivisions should be formed as soon as the number of charges exceed 8.

Appendix D (34).—In practice, it is found very difficult to muster the coolies, mark out and allot work to them and to disperse them for their work at 7-30 A.M. The hours of work may be altered from 7-30 A.M. to 8-30 A.M. with the rest of two hours from 12 noon to 2 P.M. The Collector should have power to alter the hours of this rest period of two hours.

A clause must be added that checking officers, when they find coolies absent during check, can mark them absent for the full day.

It sometimes happens that some gangs are able to finish their works earlier than sunset and refuse to do more than their task. Can these people be asked to do work after they complete their work and if they refuse, can they be marked absent for the full day?

Appendix D 83 (a).—Allows the maistries to make payments to coolies, if the headmen of gangs are illiterate. There are certain defects in this arrangement. (1) It takes a long time for the maistries to disburse the wages to the coolies individually; (2) the coolies have to be idle for a long time, while this is being done; (3) if the coolies are against a maistry they easily concoct a story that they have not been paid in full; (4) the maistry, being an outsider as far as the coolies are concerned, is tempted to swindle and run away, whereas if payment is made through the headman, he cannot do so and in any case the headman will be available in the village and will be roughly handled by the coolies, if he swindles any money due to the workers. The workers will also have more trust in their headmen whom they have selected than in the maistry, who is a stranger to them; and (5) illiteracy of Kolkar does not mean that he could not disburse the wages to the coolies.

So I suggest that the headmen are made primarily responsible for the payment to the coolies and the words "If the headmen are incapable of doing it, etc., to pay the wages" be deleted. The note under paragraph 83 (a) should also be omitted.

SECTION V.

The possibility of providing famine relief by works of more appreciable benefit to the community than stone-breaking, e.g., irrigation works of suitable size.

Section I is only about measures for prevention or mitigation of famine. The works suggested there, are to be done during non-famine times and could not be taken up during actual famine. They are not suitable as famine works, as these will not give relief to the workers continuously for the period of the whole famine of six or seven months. I am afraid therefore that the replies to this question cannot be correlated with those under section I.

When relief works are started we have to see that continuous work is given to the men for at least six or seven months. We have also to see that these works are within a reasonable distance of the distressed area.

In the Ceded districts we find a good number of village roads which run on patta lands only. These roads are used with the consent of the land owners. When any land owner objects, this track is simply diverted on to another field.

I suggest that a definite programme of new cart tracks be made out for execution during famine. These may be long stretches of useful cart tracks connecting villages and the main roads. These tracks should be aligned in ordinary times and the necessary lands should be acquired and kept ready. These may be given out on lease during other times, when they are not required. When there is famine, formation of these roads should be taken up. Good all weather motorable roads can be formed without any consolidation of metal. Forming the road with earth to a height of 1½' and coating the same with gravel for 6" will prove very useful as a relief work and will be of appreciable benefit to the community.

We have been able to form such roads in the present famine season. They are:—

	MILES
1. Kurugodu to Kampli	18
2. Arikeri to Holalagundi	13
3. Sirigeri to Karuru	10
4. Nandavaram to Nagaldinne	9
5. Harivanam to Ravihal	6
6. Hebbatam to Holalagundi	8
7. Gooty to Khyruppala	37
8. Uruvakonda to Kavilagi	10½
9. Vidapanakkal to Gadekal	5½
10. Midathur to Peddavadugur	4

These mud roads will be usable in all weather even if they are not consolidated with metal as long as they have a gravel coating of 6". They could also be maintained in good order at a small cost every year.

Small projects works are not suitable as famine works for the following reasons :—

- (1) These projects usually will not be within a radius of five miles of the famine affected area. The famine coolies invariably return to their homes after their daily work. They never camp in the workspot. They never come to a work if it is more than five miles away from their villages.
- (2) Accurate working levels will have to be given for project works. For example, if a channel is to be excavated, we have to give the bottom level, the width of the channel at different reaches, the level for the top of the bank, width of the bank, etc. When 5,000 people work in a camp and we have say 50 or 60 gangs, it will not be possible to mark out work with levels, calculating the task for each man, woman and child of the 5,000 workers. The excavation of the channel will be to different depths according to the ground level of the country and it will be impossible for the two work agents to cope up with this work. Especially so, as the Public Works Department subordinate will have to again check by levels each day's work to see whether the work done is as per levels. They have then to calculate the wages of the coolies according to the percentage turned out.

The famine coolies usually are so inexperienced in earth work that a very very careful supervision has to be maintained if useful work is to be done.

If the maximum strength of a charge is reduced to 1,000 workers and is manned by two experienced supervisors and if they are *not* under a charge officer, but under a Sub-divisional Officer, this kind of project work can be taken up. The task prescribed in the Code for earth work should be reduced by about 5 per cent to allow for the time the coolies would have to be necessarily idle while the work is being marked.

The flat undulating nature of the country and the scarcity of rain do not permit of formation of any new tanks of useful capacity.

SECTION VI.

Expansion of the ordinary programme as a normal preliminary to the period of test and observation.

11. Expansion of ordinary works is necessary as a normal preliminary to the period of test and observation. Otherwise unnecessary expenditure will be incurred on test works, which have to be abandoned subsequently.

SECTION VII.

Reduction of expenditure on famine establishment.

12. I do not consider that the system for organization of relief works as detailed in Appendix D is unduly costly taking into consideration the responsibility of the work, the amount of public money spent on relief and the trouble taken to look after the welfare of the people. The provision of an officer of the superior Engineer establishment to each Executive Engineer as provided in section 255 may be deleted as a measure of economy.

13. *Suggestions on other chapters in the Code.*—Some instances of practical difficulties which were met with in the present season are here given with suggestions for correction or revision of the Code.

Chapter I.—Revised estimates preparation and sanction :—The original estimates for famine works for roads are at the utmost only approximate. During execution due to many unforeseen circumstances, these estimates have always to be revised. The estimates as prepared are, say, for collection of metal to 8' width and 3" depth, and for forming small berms. These provisions, although quite enough for the road are not all sufficient to give work to the coolies for a period of about five or six months. The metal collection has to be increased sometimes to 12' x 1'. Gravelling the berms is done. By passers round the villages are taken up. As a matter of fact, the problem is how to give work to the men in the locality affected.

There is nothing in the Code to say, who is to prepare the revised estimates. If the revised estimate is prepared, is it to contain all the expenditure incurred on the work, i.e., gratuitous relief, cash dole, shelter, etc., or is it to be only for those items, which are ordinarily included in an estimate prepared by the Public Works Department.

Who is to sanction these revised estimates? I presume these have to be sanctioned only by the original sanctioning authority.

In some cases, new roads are taken up and these run in patta lands—land plan and schedule have to be prepared. The work agents will not be able to attend to this at all. As it is, they are to be in the workspot from 6 in the morning to 7 in the evening and then have office work, calculating wages, etc., till about 10 in the night. The preparation of land, plan and schedule should be done by the department, which sanctioned the estimate. I suggest that in cases, where the new roads are included in the famine programmes, the

required land should be kept already acquired and subdivided. These lands may be leased out to the original owners till such time as they are required for famine works.

In order that all unnecessary delay is avoided in starting the famine works, the Collector of the district should intimate to the Superintending Engineer, the number of charges he proposes to open in the succeeding month and the probable date the charge officers will be ready.

In this connexion, it is also suggested the period of work in the famine should be counted for probation for probationary sub-magistrates, who are taken as charge officers.

Section 31.—The reserve of mamuties and pick-axes in the Bellary district is found to be inadequate. The number should be increased to 40,000 for mamuties and 20,000 for pick-axes.

Chapter XV.—It is found that the present system of obtaining funds for each month in the K-1 statement is cumbersome and leads to delay. It happens sometimes that payment to coolies has to be stopped for one or two days, if the grant asked for is not received before the end of the month.

The whole system has to be changed at least as far as departmental works are concerned.

When famine is apprehended, the Executive Engineer, in consultation with the Collector should send in K-1 statements, his approximate requirements for the official year. The works will have to be started as soon as this budget estimate is sanctioned. In case of emergency this may be done in anticipation of sanction. This budget will be revised as soon as the Executive Engineer finds the proportionate expenditure for any month exceeds the proportionate budget.

The Executive Engineer need not wait each month for the Board's sanction to the grant for the month. The letter of credit system should be abolished as has been done in the Public Works Department and the Executive Engineer should be given unlimited credit on the banks and treasuries subject to the grant available for the whole official year.

During the present famine payment to the coolies had to be stopped for two or three days for want of credit.

As payment to coolies is for the work, which they have done and as this becomes inevitable payment, this inevitable payment should not be withheld for want of grant. This is more so in famine works, where the coolies could get their daily necessities of life only, if they are paid daily.

Section 247.—It is found impracticable for the charge officers to keep a regular imprest account as is done by the section officers in the Public Works Department. Even, if this is done, there is duplication of office work in the subdivision as the same entries, which are made in the cash book of the charge officers have to be made in the subdivision cash books before the imprest is recouped. Any delay on the part of the charge officers, entails delay in daily payments to the workers.

The subdivisional officers are therefore issuing cheques as soon as they find from the daily D. XI roads of the charge officers that the money with them will not be enough more than a week's disbursement. They do this without waiting for the accounts from the charge officers.

This procedure has to be regularized by suitable amendments to the Code.

Section 250.—The officer in charge of a relief work or the charge officer does not have anything to do with the salaries and allowances of gazetted officers. So the words "for all charges for salaries and allowances of gazetted officers and" may be omitted.

Section 257.—The same works occurring in section 257 also should be omitted.

Section 251.—As the travelling auditor is intended to guide the charge officers and check their accounts and as these accounts are to be checked and audited in the Executive Engineer's office and as the pay of the travelling auditor is drawn in Executive Engineer's office, I suggest that he forms part of the office establishment of the Executive Engineer.

Section 273.—In this section the term "Famine Officer" occurs and is defined in (f) as "The Officer in Charge of a relief work" for the purpose of this paragraph. It is not clear whether this "Famine Officer" refers to "the Charge Officer" or the Executive Engineer. This may be made clear.

I also give suggestions for some amendments for the accounts procedure. (Separately enclosed.)

Appendix G (7).—The marking of the attendance and issue of tickets is always found not practicable unless the number of dependants is very small, say less than a hundred.

Ordinarily in a dining shed the number of people fed is about 300 of which most of them are children between three and five years. These children lose their tickets often. They are not able to answer the roll call. This section allows only half an hour before

the meal time for calling the attendance. It takes on an average half a minute for each child to be mustered. So, within the time, it is not at all possible for one single Superintendent to call out all their names and to make them sit down in their respective places.

I suggest that a maistry in charge of dependants from three or four gangs may be appointed to bring these children, mark their attendance and atten to their admission to the kitchen and feeding.

Marking of attendance in form G.I. is given in page 215 of the Code.

I presume the symbols given in the left hand side are to be used only when there is only one meal served, either in the morning or in the evening and those on the right side are for both meals.

As there is possibility of swindle, if any name is left blank for either in the morning or in the evening, no symbol should have one mark alone, when the feeding is done twice. Therefore " Present at morning but absent at evening meal " should be marked / and " Absent at morning but present at evening meal " should be marked \ .

APPENDIX.

A note explaining the amendments necessary to certain sections and rules in the Famine Code relating to accounts.

Number of section or rule.	Amendments proposed.	Reasons for the amendments.
Section 204	.. For the words " by the Charge Officer " occurring at the end of the section, the words " by presenting contingent bills at the nearest treasury or sub-treasury " may be substituted.	The charge officer has not been allowed any permanent advance. The medical charges are debitable to the head " 38. Medical " and if the charge officer recoups the charges from his works cash, the transactions have to be passed through the regular divisional accounts and then adjusted by the Accountant-General. Accepted bills from District Medical Officers have also to be obtained in support of the debits in the divisional accounts. All this results in delay in the adjustment of charges under the final head. By presenting bills at the treasury, the medical charges can be debited directly to the head " 38. Medical " in the treasury accounts.
Sections 214, 234, 268, 269, 270 (a), 270 (b), 271 (a) and 271 (b).	For the head " 43. A. Famine Relief " occurring in these sections, the head " 54. A. Famine Relief " may be substituted.	These amendments are consequential to the changes introduced to the list of major heads under the new constitution.
Section 214	.. For the head " 41. Civil Works " substitute " 50. Civil Works. "	
Section 214	.. For the head " 47. Miscellaneous " substitute " 57. Miscellaneous. "	
Section 22	.. For the word " Accountant-General " occurring in this section, the words " Reserve Bank " may be substituted.	The resource arrangements on behalf of Government are undertaken by the Reserve Bank at present and not by the Accountant-General. The entire sub-paragraph may be deleted, if considered unnecessary.
Section 245	.. The sub-clause " who will accept this as authority for the issue of letters of credit for the supply of funds to the Executive Engineer's concerned " occurring at the end of this section may be deleted.	The system of payment against letters of credit has been abolished long ago in the Public Works Department and it is most unsuitable for emergent cases such as famine operations as it leads to unnecessary correspondence with the Accountant-General, the treasury and sub-treasury officers. Sometimes this correspondence has to be undertaken by telegram. The present procedure in the Public Works Department is to permit Executive Engineers and Assistant Engineers to draw cheques for expenditure subject to availability of grant and if the allotment is found insufficient supplementary demands may be made by the Executive Engineer. The letter of credit system should therefore be abolished.
Section 256	.. Note 2 under this section may be deleted.	In view of the provisions of paragraph 83 (c) of Appendix D, it seems unnecessary to retain this note as the question of payment of unpaid wages once it has been credited in the cash book as unpaid cannot arise.
Section 259	.. The last sentence of this section may be deleted.	In view of the correction to the same section—vide Third list of 10th July 1928, the submission of such a report seems to be unnecessary. Such a report does not appear to have been sent in the past.
Section 273 (a), (c), (d) and (e).	The words " Famine Officer " wherever they occur in these sub-sections may be substituted by the words " Executive Engineer. "	It is necessary to have a clear idea as regards the interpretation of the term " Famine Officer " for the purpose of these sub-sections.

A note explaining the amendments necessary to certain sections and rules in the Famine Code relating to accounts—*cont.*

Number of section or rule.	Amendments proposed.	Reasons for the amendments.
Section 273 (f)	.. The sub-paragraph may be deleted ..	The Medical Officer's bills are not at present paid out of the charge cash.
The following may be inserted in place of sub-section (f), the deletion of which has been suggested:—		
Section 273 (f)	.. "The medical subordinate or charge officer shall prepare the pay bill of the compounders, nursing orderlies, ward boys and scavengers attached to the hospital and present it at the nearest treasury or sub-treasury for payment. The travelling allowance bill, if any, of the establishment should be submitted to the Executive Engineer for obtaining the countersignature of the Collector. To enable the Executive Engineer to send a consolidated statement of expenditure under "38. Medical" to the District Medical Officer for purposes of control of expenditure, the charge officer should send to the division officer monthly a statement of expenditure on account of the pay, allowance of the hospital establishment and contingencies.	These amendments are necessary to simplify the procedure for the drawal and accounting of charges debitabale to the head "38. Medical."
Section 276	.. The word "Executive Engineer" occurring in the first line of this section may be deleted.	No register in form 16 of the Audit Code is maintained in Public Works Division offices to audit the pay claims of the Provincial establishments as the bills are presented at the treasury. As the audit is done in the Collector's office, such a register need not be maintained in the Divisional office.
Section 276	.. The existing note may be renumbered as note (1) and the following inserted as note (2):—"A register in Public Works Department Form VI 90 (a) should be maintained in the subdivision and division offices to audit the work-charged establishment charges.	This has been put in to bring the procedure into line with that prescribed for the regular Public Works Department.
Section 278	.. This section may be deleted ..	The general procedure prescribed in the Madras Forest Account Code for the encashment of pay bills at the treasury is being followed. The preparation of separate chalans, etc., is not necessary and this is not being followed.
Section 286	.. The bicycle allowance of Rs. 4 may be altered into Rs. 3.	The cycle allowance has been reduced universally from Rs. 4 to Rs. 3 from 1st March 1938—vide G.O. No. 78, Finance, dated 2nd March 1938. The reduced allowance only will be admissible to the Famine Officers.
Section 292	.. For the words "the A.G." occurring in lines 1, 4, 6 of this section, the words "The Reserve Bank of India" may be substituted.	The resource arrangements of Government are no longer the function of the Accountant-General, but that of the Reserve Bank of India.
Appendix D—III (9).	The first sentence of this paragraph may be deleted.	Vide remarks above against section 245 regarding the abolition of the system of letter of credit in the case of famine expenditure.
XV 83 (c)	.. The following may be added at the end of this paragraph: An account of the undisbursed wages showing— (1) the opening balance, (2) the amount received during the week, (3) the amount disbursed or credited into cash book during the week; and (4) the closing balance should be submitted to the Division office along with the weekly cash book extract.	This is suggested in order that a watch may be kept over the disbursement of undisbursed wages and to see that such wages remaining undisbursed are credited into the cash book promptly as laid down in paragraph 83 (c).
Public Works—		
Appendix K—Rule 4.	Insert the following as item (e) "an account of the undisbursed wages."	This is also a consequential amendment.
Appendix D—XV 85.	To the 1st in item (1) an account of undisbursed wages may be added.	Vide remarks against XV, XV 83 (c). This is a consequential amendment.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—In section II, paragraph 5, relating to Chapter III, you say that the opening of test works is a necessary preliminary to the grant of relief. Would you prefer the opening of test works or the expansion of ordinary works?

A.—We prefer the expansion of ordinary works.

Q.—If expansion of ordinary works is undertaken you do not insist on the test stage if sufficient numbers are attracted to the ordinary works?

A.—No.

Q.—In paragraph 5 (b) you say, if there is real distress we should expect a greater proportion of men as, in the Bellary district there are more men than women. Do you think that is the proper test of the existence of distress?

A.—What I mean is, if there is real distress both men as well as women must starve. We find from the Census Report that there are more men than women and if only women are coming to work we cannot say that people are starving.

Q.—Have you had occasion to enquire into the causes why more men do not come. It may be due to the fact the wages are very inadequate or that they are attached as farm servants to bigger landlords to whom they are obliged or forced to work?

A.—I cannot say why mostly men have got other engagements.

Q.—Is it a question of employment or did you find out whether they are attached to the lands as farm servants and even if they want to extricate themselves they could not do so?

A.—I cannot say that, because I know nothing about the existence of such a system.

Q.—In the next paragraph you say that the payment of wages should be in grain proportionate to the outturn of work. In regard to payment in kind will you tell me what time it will take to dole out. What is the alternative to proportionate to the outturn of work?

A.—Now we pay wages proportionate to the task and similarly we can convert it into grain and give it in proportion to the outturn. What I would suggest is, instead of paying each man we can pay each gang and give it to the headman instead of to each person.

Q.—You think payment in grain would be a good test?

A.—Yes.

Q.—Under Chapters IV and VI you suggest an additional paragraph, namely, "Inform the Chief Engineer about executive staff required for carrying out Public Works." It is already in the Code?

A.—But I do not find it definitely in the Code in Chapter IV or VI.

Q.—In section III you suggest an alteration in the classes of workers. Can you enlighten me as to how this classification as classes I, II and III has been made? Is it on the basis of carrying capacity?

A.—On the capability of the men to do the work.

Q.—I am saying that the whole classification is based on the digging of earth? Under your definition they are not capable of digging so much. What is your classification for class III?

A.—Merely age.

Q.—In prescribing task, what task would you prescribe?

A.—Not exactly carrying and digging, because excavation, carrying and putting it all form one.

Q.—Digging also is taken into consideration in classification?

A.—Yes.

Q.—No classification is given for class III and in arriving at the task for the whole gang consisting of these three classes, what amount of work is allotted to class III, digging or carrying or both digging and carrying?

A.—The third-class boy will have to do one-third of the work of class I.

Q.—In class III there are not only boys, but there are also girls?

A.—Yes. The task is not merely digging or carrying, it is the whole earthwork, which includes digging.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Who looks to the work of each gang?

A.—The work agent.

Q.—He works out correctly?

A.—Yes. If he does not find enough number of diggers then the task will be reduced in proportion to the capability of the men and if there are too many women they will be sent to do some other work.

Q.—Supposing you have only few diggers and more carriers than are required. Is it not uneconomical?

A.—Adjustment is made by the work agent.

Q.—Are no mistakes made? You know short outturn is due really to wrong adjustment. It may be you have provided less carriers or less diggers than necessary and the outturn has been less. But the sin is visited on the coolies?

A.—May be, but there is no wrong calculation.

Q.—I have such instances come to my notice?

A.—I have not come across any.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—There has been no short work?

A.—They did short work in the beginning, but after a week it is not so. In almost all camps, they can finish their work before 3 or 4 p.m. In the case of earthwork there is shortage.

Sri R. SURYANARAYANA RAO: Q.—I have got instances brought to my notice?

A.—That is because mostly they do not group themselves into small gangs.

Sri N. SANKARA REDDI: Q.—It is not uncommon for one set of coolies to help other men in getting the work completed?

A.—Yes.

Sri R. SURYANARAYANA RAO: Q.—Class III is a hindrance for classes I and II completing the task, as task is based not on a scientific basis as in the case of classes I and II and perhaps failure on the part of class III reflects on classes I and II?

A.—My suggestion for reclassification has not got anything to do with that. My suggestion is children between 12 and 14 and able to do carrying work are brought on to class II, now, which I do not want. So I want that to be defined.

Q.—In section 116, you say 'Adults including hospital patients and persons attending them over 14 years of age.' What is the difficulty of including hospital patients?

A.—Because the definition for class IV is already given.

Q.—Don't you think it is wrong to ask hospital patients to be dependants?

A.—They may either be in-patients or out-patients. This is for the out-patients.

Q.—If a man falls ill and there is no sufficient arrangement and he has to be admitted as an in-patient or the doctor thinks he is not so serious as to be admitted, have cases like that come to your notice and did you instruct that such persons should be marked absent unless they appear before the doctor. For instance a man may be suffering from guinea-worm. You are not in favour of treating them as absent?

A.—If the doctor says he should not go to the work-spot then we give him wages. We never go against what the doctor says.

Q.—In paragraph 8 [section 128 (a)] you suggest an alteration in the grain equivalent. Did you examine what is meant by grain equivalent?

A.—There is clause which says that the maximum amount of money should not exceed the cost of the grain equivalent. I worked out the value of the items and applied the formula.

Q.—Then in section 135, you suggest the insistence of attendance on the payment day should be one of the conditions?

A.—My idea in insisting on the last day was, unless he comes on the last day we may not know to whom we are paying.

Q.—In one district, three days consecutively prior to the rest day, is insisted upon and in some other district it is three days in the week. There is inconsistency?

A.—In the first place there was difference of opinion between the Anantapur and Bellary districts. Afterwards I wrote to the Collector that any three

days in the week might be insisted upon. I now suggest that allowance should not be given to those who have been less than three days in the work-spot in the week including the day previous to the rest day.

Q.—In section 132, in regard to pregnant women, there is conflicting opinion, between Anantapur and Bellary. Don't you think it is sufficient if she produces a certificate from the village officer that she should be maintained on the charge list?

A.—That depends upon how many days she takes after the three weeks.

Q.—Nobody can say that?

A.—That is why we give a margin of 10 days.

Q.—The State is very considerate towards pregnant women?

A.—That is one thing, but there have been cases where women have delivered three or four months afterwards.

Q.—Such cases will be very rare?

A.—If you want my opinion, it may be 15 to 20 days after the 21 days.

Q.—They were on the list for four weeks?

A.—Yes.

Q.—Do you know that this rule was brought forward after the last famine to give more benefit to the pregnant women?

A.—What I had been informed by a Subdivisional Officer was that there has been a lot of abuse, and that is why this rule has been brought forward.

Q.—Where is the abuse, how can the woman be blamed for not delivering. It is not her fault?

A.—What I have done is, if she does not deliver after 15 days, the case might be brought to my notice and then I decide.

Q.—My point is, you have no discretion?

A.—No. My contention is section 132 says, three weeks before delivery.

Q.—You agree for 14 days after that?

A.—Yes.

Q.—You also agree she must be entitled to Rs. 2 which otherwise she will be deprived of?

A.—Yes. She is deprived of something more; she won't get wages for another one month.

Q.—Her name is not kept on the dependent list?

A.—No.

Q.—I think we can go back to the old rule?

A.—Yes, I would prescribe 15 days grace.

Q.—You also agree she must continue to receive Rs. 2?

A.—Yes.

Q.—The object of that is because she becomes a mother with a child?

A.—Yes.

Q.—Don't you think that village relief is low and that she requires more?

A.—Yes. But I am not competent to deal with that.

Q.—Under paragraph 9 (c) you refer to the purchase of bangles with the wages. You mean glass bangles?

A.—Yes.

Q.—Don't you know that it is the custom with Hindu women who have husbands that they should always wear bangles?

A.—I thought it was a luxury. I did not know it was their custom.

Q.—Under section IV, paragraph 9, you say that limited piece work system may be abolished for Public Works as it is very cumbersome to work out. There are a large number of villages and supposing village improvement has to be taken up along with this work, would you advocate piece work system for village work or task work?

A.—Task work, because it would mean a lot of bother to work out piece work on the part of the work agent.

Q.—Should it be removed altogether from the Code?

A.—It need not be removed, but if it is not useful it can as well be removed.

Q.—In regard to section 88 relating to adjustment of the task within the limits allowed in the authorized tables. The work has been assigned to the work

agent because the Charge Officer is not competent to do that. May I know the reason for this?

A.—It is to comply with the correction slip which has been issued to section 105, this has been suggested.

Q.—Supposing the work agent classifies a particular soil as soft and the Charge Officer finds that the gang is not able to turn out work the Charge Officer goes and says that the soil is hard and changes it. Would you agree that till Subdivisional Officer comes the Charge Officer's opinion shall prevail?

A.—No. I am saying that the difference of opinion between Public Works Department and Revenue Department comes here. The work agent is responsible for the work.

Q.—You agree that the Collector should have power to alter the hours of rest period?

A.—Yes.

Q.—Would you like him to increase the rest period?

A.—Yes. What I mean to say is that in some camps between 12 and 2 it was not so hot as between 1 and 3. As it is the Collector has not got that power. Another suggestion I would make is that the work should be closed at 5 p.m. It is often found difficult if the work is finished at sunset there is not much time for the work agent to measure it.

Q.—You know little children have to be taken to kitchen. In such cases you suggest that the women should be marked absent, when they find that they are absent during check time. My contention is that the mother or somebody should take the child to the dining section. Naturally she has to be absent from the work spot. The checking officer goes there and finds she is absent; she is marked absent for the full day?

A.—Of course she can tell the headman that she is going away.

Q.—The work agent allots work, the maistry extracts work, and then is the work measured by the work agent or the maistry?

A.—Not the maistri but the work agent measures.

Q.—Wages are given to the maistris for distribution. Don't you think that all these items of work should be in the hands of the same person? Supervising agency if possible should be different from the distributing agent?

A.—I am for the kolkar distributing wages.

Q.—Have you heard complaints that the task for a weakly gang is much more than they could do?

A.—No.

Examined by Sri H. SITARAMA REDDI: Q.—In paragraph 3, you say that the ryots should be encouraged to grow trees in their field boundaries. Do you suggest that special loan should be granted to the ryots for this purpose?

A.—No.

Q.—Then how do you expect them to do this planting of trees?

A.—It is for their own benefit. After all if they plant one or two trees per year it won't cost them much. In any case I do not suggest any loan.

Q.—You say there is another method of preventing famine, viz., instilling into the minds of the people more self-reliance, as you call it. You think by mere auto-suggestion they will become more self-reliant.

A.—What I mean is there are not so many people who are actually starving. I do admit they are unemployed, but not all people that attend the famine camps.

Q.—But you make a definite suggestion that this is one of the methods of preventing famine; one is to encourage idea of self-reliance. Is it a question of merely imagining? I want to know what you mean?

A.—I would explain like this. Workers who complain that the wages are not enough refuse point blank a free feed in the kitchen. This either shows that they have enough to eat in the houses or that the wages they get are more than their requirements for food.

Q.—Do you suggest that there is a craze for famine work?

A.—Not merely craze but there is a longing for famine work.

Q.—What do you mean by "more prudent"?

A.—If in one year we give grain instead of money we may find that there will be a less number of people coming in for famine work.

Q.—Have you tried that?

A.—This is what I have found, i.e., instead of giving cash if I tell them I would feed them free they won't come. That indicates that.

Q.—What prevents them from converting grain into money?

A.—There are not people to purchase grain. That is my opinion.

Q.—Under minor irrigation would you agree that there is a possibility of striking wells which could be economically used and that Government should strike wells from its own funds and if the wells are successful the ryot may be made to pay the cost and if they are not successful the ryot need not pay the cost?

A.—It must be done by the ryots themselves.

Q.—In view of continuous famine, in view of the poverty of the people and in view of the fact that the Government have been spending a lot of money would you think that it would be proper for the State to sink a well where it is likely to be successful at its cost and if it is not successful Government will lose? I am only elaborating that point?

A.—My suggestion is I am never for Government undertaking to dig a well. But Government can advance money for that.

Q.—Supposing it is a failure?

A.—It is his luck. But the ryot knows where he can get water or not.

Q.—Do you think that the ryot is a water diviner?

A.—But he can get the help of the Industrial Department.

Q.—May I take it that you mean that the ryot should have the free advice of the Industrial Department to divine whether a place is possible of yielding water or not?

A.—Yes. They can put up bore holes and see whether there is a possibility of water. Government gives the money to the ryot and he takes the advice of the Industrial Department to see whether in his field he can get water or not and if he does not get the water he returns the money to the Government.

Q.—Among the cottage industries you suggest poultry farming. It is absolutely dependent on the possibility of finding a market?

A.—Yes.

Q.—Do you know this district is capable of absorbing sufficient amount of eggs?

A.—There must be a marketing centre.

Q.—Who should take it up?

A.—The Agricultural Department or Co-operative Department.

Q.—You say, "the State should interfere only to protect the people from starvation in times of distress and the wage should be just sufficient to maintain healthy persons in health?"

A.—The idea of famine relief is to maintain the healthy persons in health and to give relief to the sick people. We have got provisions in the Code for that.

Q.—I want you to correlate your statement with that?

A.—The wage must be of sufficient quantity and quality as to keep the healthy person in health. For the sick person there is the provision in the Code. By my statement I am excluding the sick persons. And we want provision in the Code that during test and also in relief period, payment of wages should be in grain proportionate to the outturn of work. This is to eliminate persons who come to camp to earn some extra money to keep them in comfort. Famine-relief work is not for ordinary people who have got enough to eat. What I say is, there are cases of people coming to famine camps to earn wages which will fetch them comforts.

Sri R. SURYANARAYANA RAO: Q.—So do you recommend the principle of selection when people come to the camp?

A.—No.

Q.—In section V, you recommend forming of road with earth to a height of 1½ feet and coating the same with gravel for 6 inches. Do you think this kind of road will stand all right in black-cotton soil? Will it not be spoilt after a shower of rain? Is it not your experience that these roads are not fit for use after one year?

A.—Because there is no one to maintain them, they become unfit for use. Why I suggest this is, it is easy to maintain such roads; in a place where it is difficult to collect metal.

Examined by Sri T. A. RAMALINGAM CHETTIYAR:

Q.—In the calculation of work and all that, have you had any case in which people were not able to turn out work set to them?

A.—Sometimes.

Q.—What will be the percentage?

A.—On an average 80 to 85 per cent of the people will get full wages, and others up to 75 per cent. Short-work is due sometimes either because the work spot is near a village—the people going to their home near by—or because it is the beginning of the famine work. In the latter case, such people after some time are able to do the work in full. Even in the case of 75 per cent, they sometimes get full wages and sometimes less. In some cases the work-spot is distant two, three, or four miles.

Q.—Do you give to the people from a distance the same task?

A.—Yes.

Q.—Don't you think the work should be less for them?

A.—That will be upsetting the whole programme. Generally we do not allow them to go more than two-miles.

Q.—So, if it is more than that, the turn-out will be less?

A.—Generally they will be able to finish the work by four o'clock in the evening. Therefore it is for this there is provision in the Code that they should work till sunset.

Q.—Don't you think that people coming from long distances will be tired and exhausted, and consequently they should not receive the same consideration that is given to others?

A.—I fear we have not found such cases; particularly because they come from long distances.

Sri R. SURYANARAYANA RAO: Q.—How do you find the distance from which they come?

A.—Because every day I get the daily card.

Q.—With regard to the planting of trees, do you know some time back, Government were advocating planting trees?

A.—I don't know.

Q.—With regard to the digging of wells for every 50 acres in water-bearing area, are there several such areas?

A.—At least near vankas we can dig them. Sri N. Swaminatha Ayyar by working out the details showed to the witness how such a scheme of a well irrigating 50 acres is impossible in practice.

Sri T. A. RAMALINGAM CHETTIYAR:—To irrigate 50 acres of dry land by one well, is impossible. My experience in Coimbatore is only 20 acres.

Q.—Are there many places in the districts of Bellary and Anantapur where wells with sufficient supply of water can be found?

A.—Just near streams you can find such places.

Q.—My suggestion is why not fifty people join together and dig wells?

A.—People can't do that because of poverty or laziness. I can't say which is the cause.

Q.—I have been told this charge of laziness is not fair. I understand in Kadiri, the people are as industrious as the people in Coimbatore. In fact I learn these people work like any other people in the rest of the province.

The CHAIRMAN: It is not fair to the agriculturist to say so.

Examined by Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—About the Tungabhadra project you are a little pessimistic. And you give a number of reasons. In your written answer, you say "the same"

result as has been noticed in the Kurnool-Cuddapah canal will follow." Have you ever been in charge of that canal?

A.—No, I don't know anything about it except what I know from the questionnaire.

Q.—You say as one of the reasons why the Tungabhadra scheme will not prevent famine: "It may cost about Rs. 40 to Rs. 50 an acre to form terraces for dry irrigation and the average ryot has not this much capital." How did you arrive at Rs. 40 or Rs. 50? Have you worked it out?

A.—No. I have worked it out in the lower Bhavani Project.

Q.—But that is quite different? Supposing it is only Rs. 8 to Rs. 10?

A.—If we ignore other reasons it may come to that. I fear it will be more.

Q.—If it is only Rs. 8 to Rs. 10, do you think it will be profitable for the people to do it?

A.—Yes.

Q.—You say, in the next sentence the Ceded districts are poorly populated and so there will not be enough people to undertake intensive cultivation. What do you mean by that? In that case there can be no unemployment problem?

A.—I only mean there is not that population in proportion to the land which is vacant.

Q.—For the portion of the district commanded by the scheme, do you think the population is sufficient?

A.—No.

Q.—You say "more trees will mean more rain." From where did you get this idea?

A.—It is the theory.

Q.—If we have more trees, we can't have more rain. Your statement would not bring rain. There will be more humidity only. I take it, it is only your pious wish. Mr. Wilson the other day explained the position.

Q.—You say "canal water may also be sent to some of the rain-fed tanks, where wet cultivation is being done now." Are you aware of such tanks?

A.—Yes.

Q.—Where?

A.—Along the borders of the Tungabhadra.

Q.—To come to the question of revised estimates, what is the difficulty?

A.—We prepare an estimate for Rs. 10,000 and we plan the work for four months. But actually the work is finished in two months and the expenditure comes to Rs. 20,000. I think it is better somebody else prepares the revised estimate. What we spend in the kitchen is not included in the estimate. The schedule of rates on which estimates are prepared are intended for ordinary times, and not for famine periods. I am not complaining about the schedule of rates; I only say we should not adopt them in famine estimates. We find in famine areas mostly uneconomic units. Consequently these estimates have no relation to what we actually do in famine camps.

Mr. DOGRA: Q.—Do you suggest these estimates should be prepared on the percentage actually worked out in previous famines?

A.—No.

The CHAIRMAN: Q.—I see the existing estimates are prepared for normal work. But in famine camps you have to employ more labour than you would do in normal work?

A.—Yes.

The CHAIRMAN: Q.—When you revise the estimates, you are supposed to adopt the current rates?

A.—Yes.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—Don't you think it is misleading?

A.—The rates are sufficiently elastic to cover all such things.

Sri N. SWAMINATHA AYYAR: Q.—Suppose you enter all the work done by you?

A.—That will be merely copying the accounts.

Q.—What is the difficulty about the letter of credit?

A.—Every month I have to apply for what I require for the next month by the 15th of the previous month. There is delay, and consequently I have no money on the first of the month and 67,000 people go without payment.

Mr. DOGRA: Q.—How do you know how long the famine will last?

A.—I shall draw whatever is required and the balance can be reappropriated.

Q.—How does the Treasury Officer know how much money you require at a particular time?

A.—I say, the whole money required for one year should be placed at the beginning of the famine.

Q.—A consolidated letter of credit for the whole year is not possible.

A.—But I am handicapped at the beginning of every month.

Q.—The existing system can be improved so as to let you have money by the first of every month.

Sri N. SWAMINATHA AYYAR: Q.—Have you discussed this with the Collector?

A.—Yes; he has not suggested anything.

Q.—Nor has he said anything about it in his written answer?

The CHAIRMAN: Q.—If the application reaches the Collector by the 15th it would reach the Board by the 20th; I think the matter can be expedited by telegram. Anyhow an unlimited letter of credit for the whole year is not right. Mr. Balraj may go away with the whole amount?

A.—I send the K-1 statement to the Collector by the 5th of the previous month; and he sends it on to the Board.

Mr. ABDUL RAWOOF: Q.—But when does it leave your office actually; when is it actually despatched?

A.—On the 6th at the latest.

The CHAIRMAN: Q.—If the application reaches the Board by the 15th there will be no delay whatsoever?

A.—I send a statement to the Collector. But in some respects it is cut down in the Collector's office. There is nothing in it to show why it is cut down; again I send another application.

Mr. DOGRA: Q.—In any case I do not think a letter of credit for the whole year is possible?

Examined by Mr. L. B. GREEN: Q.—You say "where there are copious springs, tube wells can also be tried." Where can you find them?

A.—Just by riversides.

Q.—Are there any caves and fissures and the like among the rocks?

A.—No.

Q.—I suppose there are no tube well borings done in the famine area?

A.—I think there is one in Anantapur district at Peddavadugur, 155 feet.

Q.—That I don't consider tube boring. Do you think it will be worthwhile if you have some borings in the famine area?

A.—Yes, if you can guarantee flow of water.

Q.—It is not possible to divine it from surface topography. But a few experiments might encourage the undertaking?

A.—My knowledge of these subterranean areas is very limited. I can hardly expect a ryot to undertake it.

Q.—Do you think it is worthwhile for the State to take charge of a few experimental borings at State expense? Just one or two, not all?

A.—Yes; where surface indications are favourable.

Examined by the CHAIRMAN: Q.—What acreage do you think it will be economical to irrigate with tube wells?

A.—I can't say.

Q.—In Cuddapah it was first estimated to be capable of irrigating 120 acres and that has now whittled down to 25 acres after examination by the Department of Agriculture?

(No answer.)

Q.—Have you any idea of the cost of the wells?

A.—No. If we put bore wells at a cost of Rs. 5,000 and irrigate only 50 acres, it will not be a business proposition.

Sri R. SUBYANARAYANA RAO: Q.—If it is near tanks or rivers or vankas?

The CHAIRMAN: That is a different matter.

Examined by Mr. DOGRA: Q.—What exactly is the system by which you know the distance from which the people come to the camp?

A.—I get daily cards from the villages from where they come, and from them I see.

Q.—What is your arrangement to get thattis?

A.—We call for tenders in the beginning from the local contractors, and then we split them to the different camps.

Q.—You don't change the agency of supply afterwards?

A.—No.

Q.—The cost of thattis is separated from the cartage?

A.—Yes.

Sri H. SITARAMA REDDI: Q.—How does the rate compare with local rates?

A.—It will be half an anna more than the local rates.

Sri H. SITARAMA REDDI: Q.—Are not local people able to supply the requisite number?

A.—Not even 50 per cent of the required number they are able to supply.

Sri H. SITARAMA REDDI: Q.—With regard to the mud pots?

A.—We purchase them locally.

Sri H. SITARAMA REDDI: Q.—How are thattis conveyed to the camps?

A.—It is cheaper to convey them by lorries.

Sri H. SITARAMA REDDI: Q.—My information is even with regard to mud pots there is competition from contractors? At Virupapuram, I heard that.

A.—It is only with regard to thattis we have engaged the supply through contractors. For the local basket-makers say they will not be able to supply more than ten a day; but our requirements are by hundreds.

Sri R. SURYANARAYANA RAO: Q.—What is the life of these thattis?

A.—Two months.

Q.—Why not purchase galvanized sheets?

A.—The initial charge will be great; and you know what price they fetch when they are auctioned afterwards.

Examined by Sri KALLUR SUBBA RAO: Q.—In section II, paragraph 5 (b) you say that "a test work should not be converted into a relief till we find the proportion of men to women is at least 1:2." Have you any account of the men and women coming into famine camps? Have you any day gone to the villages and enquired why the men are not coming to the works?

A.—I have not gone to the villages but I have asked the womenfolk coming there where their menfolk are.

Q.—Have you enquired whether the men have gone to some other places where there is labour in the district?

A.—I have already said that I have not gone to the villages and enquired. When I asked the women who came to the works where their menfolk were, they said they are sitting there looking after their cattle or that they are working in the fields.

Q.—Then you say that you have some practical knowledge of irrigation under other canals. Are the ryots conservative there also?

A.—They are conservative everywhere.

Q.—So to make the Kurnool-Cuddapah canal remunerative would you suggest that legislation may be introduced to enforce people to take water?

A.—I don't know about the Kurnool-Cuddapah canal. My idea is that the ryot should be educated to see what is best for him and there is no need for legislation.

Q.—If he is to be educated he may refuse, but if there is legislation he may agree?

A.—I would not agree to forcing a man who is unwilling.

Q.—You don't agree to force people to take water to certain crops only or to irrigate his land?

A.—No.

Q.—Are you sure that, when the Tungabhadra project materializes, if you don't enforce legislation, the project will be profitable?

A.—I don't know anything about Tungabhadra project and whether it is for dry or wet irrigation.

Q.—Supposing the Government takes up the project and spends crores of rupees and the people are conservative and would not take water for irrigating, don't you think it is advisable to make the ryots take the Tungabhadra water in the interests of the Government getting good returns?

A.—If the people are not willing to take water, surely it is no good taking up the project.

Q.—You say that the Ceded districts are thinly populated, so when the project materializes do you approve the idea of getting people from outside the Tungabhadra zone and ask them to settle there?

A.—If the Tungabhadra project were to come in and we want more men for intensive cultivation, we must get people from outside.

Q.—There are some tanks in Anantapur district where in the tank-beds you have got perennial supply of water which can irrigate about 50 to 100 acres. Do you approve that Government should dig wells in these tank-beds and supply water for irrigation in times of need or famine. Do you think there is any objection to take up the work?

A.—I don't have any objection. But, if you dig wells in the tank-bed, when floods come into the tank, they may get silted up. I would rather like the wells to be sunk outside the tank-bed.

Q.—But the spring is only inside the tank-bed?

A.—But the difficulty is that if flood comes it will cover up the well. Every year you have to remove the silt.

Q.—You have no objection to have any wells in the tank-beds if the ryots are prepared to do the labour every year?

A.—No.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—If you provide covers they may not get silted up in a flood?

A.—Yes.

Sri K. SUBBA RAO: Q.—You suggest that even without interest money may be paid to the ryots for improving the wells?

A.—Yes.

Examined by Sri N. SANKARA REDDI: Q.—You suggest that the ryot may be encouraged to grow trees on their field boundaries. Are you aware that if trees are planted along the boundaries and when they are grown up they will stifle the crops as long as their shadows fall?

A.—I do not mean big trees. I mean only small trees just as a fence. We have seen so many of these small trees in Erode taluk, where every field has got a boundary of small trees. I do not think that the shade of those trees is going to affect any dry cultivation.

Q.—You mean shrubby plants?

A.—Yes. Some of the thorny bushes. I cannot give their names.

Q.—Then you say in your written evidence that "if the season had been bad some of the ryots may not have enough to eat." That is to say, that, whenever the season is bad, many of the ryots, not to speak of the landless labourers, will not have anything to eat and the result would be unemployment and starvation?

A.—Yes. What I say is that there are some people who are only unemployed but have enough to eat in their houses. There are some people who have nothing and should starve if they don't attend the works. It is not all people that starve.

Q.—You suggest payment in kind?

A.—Yes.

Q.—How would you solve the problem of payment in kind? If he does full work it has to be calculated in coppers first?

A.—No, we can easily convert that into grain.

Q.—How would you suggest the distribution of it?

A.—We take each gang of 100 people, we work out how much the whole gang earns and measure up that quantity to the headman.

Q.—Is it not possible to fix the amount of grain every day and calculate the deficiency of work for a week, for a fortnight or for a month and withhold any deficiency at the end of the period?

A.—But we are not sure that a man who comes to the work one day would surely come on the following days to earn his wage. There is no possibility

to recover the amount from him for the deficiency in work at the end of a week or so.

Q.—Don't you think that there is a keen sense of caste feeling among these workers? How could you expect them to be fed in a common kitchen?

A.—We have got different kitchens for different kinds of people and food is prepared by lingayats. We have separate sheds for different castes of people where they are fed.

Q.—You say that very few people who resort to the camps are skilled workmen. How can you expect skilled men for the famine wage? What is the nature of the work given to them?

A.—I don't expect them. I only said that for a project work you want skilled men.

Q.—You say that unskilled people who come there are not used to the hard manual work?

A.—Yes.

Q.—Then how is it that the works are being done?

A.—I said they are not used to that work but in itself the work is not hard at all.

Q.—You say, "it may cost about Rs. 40 to Rs. 50 an acre to form terraces for dry irrigation and the average ryot has not this much of capital." How is he to find funds for the purpose?

A.—Every ryot who is accustomed to work on his land can do it himself. I don't think much help in the shape of money is necessary.

Q.—Coming to intervals, don't you think it is better that the interval should be from 1 to 3 instead of 12 to 2, as the land gets heated only then?

A.—In some cases it is better to have the interval between 1 to 3 and in others between 12 to 2. That is why I say that the Collector should be given discretion to alter the period of the interval.

Q.—Regarding Minor Irrigation works you say "the flat undulating nature of the country useful." Was the whole area of the district thoroughly examined or investigated?

A.—It is only a general view formed from the nature of the country.

Q.—Do you know that there is a kind of flexible bamboo thatti used in marriage ceremonies, etc., which are durable and cheaper. Why should we not use them instead of the thattis now being used?

A.—They are too flexible to stand upright. We use flexible rolled mats for the roof.

Examined by ABDUL RAWOOF SAHIB Bahadur: Q.—Are you aware that there are a number of land-owners who come to the works?

A.—I am told so but I am not quite sure.

Q.—If it is a fact that persons owning 30 to 40 acres come to the work don't you think it is an indication of famine?

A.—Not necessarily.

Q.—Would you call it distress?

A.—It is not necessarily an indication of distress, because they come there to earn some extra money.

Q.—What steps have you taken to prevent accidents in these camps?

A.—We have taken steps in the following ways:— We post a kolkar near gravel quarries where they should quarry; we have got prohibited quarries, we don't allow anybody to go there; wherever gravel is quarried, we instruct the gang headman to see that the workers do not scoop it under. I have given a set of instructions to all the people regarding accidents and not to go near a road roller, etc. They are being circulated and adhered to. It was people who went to the prohibited quarries that ran the risk of accidents and we cannot help it.

Q.—On rainy days would you advocate payment of wage instead of allowance, if they come to the work?

A.—No, only the allowance. If they have done work for half a day and if it is more than the rest day allowance, they will be paid the wages they have earned and not the full wage.

Examined by Sri R. SURYANARAYANA RAO: Q.—Is it because dependant's allowance is paid, such days are treated as rest days?

A.—If we give them dependant's allowance, the actual work is measured but he is not paid according to the outturn. It is only kept for reference.

Q.—Supposing they do turn out the full task before the rain sets in will you give them the full wage?

A.—Yes, if they have done the full task, they get the full wages, whether there is rain or not.

Q.—As the stoppage of work is due to causes over which they have no control don't you think that it would be a great hardship to give rest-day allowance for these days, especially when they have come all the way from their villages to do the work and have again to go back to their homes?

A.—I don't think it is a hardship, for the rains are only for a short period. The rains are not pouring continuously.

Q.—Then you don't advocate payment of wages for these days?

A.—No.

ABDUL RAWOOF SAHIB Bahadur: Q.—In the case of these babies do you think that it is necessary that the babies should be carried every day? Is it not enough if they are brought once every week?

A.—I can tell you that we don't enforce that they should be brought every day. It is enough if they bring the babies once a week.

Sri R. SURYANARAYANA RAO: Q.—Do you think that it should be made part of the Code instead of leaving it to the discretion of the officers?

A.—I don't think it is necessary. It can be left to the discretion of the officers.

ABDUL RAWOOF SAHIB Bahadur: Q.—As regards the supply of the thattis don't you think that it is cheaper to purchase them from the local people straightway instead of from the contractors who purchase from these local people?

A.—No. The contractors supply thattis at short notice and in any quantity required, which the local people may not be able to do.

Q.—Would it not be possible for the department to store them?

A.—These combustible substances cannot be kept in stores. There is also the difficulty of accommodation.

Q.—You say that "It sometimes happens that some gangs are able to finish their works earlier than sunset and refuse to do more than their task." Can these people be asked to do work after they complete their work and if they refuse can they be marked absent for the full day?

A.—Yes. They finish by 4 o'clock.

Q.—By the time work agent goes and checks the work and measures it and checks the attendance it is generally 6 o'clock?

A.—The labourers do not stop for the measurement to be done. Attendance is taken at 2 p.m.

Q.—If they do extra work, you don't pay extra. If they do less work, you cut off their wages.

A.—I have said plainly. They are asked to be there till sunset. My point is that they should be let off at 5 o'clock, whether they finish the work or not. Their hours of work are from 7 to 12 and from 2 to sunset. They must be there till sunset. When I go there they must be doing their work and not be sitting quietly except between 12 and 2. They are not concerned with the work.

Q.—The works that are now done are on task basis and not on hours of work?

A.—It is by hours as well as quantity to be done. They will have to work from 7 to 12 and from 2 to sunset.

Q.—The task is not the consideration?

A.—It is only a guide for payment.

Q.—Do you still insist about this clause that checking officers when they find coolies absent during check, can mark them absent for the full day?

A.—I want only orders on that whether they could be let off or whether they have to be marked absent.

Mr. H. R. DOGRA: Q.—After the coolies go away how long do the work agents and others work?

A.—They work till 7 o'clock. They have to attend office work till 10 or 11 in the night. Every day they are doing so. They have to begin work at 7 o'clock the next day and have to be at the work spot at 6 o'clock.

The Committee rose for the day.

7th September 1938.

The Committee reassembled in the Collector's Court hall, Bellary, at 10-30 a.m. with Mr. C. A. Henderson in the Chair. The following members were present:—

Mr. F. M. DOWLEY.
 „ H. R. DOGRA.
 „ L. B. GREEN.
 Sri Diwan Bahadur N. SWAMINATHA AYYAR.
 „ T. A. RAMALINGAM CHEITTYAR.
 „ H. SITARAMA REDDI.
 „ R. SURYANARAYANA RAO.
 „ N. SANKARA REDDI.
 „ KALLUR SUBBA RAO.
 ABDUL RAWOOF SAHIB Bahadur.
 Mr. D. I. R. MUIR, the Secretary, was also present.

The examination of Sri N. MRITYANJAYA SASTRI, Secretary, District Famine Relief Committee, Bellary, was taken up.

Written evidence.

SECTION I.

Measures for the prevention or mitigation of famine.

(a) (i) *Irrigation—Major.*—This Committee is of opinion that the only major project which would effectually prevent famine in the major portion of the area now liable to famine is the Tungabhadra project.

This project commands an area of—

	ACS.
Bellary district	784,000
Kurnool district	160,300
Anantapur district	128,200
Total ...	1,072,500

The estimated cost of the scheme is 10 crores and the scheme is expected to yield a return of 3.97 per cent on the capital outlay.

As we understand the recommendation in G.O. No. 1429, I., dated 6th July 1934, and also the report of the Soil Survey Chemist, the scheme under consideration is only to irrigate dry crops. Now that the Engineering and other difficulties appear to have been solved the scheme may immediately be taken on hand to prevent the recurrence of famine in these districts.

The Kurnool-Cuddapah Canal.—This Committee is of opinion that the experience of the Kurnool-Cuddapah Canal is no criterion in this matter.

(a) As already observed above the scheme now contemplated is only for irrigating dry crops.

(b) The Irrigation Committee report G.O. No. 1973, I., dated 16th December 1926, has observed that the reason for the ryot not taking water for wet crops is that the supply of water is adequate only for paddy and not for more paying crops like sugarcane, etc.

(c) Some other reasons for the failure of the Kurnool-Cuddapah Canal have been noted at page 8 of Clerk's Report, viz. :—

“The construction of the canal has stopped short at the point at which a remunerative return might be expected from any further expenditure, etc.” and he suggests a realignment of the canal. He also observes that there is much greater demand in Cuddapah than in Kurnool district.

(d) Also it is possible to induce the ryot to take water for irrigation by charging dry assessment for the first five years, and then increasing it slightly for the next five years and with a final increase after the tenth year.

(e) The remarks of Mr. Clerk that a ryot may not easily take to new conditions are inapplicable at present. Propaganda and demonstrations may induce him to change.

(f) We are also of opinion that most of the fears now entertained will disappear even as in Godavari and Kistna tracts where similar conditions prevailed before the irrigation schemes. With regard to the question whether this project if it materializes will prevent or mitigate famine in all parts, we are of opinion that in a major portion of the

area in Bellary district now liable to famine, it will be prevented and in regard to other areas we recommend minor irrigation schemes being launched. We also endorse the opinion of Mr. Clerk in his report with regard to Godavari project at page 50 of his report, paragraph 6. He says 'For all practical purposes the district may now be regarded as beyond the reach of famine. For though in the upland tracts much of the crop is precarious the delta produces surplus food and in it there is always a demand for labour.' We believe similar results will follow in non-project areas here.

We are therefore of opinion there is really no insuperable difficulty in the way of immediately launching on the project if there is only the will to do it. We are constrained to say, though with considerable regret, that a large body of opinion in our districts feels that Government has utterly neglected the interests of the people of the Ceded districts. The usual cynical comment is made "We are neglected because we do not agitate and we do not agitate because we are famine-stricken." We are thus in a vicious circle.

Before taking leave of this subject, we wish to make some observations on what we consider one or two relevant considerations which may have a bearing on the subject.

"Firstly, that the Government is not justified in shirking its obligations on the ground of expenditure involved on the scheme, for no Government can lay claim to be called civilized that can ignore for nearly 100 years the most primary need of the people of four or five districts. Also our deplorable condition has cost the Government considerable sums in the way of famine relief, let alone losses from frequent remissions, and loss in the shape of excise, salt and stamp revenue. Account also should be taken of the direct protection afforded by the irrigation works in years of drought by the saving of human lives, while in seasons of average rainfall they are of great service and a great source of wealth-giving certainty to all agricultural operations increasing the outturn per acre of the crops and enabling more valuable descriptions of crops to be grown."

The Famine Commission of 1878 further remarked speaking on irrigation "It is not for us to propose any final limit to the expenditure which may be legitimately incurred with this object in which are involved not only the credit and good name of the State but also the well-being of the millions who in all but the most unfavourable years add to its revenues and to the wealth of the country by the precarious cultivation which they carry on in these unprotected tracts."

There is another problem intimately connected with the cost of the scheme, which is causing considerable anxiety in the minds of some of the prominent men in the districts, viz., the possible repercussions of the linguistic province controversy on the early fruition of the Tungabhadra project.

For one thing it is feared the Government may hesitate to commit itself to this scheme with the linguistic provinces on the anvil. On the other hand, it is apprehended if new provinces are formed, the commitments which a new province will involve and the comparatively lower credit which minor provinces will command may postpone the Tungabhadra project for all time. Also Bellary district which covers the major portion of the project area and which is to be divided between Andhra and Karnatic provinces will have to depend on the consent and the financial capacity of the two minor provinces for the scheme being approved thus adding some more obstacles to the scheme materializing.

We are therefore emphatically of opinion that no other considerations should be allowed to stand in the way of the immediate inauguration of the scheme and in any event before any new provinces are formed we suggest the cost of Tungabhadra project should be made either a first charge on the revenues of the Federation as in the case of the Sukkur barrage scheme or a first charge on the revenues of the major provinces (Madras and Bombay) so that the minor provinces to be formed cannot shirk the responsibility.

(a) (ii) To make the project more useful, we are of opinion that along with the irrigation system or immediately thereafter the hydro-electric scheme be also taken on hand to augment the revenues. In addition to hydro-electric scheme navigation on canals be launched with advantage. Such use is made in Godavari and Kistna canals.

(a) (iii) An alternative to the Tungabhadra scheme which can solve or at least mitigate a major portion of the district from famine, it is difficult to conceive. There are some schemes which are suggested by the irrigation committees appointed from time to time in the Madras Presidency, viz., Chinna Hagari and Chikka Hagari schemes. These do not command the necessary area and do not solve even the fringe of the problem. We once again reiterate that it is futile to contemplate inauguration of any other major scheme except that of the Tungabhadra.

(b) *Minor Irrigation and Wells*—(i) and (ii).—From the enquiry we have made we are of opinion that a number of these minor irrigation sources and the area irrigated thereunder are decreasing. Mr. Clerk in his report of 1902 states that for Bellary district, benefits of minor irrigation schemes, especially for the famine area, are incalculable.

Even the few tanks existing in this area are not properly functioning for so many causes. Mr. Clerk has given his opinion with regard to this in his report at page 65. He gives the following reasons:—

- (1) That the waters in these tanks are not likely to be fully utilized as villages are situated along the margin of jungle streams to be impounded, and it is very difficult to avoid heavy compensation for land occupied by village-sites.
- (2) That the construction and maintenance of the works will be expensive.
- (3) They will silt up very quickly. He says this more so with regard to Alur and Bellary taluks. He is however of opinion that if good sites are found they will make good famine relief works and states that some more estimates of the kind should be got ready. This Committee further adds that these may be some of the causes for the minor irrigation schemes not working properly, but would like to add the following among other causes:—

Feeder channels are not repaired. There is no removal of silt from the tank by any Government or private concern, allowing ryots to cultivate on most of the tank-beds and subsequently getting a patta transferred in their favour. Further the kudimaramat system is not now in vogue and even if it is in vogue it is done perfunctorily and in a most unsystematic manner. The example of Kanekal tank may be taken as a typical instance. From the Government statistics published for the years 1935 to 1938, the amount spent for the upkeep and repairs of minor irrigation works for this famine zone is a mere pittance. For the five taluks of Adoni, Alur, Bellary, Rayadrug and Siruguppa the total amount spent for tank repairs, etc., is about Rs. 3,000 and odd for 1935-36, Rs. 1,600 and odd for 1936-37 and Rs. 500 and odd for 1937-38. An appreciable amount must be spent for repairing channels. There is no proper provision or utilization of the Government funds for keeping the tanks and minor irrigation works in proper working order. We are therefore of opinion that if funds are utilized properly it is possible to keep them in good condition.

Our suggestions are—

- (1) To reclaim tank-beds and widen the catchment area and keep in proper condition the feeder channels.
- (2) Remove the silt from the tank-beds.
- (3) Revive the kudimaramat scheme.
- (4) Reinforce the bunds for the tanks and entrust these to the village panchayats on a statutory basis.

The utility of keeping the tanks and minor irrigation sources in proper condition will not only benefit those near the tanks, but also will be the best source of supply for village wells, that is, it will allow subsoil circulation of water which may prevent brackishness. We also suggest that the Tank Restoration Scheme establishment in these districts be doubled.

(iii) The question is raised if there is any use repairing minor irrigation works which depends on rain-water for their storage as they will also fail during bad years. There are two possible answers. If the tanks and minor irrigation schemes are managed as at present the answer will be that these irrigation schemes will be of no use. But if proper steps as suggested above are taken it is possible that even in case of drought the water stored in the years of plenty will be of some use to the ryots in times of distress.

(iv) It is true the water in the black-soil area is brackish, and deleterious to crops. It is not possible to irrigate lands from such water. But the sinking of wells may be taken in red-soil areas and Hagari banks and near channels and where it is possible to get good water for irrigation purposes. The Government should advance money to the ryots in such areas at favourable rates to make this scheme a success—vide Colonel Smart's Scheme.

(c) *Contour bund forming.*—It is not quite clear what exactly is meant by this question. The Villager's Calendar for 1938 contains a report about dry farm bunding. We are of opinion that this method of farming will yield better produce to the ryot. The contour bunding as followed in America appears to be a costly scheme which is not within the reach of the ordinary ryot. It can be tried only in non-project areas with the aid of Government help as the ordinary ryot is not able to meet its cost. The literature on the subject of Contour Bunding, is to be found in the first annual report of the "Resettlement Administration, Washington, 1936," which is really instructive. The success of the scheme also depends on the propaganda by the department. We are informed that this scheme is successfully carried out in some districts of the Bombay Presidency.

The Dry Farming.—From a visit to one of the stations suggested in the questionnaire, viz., Hagari, we are of opinion that it is possible to secure a better outturn of crops by improved dry farming methods practised at Hagari. Bund forming and basin listing as practised here do result in better outturn of crops. We suggest that there should be demonstration farms for each taluk as knowledge of better and improved methods has to be brought home to the cultivator.

Afforestation.—This Committee is of opinion that afforestation is an absolute necessity. The system in vogue of giving grazing facilities by the forest panchayats is to be controlled with a view to keep the forests from devastation. An active and extensive scheme of afforestation should be launched immediately. Babul and margosa trees could be planted among others.

Alternative or subsidiary sources of employment—(i) Large-scale industry.—The only large-scale industry which could be started in this area is cotton spinning mills. We are of opinion that weaving mills should not be encouraged as it affects cottage industries. Tanning industry is also possible in this locality and carpet making and cumbly making with softening process may be taken on hand. It is necessary to give proper impetus by giving State-aid to these industries. The example of the Mysore Government in subsidizing many of their industries may be followed.

(ii) *Cottage industries.*—The cottage industries which are useful for this area are handloom weaving of cloth and cumblies. There are a large number of weavers making a living by these industries. We are informed there are over 10,000 in this district. The weaving centres are mainly at Adoni, Yemmiganur, Gudekal, Rayadrug, Hirehal, Kurugodu and some villages in Hospet taluk. If sufficient encouragement is given to the handloom weavers they will not only make a decent living but also produce enough cloth to supply a major portion of the district. The kind of cloth woven is really of a good order. For want of proper encouragement by the Government till recently and the indifference of the public, the handloom weavers are suffering. But with the organization of the handloom weavers' co-operative societies started under the Government auspices, it is possible to improve their lot. This industry will be of considerable use and mitigate the severity of the famine to a very large extent. The other possible cottage industries are soap-stone industry, i.e., making utensils of soap-stone. Bee-hive and poultry farming are also possible.

Sparked water.—This Committee has no experience on the subject.

SECTION II.

Purpose of famine operations and principles of famine relief.

We do not agree with the principles laid down in the introduction and in section 127 of the Famine Code. The conception of the duty of the State towards its citizens has considerably changed since the time the Famine Code was framed. The idea of having the lowest amount of wage sufficient to maintain healthy persons in health is not satisfactory. It is not our intention that in times of famine the villager should be provided with all the comforts he is supposed to have in normal times. He should not only be kept in a healthy condition but he should also have reserve power to tide over successive famines which has been the lot of these districts. Since 1876 there have been repeated famines almost every three years. The health of the ryots has considerably deteriorated by these visitations. The loss suffered in 1876 and subsequent famines has not been made up even till now. The point is not only physical but psychological. A certain amount of confidence must be infused in the ryot, that he could tide over difficulties. For that, it is necessary that not only the wage should be revised but also the task should be altered. He should not feel that he is a slave depending on the dole of the Government for his maintenance. In normal times he pays taxes and helps the Government to carry on. In times of distress he has got a right to fall back on the Government for his maintenance. Greater financial commitments are inevitable, till preventive or protective measures are inaugurated on a large scale. Material prosperity and future well-being of the ryot is more important than present financial commitments. This Committee earnestly desires that the well-being of the ryots and not finance should be the main consideration in a country predominantly agricultural. Famine is a disease which saps the vitality of the people and their productive power. No pains or money should be spared to rehabilitate the ryot and give him confidence in the future. If this idea is kept in view many of the measures and recommendations proposed by this Committee will be fully justified.

4. *Preliminary measures of enquiry and preparation when the rains fail (Chapter II of the Code).*—At present the crop estimate is left to the Revenue department from the karnam to Deputy Collector for preparing the crop estimate. The Revenue department by its very training is more concerned with the probable loss and gain to the revenues of

the State. It is possible that the department may not place the well-being of the ryot so much as revenue in the forefront. We therefore suggest that the crop estimate should be made by the Agricultural Department who will have a better idea of the outturn.

5. *Chapter 3—Period of observation and test.*—We are of opinion that the opening of test works is not a necessary preliminary to the grant of relief. Test works are meant to find out if the distress is prevalent. The prevalence of the famine in this district is a normal occurrence. It will therefore be safe to start relief works straightaway instead of test works. But in order to be more certain about the matter we recommend that if in any one of the three preceding years there was drought or scarcity and if the crop outturn was poor no test works need precede starting relief works.

6. *Chapters 4 and 6—Declaration of distress and commencement of relief and description of the various measures of relief.*—This Committee recommends that the distinction between scarcity and distress should be abolished. Immediately rains fail and the expected outturn is poor it is advisable to declare distress. The conditions of test work if found necessary need not be different from relief work especially in the Ceded districts.

SECTION III.

Scale of wages and allowances and the diet scale.

7. The classification under section 116 is not correct. There should be a classification of (d) and (e) into only one class and the distinction between the wages paid to men and women also should be abolished.

8. (a) The scale of wages and allowances as laid down in Chapter 8 of the Code is not suited to the Ceded districts ryots. The grain item is insufficient even for classes 1 and 2 and the distinction between the food for men and women is not based on facts. The grain equivalent system contemplated there should be abolished. The fact is that the Ceded district ryot normally eats three times a day and his diet consists of items which are not provided for in the Famine Code.

(b) The existing allowances for vegetable under section 128 (a) should be revised. The present diet given to a famine wage earner compares very unfavourably with that of normal diet given to a convict in jail. The position of the ryot should be much better than a convict undergoing imprisonment for a crime. In these changing times when jail reforms are undertaken, it is absolutely necessary that the diet of the ordinary ryot should also be revised. This will be in accordance with the principle enunciated by us in preface to section II of the memorandum. Normally a ryot gets buttermilk in the village. The fact that he takes no vegetables normally is not relevant because he gets nourishment from buttermilk, pulses, etc. We are therefore of opinion that onions, greens, brinjals, tamarind should be increased. It may not be possible to get vegetables on a large scale during hot weather, but brinjals and onions are usually available. Buttermilk also can be procured if proper precautions are taken to preserve the cattle in the village during the time of distress by giving necessary fodder facilities. It is also the duty of the State to protect the sale of cattle in famine times and feed them if necessary, and hand them back to the ryots. This will solve the difficulty of the ryot in starting agricultural operations immediately after the rains.

(c) The only extravagance which the ryot indulges in during the times of famine is drinking toddy. Immediately famine works are started we recommend that all toddy and arrack shops within a radius of 8 miles should be closed. We also suggest co-operative provision stores be opened in the famine area. Some of the petty money-lenders especially Pathans are hovering about the camps to grab at what little amount the famine worker gets. There should be a strict and rigorous exclusion of such persons near the famine area. It is better also during times of famine to declare a moratorium in those villages so that the workers need not be unduly harassed by their creditors.

Gratuitous relief.—It is better the Revenue department prepares an annual list of persons that may have to depend on gratuity in times of famine. So that in case famine is declared they may get immediate relief.

SECTION IV.

The size and nature of the task in famine works.

9. The task system should be given up and fixed wages system of 8 hours work per day be introduced; and the wage at the rate of 2 annas for both men and women without distinction and 1½ annas for workers between 12 and 14 be fixed. The principle of equal wage between men and women should be kept up.

SECTION V.

The possibility of providing famine relief by works of more appreciable benefit to the community than stone-breaking, e.g., irrigation works of suitable size.

The policy enunciated in the Code states that works of permanent utility like village improvement schemes and irrigation works should be the normal task imposed during times of famine, and that road-making and other works should be exceptions. But in this district exception has become the rule and no irrigation works or schemes of public utility are taken on hand. Immediately famine operations are started the only work done is stone-breaking. No considerations seem to have been bestowed on schemes of permanent utility. This is demoralising to the worker. The material collected has not been made use of. The local boards in which these roads are ultimately vested are neither able nor inclined to maintain these roads. It is so much waste of public money. This policy should at once be changed. No doubt it is true that it is difficult to provide utility schemes on a large scale immediately famine occurs. But that should be no criterion for resorting only to road works as the solvent for all evils. For instance, minor irrigation works should be investigated and kept in readiness and immediately famine is declared they may be taken on hand. To a certain extent spinning and weaving may be encouraged. Well digging can be taken up on a large scale and completed.

Other suggestions.—(a) We have found by experience that there is no provision for compensation in cases of accidents to famine workers. A provision may be made applying the Workmen's Compensation Act to workers in Famine Camps.

(b) The method of constituting non-official Relief Committees under section 40, has been found to be unsatisfactory in certain cases. Some rules may be framed to make the committees more useful and representative.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—You are tendering evidence on behalf of the District Famine Relief Committee?

A.—Yes.

Q.—Usually it is constituted by the Collector under section 40 of the Code?

A.—Yes.

Q.—In your memorandum, you state that the method of constituting non-official committees has been found to be unsatisfactory. So, you don't want the Collector constituting these committees?

A.—My suggestion is that it should not be altogether made to depend on the discretion of the Collector but public opinion also might be consulted to a certain extent, i.e., by means of convening a meeting of all the important men in the district and consulting them and then the committee be constituted.

Q.—Not nominated by the Collector?

A.—By the Collector, but in consultation with public opinion.

Q.—So, this memorandum that you have submitted has been adopted by that nominated committee?

A.—In that committee we co-opted a large number of important men and they appointed a sub-committee to draft the reply to the questionnaire and this is the work of that sub-committee in which the co-opted members also took part.

Q.—You speak of the Cuddapah-Kurnool canal. I suppose you have no personal knowledge of it except what you got from the reports and books that you were able to get?

A.—Yes.

Q.—From what you have studied, do you think it would be advantageous to levy a compulsory water-rate for all the lands under the Cuddapah-Kurnool canal, of course assuring them supply of water?

A.—I should think, that is the only way to make people take that water.

Q.—Do you think it should be dry irrigated crop or wet irrigated crop?

A.—I think it ought to depend on the amount of water that it is possible to supply.

Q.—So you would leave it to the Government to decide whether it should be wet crop or dry crop, but however you are of opinion that a compulsory levy may be instituted?

A.—I think a compulsory levy is absolutely necessary.

Q.—Do you agree that in the case of the Tungabhadra Project a compulsory levy could be made for dry irrigable crop?

A.—I think that is the only way to make people take water, at least for some time to come; otherwise people may not take to it and all the expenditure that Government may incur on this big scheme might become a loss to Government.

Q.—You mentioned something about linguistic provinces. What is your difficulty if linguistic provinces are formed?

A.—If linguistic provinces are formed, I believe the Ceded districts and Chittoor will suffer considerably because they are economically backward. If linguistic provinces are formed I take it that in the new provinces—Andhra and Karnataka with which alone I am concerned—expenditure, will be diverted for some time to come at least towards the costly establishment, e.g., splitting the High Courts, Governor's houses, ministerial establishments and there will also be such other commitments which will make it impossible for the new Governments, whatever their pious intentions may be, to find the money for these irrigation facilities which are the absolute need of these five districts.

Q.—Have you had occasion to examine roughly what would be the assets of these two provinces?

A.—According to a pamphlet called the "Andhra Movement" the income of the proposed Andhra Province is supposed to be 7 crores and odd. The income of the proposed Karnataka Province is supposed to be 2½ crores. I take it that prohibition if the Government launches on it, would certainly consume one-fourth of the revenues available for these Provinces, thus reducing the revenue of the Andhra Province to 5 crores and that of the Karnataka to 1½ crores. With the special commitments which may be the result of the formation of new Provinces, I think for hundreds of years to come there is no possibility of these two minor Provinces finding funds for any of the irrigation schemes of these five districts and much less for the Tungabhadra which is the main need of the district. There is also the further complication in regard to the Tungabhadra Project and Bellary district would be the most unfortunate, i.e., if the two provinces are to come about. As the present proposals go, the Bellary district has got to be divided between the two warring provinces of Andhra and Karnataka.

Bellary district being the battle-ground between the two contending forces each one claiming a large portion of this district for itself. As I have stated in the very first part of my memorandum, according to official records, the Tungabhadra Project is mostly in the Bellary district with 784,000 acres and the difficulty in regard to this project will become greater than at present because the consent of both the Karnataka and Andhra provinces will be necessary in the matter of the allocation of the revenues or for setting apart the necessary funds before this scheme is launched; and then the claim of the Karnataka, I hear, is in regard to most of the Bellary district. If that is so, it will have to pay a larger portion of the proposed expenditure on the project which has been estimated at 10 crores. So, I fear that the Karnataka Province with 1½ crores will never be able to meet a bill for 6 or 7 crores which will probably be its share of the cost of the project. So, if these two provinces do come about, I am certain that this project will be shelved for a long time to come, and Bellary must decide if it is going to be a permanent famine-stricken area with no hope of redemption in the near future.

Mr. F. M. DOWLEY: Q.—The project is more important?

A.—Certainly, the idea of the present Government which is fighting for *swaraj* or, for that matter, the idea of any Government, is to feed and improve the economic condition of the people.

Sri R. SURYANARAYANA RAO: Q.—Have you considered the other aspects relating to the project, if these two provinces are formed, or even if one province is formed, that is, the headworks will be in one province and the distribution channels will be in the other province and one section of the officers belonging to one province and the other to the other province?

A.—Yes, that is a further complication which will make this project a *mirage* and I fear it will recede farther and farther into the background if the formation of the provinces is to be considered before this project has been brought to fruition.

Q.—You say “we are emphatically of opinion that no other consideration should be allowed to stand in the way of the immediate inauguration of the scheme and in any event before any new provinces are formed we suggest the cost of the Tungabhadra Project should be made either a first charge on the revenues of the Federation as in the case of the Sukkur Barrage Scheme, or a first charge on the revenues of the major provinces (Madras and Bombay) so that the minor provinces to be formed cannot shirk the responsibility.” Don't you think it is taking for granted too much, because you want to inaugurate something, you want to throw the burden on the others? Don't you think that position is not necessary? Of course I can understand if you say that Tungabhadra must come?

A.—Why I stated so was, because of the atmosphere, namely the trouble from agitators from the Circars and also from the Karnataka area. If only it was in our power, we could prevent the formation of the province by every means, but if it is going to be forced upon us, we are only anxious to secure the Tungabhadra Project. My view is that the Tungabhadra Project should first be provided for.

Q.—But don't you think it is an impossible proposition to ask that this should be the first charge in the revenues of the Federation?

A.—Because I felt that the present Government, manned by Congressmen, seems to take it for granted that they are committed to the linguistic provinces, I am anxious to place before that Government that even if they feel they are committed to this, the project ought to be their primary consideration. My view is that those provinces should not come about, not merely on economic grounds, but on several other grounds as well.

Q.—You would like the Tungabhadra Project inaugurated before the formation of these provinces?

A.—No, we do not want linguistic provinces at all.

Q.—So you want the Tungabhadra and similar other projects for the benefit of these districts?

A.—Yes.

Q.—You say there is no proper provision or utilization of the Government funds for keeping the tanks and minor irrigation works in proper working order. You have given certain figures. You think more allotment should be made for the repair of minor irrigation sources?

A.—Yes, greater provision ought to be made and money ought to be spent on minor irrigation works.

The CHAIRMAN: Q.—You have quoted certain figures. Do they relate to minor irrigation works of the Revenue department or those of the Public Works Department? You refer to repairs here?

A.—Those are the figures supplied to me by the Collector's office in regard to the expenditure incurred on minor irrigation schemes on this district.

Sri R. SURYANARAYANA RAO: Q.—One of your suggestions is about the revival of the kudimaramath system. You know it is already in the Act. Are you in favour of the kudimaramath being transferred to village panchayats, if they are constituted without being empowered by statute to enforce it?

A.—I should think though it is transferred to the panchayats the Revenue department may have some control over it and see to its proper working.

Q.—Are you in favour of the abolition of forest panchayats?

A.—So far as grazing facilities are concerned, I believe the forest panchayat which owes its position to the electorate in trying to please the electorate which elected it, might neglect the interests of the district. Therefore it is better the superintendence of these forests might be removed from the hands of the panchayats.

Q.—You have some suggestions relating to the preparation of crop estimates. You are not satisfied with the present method of crop estimates. You think the Agricultural department is more competent to arrive at crop estimates?

A.—My main object in making the suggestion is the Revenue department which is concerned primarily with the revenues of the district, might place considerations of revenue above the interests of the agriculturist. I have sometimes heard complaints that some tahsildars, for fear that their superior officers might take them to task, gave a higher report about the crops than the facts actually warranted. So, I think the Revenue department suffers from these conflicting interests, viz., interest of the Revenue department on the one side and the interest of the ryot on the other. It is better to remove this conflict.

Q.—Is not the Agricultural department a department of Government?

A.—Yes. No private agency could do this, and between the Revenue and Agricultural departments I think the Agricultural department is likely to be more efficient in giving a report about the actual crop return.

Q.—You want Government to straightaway start relief works as soon as famine occurs. You know the experience of test work at a place called Gududur in Bellary taluk. Don't you think that some sort of test work—it may even be an extension of the ordinary works, is necessary?

A.—We only think that the rigours of the test work may be lessened, because in this district which is perpetually subject to famine, even the period spent in test work might be a considerable hardship to the people. Therefore, if the rigours of test works are lessened, I will be satisfied.

Q.—You think one of the methods of doing so is to give allowance to dependants?

A.—Yes.

Q.—You say that the Ceded districts ryot eats normally three times a day. What is the normal quantity? Will it be about ½ seer each meal?

A.—I think an ordinary labourer in good health takes more than ½ seer each time.

Q.—Under 8 (c), you say there are Pathans hovering about the camps. Have they come into the rural areas also?

A.—Yes, they have also business in rural parts. They have lent money to people and collect it probably using much more coercion than the courts

would allow. I know at the time the pay is disbursed to clerks in the Taluk office, they are waiting outside and get their due.

Q.—You are for starting co-operative provision stores in the famine area. Do you know it means membership, share capital and so on; it is not a charitable concern and the question of profit also comes in. Your suggestion evidently means the elimination of profit?

A.—Yes, profit can be as little as possible, but my idea is you must place the grain at the disposal of the ryot almost at cost price.

Q.—The grain given in the camps is the same as that sold in the bazaar. In the camps there is no profiteering?

A.—I think there is the medium of the contractor.

Q.—Supposing there is a dealer who is asked to sell it at the rates prescribed by the Collector. Have you any objection?

A.—If that can be done I am agreeable. My only point is that grain should be made available to the individual to be purchased at the camp or as near as possible. That is the object of the suggestion and whether it takes the form of a co-operative store or any other kind it does not matter.

Q.—In Section V, you say “the policy enunciated in the Code states that works of permanent utility like village improvement schemes and irrigation works should be the normal task imposed during times of famine and that road-making and other works should be exceptions.” The Famine Code itself contemplates village works and works of permanent utility as part of famine programme. The suggestion is that most of the labourers are utilized for stone-breaking. You want that emphasis should be laid on other aspects of famine relief works? Had you occasion to watch and examine which is advantageous. You know the works are meant for the people and not the people for the works. Your suggestion shows that you are more concerned about the utility of the works than the relief of suffering?

A.—What I am concerned about is that you should make the best use of labour available for projects of permanent utility while the interests of the labourers also are kept in view.

Q.—If stone-breaking is in the interests of the labourer you don't object?

A.—No. But, most of the metal broken has not been used in this district.

The CHAIRMAN: Q.—Is it not a fact that metal collected for several miles around has been used in this district this year?

A.—It may be this year, but in previous years it was not used.

Sri H. SITARAMA REDDI: Q.—Under Section III, you say “it is also the duty of the State to protect the sale of cattle in famine times and feed them if necessary and hand them back to the ryots.” Do you think that attending to these cattle also during famine times should form part of other relief measures?

A.—I should think it is a *sine qua non* of famine relief. Because I know at present when people resort to famine camps they sell cattle worth Rs. 40 or Rs. 50 for a *song* and when they come back they are handicapped for want of them for agricultural purposes. My suggestion is to provide against such contingencies.

Q.—Do you think that the provision of fodder loans under the Takkavi rules is not adequate?

A.—I do not think it meets all the requirements, but it merely serves the people that are in need of help. There are difficulties in working out this Takkavi loans and I know the full amount sanctioned does not reach the ryot.

Q.—That can be controlled. Has there been any difficulty to your knowledge in the case of people owning cattle in getting the loan for the supply of fodder to cattle?

A.—I would prefer cattle being attended to even if fodder loans are given. When the men themselves are in need, the money that is given for fodder will not be used for the cattle because his need is greater.

Q.—Do you know that in this district when fodder loans were sought to be distributed in kind and not in cash, many ryots did not come forward to take the loan?

A.—I am not referring to distribution of fodder loan in kind. Famine camps really serve the need of the people from whom work is taken and their physical comforts are attended to to a certain extent. I feel that when the State spends money they would utilize it to better advantage if cattle are also fed under their supervision during the time of famine.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—I do not understand what you mean by saying that the State is spending money. Do you think that Government spend money on the upkeep of animals also?

A.—No, Government give loans for the purpose, but what I say is that the same might be utilized in this manner, namely, that cattle also might be attended to by some department of Government.

Q.—You are for the owner being charged for its upkeep?

A.—Instead of paying cash, if the ryot leaves his cattle in camp some amount might be charged. Even as the Takkavi loan is granted and recouped in instalments this also might be done in that manner.

Q.—Have you got any idea of the upkeep of cattle?

A.—I am only saying that what the Government are giving by way of fodder loan might be utilized in this manner.

Q.—You cannot utilize an imaginary figure?

A.—Certainly the Government which is in a position to know how many men are in need, would be able to know it.

Q.—But all the cattle-owners are not resorting to famine camps?

A.—All the men also are not resorting to famine camps.

Q.—What do you think will be the cost of upkeep of a bull per month?

A.—Say Rs. 3 to Rs. 4.

Q.—On the whole it will come to Rs. 50 for the whole season. Do you think it will be cheaper for the ryot to keep it in camp or to sell it when he goes to camp and then purchase another when he actually requires one?

A.—A pair of bulls in normal times will cost about Rs. 70 or Rs. 80 and he may not have the amount with him at the time he wants to purchase. Moreover if he has to sell it when he goes to camp he may not get the proper price. Moreover the ryots here cling to their cattle and they love them as their children and when such is the case why should they be made to sell their cattle at low prices and then purchase at a heavy cost after their return.

Q.—Coming to the Tungabhadra Project you know the difficulty for instance with respect to the Cuddapah-Kurnool canal. You have no objection to legislation making it compulsory so that each ryot should pay whether he takes water or not?

A.—Yes, that is the only way by which, I think the ryot can be made to take water and the only modification I would make to induce the people to take water is, for the first five years dry assessment may be continued, for the next five years, a higher assessment might be imposed and afterwards the full assessment. This may be provided by statute.

Q.—Don't you think you are increasing the cost of the project?

A.—Anyhow, the problem revolves in a vicious circle. But my suggestion will induce or cajole them to take this water, and once they know the advantage of taking water it will be easy afterwards to get the necessary return from them. In case this graded method is not adopted there is the difficulty of their not taking this water. I am in favour of a compulsory levy by means of statute and I am only making it as light as possible for the ryot to take to it without much coercion. According to my method, it will help the normal operation of the principle of supply and demand.

Q.—Are you in favour of any maximum acreage with reference to this scheme. You know there may

be people not in a position to cultivate the whole extent and also pay a water-rate of Rs. 5. Have you any objection?

A.—I have no objection to such legislation, but Government might be buying too much trouble. What I mean is, if Rs. 5 is compulsorily levied by statute the normal operations of the market will come to play and things will automatically adjust themselves.

Q.—Supposing there is another provision introduced, namely, that if a man does not take water within five years, the Government will acquire the land at valuation fixed now?

A.—Some such condition might be put in.

Q.—Do you believe that people would agree to a condition like that?

A.—In matters like this, as in other such matters, people will have to be helped in spite of themselves. Almost all legislation cannot be introduced on the basis of common agreement of the people at large. For instance, in the matter of the Debt Relief Bill, if all people had been brought round a table and asked for a common agreement, it might not have been possible.

Q.—You don't think if any such provision is made in the Act there will be any wide agitation?

A.—Of course there may be some discontent.

Q.—Do you think that people will agree to some control over the rotation of crops or the growing of particular crops?

A.—I think that is a matter which can better be left to propaganda.

Q.—You would not like the Government to take it up?

A.—I do not know if it could be made a matter of compulsion but I think it is better left to propaganda to have its own effect.

Q.—If a Bill is passed embodying such a condition you think people will agree?

A.—I think it will meet with a large measure of agreement.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—You know that people in the locality are very keen on having the Tungabhadra Project. What does that mean? I think it means that if water is available, they will take it?

A.—Yes.

Q.—Why then all this doubt about their taking water or anything of the kind. Every village I have visited, I have seen all are keen on this project?

A.—Yes.

Q.—I only want to know what is meant by all this?

A.—There is a strong feeling in favour of the immediate inauguration of the Tungabhadra scheme in this district and in the adjacent districts to the extent that project will help.

Q.—Therefore there is no room for any distrust that the people are not likely to take water?

A.—No.

Mr. L. B. GREEN: Q.—You have suggested that a cotton spinning mill should be established?

A.—Yes.

Q.—May I know where you would locate it?

A.—I was thinking of an experiment being made here, because some years ago there was a cotton spinning and weaving mill here but it came to a close in about 1917 or 1918. I think Bellary is as good a place as any other. Formerly Bellary had much more of cotton trade and recently it has gone to Adoni. I should consider either Adoni or Bellary as very suitable places. Failing Bellary, in view of the present market conditions, I think Adoni would be a better place.

The CHAIRMAN: Q.—You know that the Bombay company had their agency formerly in Bellary and that they have just shifted to Adoni?

A.—They have got work in both places.

Q.—The capital required for starting a spinning mill will be 20 lakhs. Will it be possible to raise it locally?

A.—Not the whole amount can be raised locally so far as I know. Say about one-third or one-fourth

of the capital may be raised locally. The balance may be made available by Government contribution or from outsiders.

Q.—It has been suggested by certain witnesses that cotton mills should be under State control and State operation. What is your opinion?

A.—Yes. From my own knowledge I can say that in the past certain mills started by private enterprise in the past were a failure. So I would prefer State control.

Q.—The point is important. For if Government should contribute the largest amount of capital, the mill should be under the control of the Government. But suppose Government contribute only one-third?

A.—Probably the people may contribute the remaining two-thirds and if the management vests in the people, there will be conflict between the interests of people and the Government. But if the Government contribute one-half the management must naturally be in the hands of the Government.

Q.—Suppose Government is represented on the Board of Directors; do you think that control is sufficient?

A.—No; not merely on the Board, but in the actual management it should be represented.

Q.—You refer to the tanning industry in your written answer; and you know there are some tanning factories in Adoni. Do you consider there is scope for development in the tanning industry?

A.—Yes.

Q.—Is tanning carried on widely?

A.—Every village does some tanning; and if there is some propaganda, all this may be directed to the tanning centre.

Q.—Have you noticed any deterioration in the village tanning industry?

A.—Yes.

Q.—Do you consider it requires assistance from the Government on the technical side?

A.—There is absolutely no technical help; they are carrying on in the old traditional way.

Q.—Do you know whether the local need is met by the local tanning?

A.—I think so.

Q.—With regard to the cumbli weaving, is the deterioration attributed to the lack of reasonable facilities? Do you think it is possible to increase pastures?

A.—If the pastures are improved it is possible the industry may improve.

Q.—What are the practical possibilities?

A.—I have not applied my mind to that.

Q.—Are you familiar with the working of the two cumbli weaving co-operative societies?

A.—Not personally; I have simply heard about them.

Q.—Have you any suggestions to make with regard to their improvement?

A.—No.

Q.—Have you any suggestions to make with regard to the hand-woven cotton weaving industry?

A.—Yes; I know a co-operative weavers' association has been started at Yemmiganur; and I learn it is meeting a large demand. It is relieving a large amount of distress; and I think that if this industry is expanded a large supply of cloth may be made. Particularly as this industry is indigenous, the development of weaving may meet the needs of the district.

Q.—Is the Madras Handloom Weavers' Co-operative Society giving any assistance to the handlooms?

A.—I don't know anything about its actual working.

Examined by the CHAIRMAN: Q.—In your written answer you say, "we are of opinion that along with the irrigation system or immediately thereafter the hydro-electric scheme be also taken on hand." Is there any such scheme?

A.—I have read in papers that this is being done in Mettur Project.

Q.—No, I am now talking of the Tungabhadra Project.

A.—There is no such scheme.

Q.—Do you think the conditions in the scheme are such as to permit the starting of such a scheme?

A.—I have no knowledge of hydro-electric operations or schemes.

Q.—I see, that is merely a passing remark. Supposing generation of electricity is possible, what ways do you suggest in which it can be utilized?

A.—Supply to towns, to factories and industries with profit.

Q.—You give certain figures to show that the amount spent by Government on the upkeep and repairs of minor irrigation works is not sufficient. Do you know that there has been introduced recently an accelerated scheme of tank repairs by the Public Works Department?

A.—No. I was supplied with a typed statement, similar to the one supplied to the committee, and the figures are from that.

Q.—Do you know as a consequence of that scheme the expenditure so far incurred from the year 1935-36 is one lakh and 45 thousand and odd rupees?

A.—I have no idea of that.

Q.—In the light of that, perhaps would you like now to amend your statement?

A.—Yes.

Q.—A little below you say, "we also suggest that the Tank Restoration Scheme establishment in these districts should be doubled." What is that Tank Restoration scheme?

A.—I am referring to some observations in Arogyaswami's report of 1926, in which there is the suggestion that the establishment should be doubled.

(At that time a tank restoration scheme was working. At present it is not so.)

Q.—In section II of your written answer, you say, "we do not agree with the principles laid down in the introduction and in section 127 of the Famine Code and the conception of the duty of the State towards its citizens has considerably changed." And you say also "it is not our intention that in times of famine the villager should be provided with all the comforts he is supposed to have in normal times." In other words, you contemplate something between "bare necessities" and "almost every comfort"?

A.—Yes.

Q.—Can you reduce that into a formula?

A.—By raising wages to 2½ annas.

Q.—That is not what I mean by formula. I mean similar to the one in the introduction of the Famine Code?

A.—The introduction to the Code contemplates that in times of famine the labourer can fall back upon three or four classes of people for support. Such a thing does not exist consequent on the recurring famine year after year. So much so, taking the energy of man to be 100, the men in the famine area have only 40 per cent energy at the commencement of the famine, and the State by relief measures leaves them at the end of the famine at 40 per cent energy only. My aim is that the State should leave them at the end of the famine at 100 per cent energy.

Q.—In section 2 you say the crop estimate should be made by the Agricultural department. Do you include the karnam in the Revenue Department?

A.—Yes; I am referring only to the Tahsildar and the Revenue Inspector mainly.

Q.—What are the items of diet you think are not provided for in the Code?

A.—Buttermilk. I find in some cases people who have been supplied with dholl (which is all right) feeling much the absence of buttermilk. So in the normal diet I would include also buttermilk.

Q.—You say, "the only extravagance which the ryot indulges in during the times of famine is drinking toddy." Is there any warrant for that statement? Have you any evidence to prove indulgence in drinking toddy? The evidence is the other way. Consumption falls, and as far as rentals are concerned, I learn they too fall off?

A.—I am not saying during famine times there is enhanced drinking. I mean even in those days people resort to drinking.

Q.—You would regard that as a luxury in that particular condition?

A.—Yes.

Q.—You recommend the abolition of task system. Have you worked out what additional expenditure would be involved in the scheme you suggest?

A.—I have reconsidered the matter; sometimes the task system is necessary, for example, when labour has to be employed on large scale works, as otherwise there will be no way of enforcing it.

Q.—You say, "the local boards are neither able nor inclined to maintain these roads." Why?

A.—Financially they are not able to do it, and so the construction of roads, which cannot be maintained is all waste of money.

Q.—If the district board is not able to maintain it, the Public Works Department will have to take it up. And that will mean practically abolishing the district board, if this thing is continued in all matters?

A.—I am only suggesting that the road should be kept in good condition. I am not concerned with the agency of upkeep.

Mr. H. SITARAMA REDDI: Q.—Suppose Government give a special grant to this road?

A.—One part of the objection is met. I am concerned with the policy, and I say it should be changed. I suggest public utility schemes on a large scale should be started.

Examined by Mr. F. M. DOWLEY: Q.—The most important consideration for the district is the Tungabhadra Project?

A.—Yes.

Q.—You know there are certain areas which the project will not benefit. Do you consider that minor schemes for such areas should be provided?

A.—Yes.

Q.—Can you suggest any such schemes?

A.—No.

Q.—Would you control irrigation on the smaller schemes, and make the ryot grow only particular crops?

A.—I think only a small portion can be irrigated wet. The major portion will still be under dry crops.

The CHAIRMAN: Q.—Do you think the ryot will take to paddy cultivation?

A.—If he is sure of getting paddy he will take to it.

Q.—If we start the project it will be supplying plenty of water, and the people can grow paddy; but the same amount of water can be used to irrigate a greater area of dry crops? Which would you prefer?

A.—I would be in favour of dry crop as it will be benefiting a large number of people.

Q.—Do you think it is advisable to revive the tank restoration scheme?

A.—Yes.

Examined by Mr. H. R. DORGA: Q.—You say, stone-breaking is demoralizing. Is it more demoralizing than excavation of earthwork?

A.—I think vakranis or village reconstruction scheme will be better; and the worker will take an interest in doing it, as he knows it will be of permanent advantage. I think psychologically it is more useful than mere mechanical stone-breaking.

Examined by Sri KALLUR SUBBA RAO: Q.—What do you understand by kudimaramat; and what is your experience of its working?

A.—Kudimaramat is the system of voluntary service rendered by every villager to some scheme conducive to the common good of the village. This system was in perfect order 20 years back; and of late due to the spread of faction in villages as a result of election, and outside influence the system is not working satisfactorily.

ABDUL RAWOOF SAHIB Bahadur: Q.—Do you mean to say that these factions are imported from outside?

A.—Yes. I know 20 years back when I was living in the village there was very little of faction and very little of litigation; but due to the system of election, that is, the outside influence, there is faction in the village.

The CHAIRMAN: Q.—One of the first criminal cases I tried in 1906 in this place when I was the Assistant Collector arose out of faction.

A.—Probably the villagers had already started faction even then. My experience has been the other

way. I have gone to the villages frequently in connexion with my work as Official Receiver for four years, and I see most of the litigation is due to outside influences and the members of the bar contributing not a little to it.

Q.—You want that money should be advanced to the digging of wells?

A.—Yes; I mean wells in red soil; because wells in black-cotton soil may not be of much benefit.

Q.—With regard to the starting of spinning mills do you think all the capital can be supplied by the local people?

A.—No, only a certain portion; I prefer the State should take some share in it so as to give confidence to the people.

Q.—Is it your idea that outsiders from the districts may be allowed to have a share in the capital?

A.—There is no objection.

Q.—Have you any objection to the Government taking up the whole work?

A.—I would not advocate that. I am for State taking a leading part in it.

Sri N. SANKARA REDDI: Q.—As regards subsidiary sources of employment, you have mentioned the starting of cotton spinning mills. Are you aware that mill employees are almost whole-time workmen and that they cannot take to agriculture? And so, if you are to start mills they cannot give subsidiary employment to village peasants?

A.—Generally in villages women alone attend to farm labour; and so the mills can take in a number of people as coolies.

Q.—It is admitted that every small landholder should have some income, however small it may be, so that he may not involve himself in financial difficulties. Our intention is to give some such occupation to the villager?

A.—This scheme does not exclude schemes beneficial to the villagers.

Q.—The other thing you have said is weaving. Do you know that weaving is a profession by itself?

A.—Formerly a profession was confined to a particular class. But now people of one class take to the profession of some other class under the stress of modern conditions.

Q.—It is unfit to be a subsidiary occupation to the ryots. It requires high technical skill. Can you suggest any occupation other than these?

A.—Spinning, etc.

Q.—Do you think that spinning will be a better occupation for the ryot?

A.—I think there is need for a spinning mill which will attract a large amount of labour. There may be other ways; I only suggest some ways which I know.

Q.—Do you recognise that hand-spinning can give occupation to a large number of people at large villages?

A.—It might give work for a few.

Q.—Can you suggest any other better occupation to the large number living in the villages?

A.—No, Sir.

Examined by ABDUL RAWOOF SAHIB Bahadur: Q.—On page 50, section 187 of the Code, it is said that "only selected cows . . . valuable breeds" Supposing the object is changed so that the scope might be extended to benefit a larger number of cattle belonging to the agriculturists, will that satisfy the requirements?

A.—Yes.

Q.—In connexion with your Rayalaseema tour you have gone to the Anantapur and other districts also. I think the people of these districts along with the people of Bellary are agreed that the Tungabhadra Project should be taken up first?

A.—The Tungabhadra Project affects a major portion of Bellary district and small portions of Anantapur and Kurnool districts. They are agreed that irrigation facilities of these five districts should receive the primary attention of Government.

Q.—I think people of these three districts are agreed that this project be taken up first irrespective of whether it is productive or not?

A.—That is not fair to the other people. Those people who are to be benefited by project say that it should be immediately attended to.

The examination of Sri C. H. RANGA RAO, Supervisor of Industries, Bellary, was then taken up.

Written evidence.

Measures for the prevention or mitigation of famine.

Ceded district is purely a cotton growing area and all the cotton that is grown is being sent to Sholapur, Madras and Bombay and to other places, after being pressed into bales in cotton presses in the area.

If one or two large spinning and weaving mills are erected, there would be no need for export of this raw cotton. If spinning and weaving mills are erected, it would find employment to a number of people throughout the year.

Slate industry at Markapur.—There are number of quarries in Markapur and Cumbum taluks. Although the slate industry is being carried on by private people, it is not an organized one and also not run on scientific lines. Now slate is being quarried from pits of 16 feet deep. Good quality is obtained in deeper beds. If the workers form themselves into a co-operative society and handle the industry on a large co-operative basis, they could earn better wages and live happily. The merchants have been spoiling the industry by throat-killing competition.

The dealers in this industry are getting wood-frames for slates from Kallai (Malabar) and also from His Highness the Nizam's Dominions, while having Government forests close by.

The rates for the suitable wood, from Government forests seem to be rather high and therefore they are getting frames from other places. Hence arrangements have to be made to see that soft wood from Government forests is supplied at a cheap rate.

Betamcherla.—There is barytes, steatite, calcite, magnesite, red ochre, yellow ochre and slabs, etc., close to Betamcherla. If these minerals are worked out on co-operative and scientific basis, the workers would get better wages and live happily. At present, these industries, are in the hands of a few merchants.

Cuddapah slabs of thicker variety are available at Kolimigundla, Ankireddipalli, Gori-vimanipalli villages. Here also the industry is in the hands of few people and much could be done if the industry is handled on a large scale on co-operative basis.

Wool industry.—At present 95 per cent of the sheared and dead wool is being exported to foreign countries, as a result of which no wool is available for making cumbles. A number of men and women who have been living on this age-long cottage industry (and wool-pinning and weaving) have been thrown out of their occupation and joined the ranks of famine-stricken people. With a view to find occupation for these people, wool has to be stopped from being exported, and workers should be taught in improved methods of spinning and weaving, and the declining industry is rejuvenated back again and thus stop the immigration to other places to eke out livelihood.

Hides and skins.—There are a number of people Malas and Madigas working as coolies in ginning and pressing factories. As the price of cotton has fallen down, the mills have been closed down with the result the Madigas have no occupation. They could be employed on tanning industry on co-operative basis.

Irrigation.—Tungabhadra is the only major scheme for which people have been anxiously awaiting, as it could supply water although the rains fail. This water would flow on the land according to levels. In places where this water does not reach due to elevation, large diameter-deep tube wells may be experimented for irrigation and for protected water-supplies.

The department have put down a number of hand-borings for drinking water-supplies and all, almost all of them, have been supplying water for a hand-pump, say 4 to 5 gallons per minute.

The department have put down hand-borings in some wells for increase in irrigation purposes, but they have not yielded satisfactory additional supply.

In Ceded districts, protected water-supply is a problem in itself and is therefore essential as a measure of insurance against epidemic diseases, such as cholera and guinea worm which are very common and adding much more misery to the famine-stricken people.

Oral evidence.

Sri R. SURYANARAYANA RAO: Q.—How long have you been in Bellary district in your official capacity?

A.—For ten years, as Supervisor and Assistant Engineer of Industries.

Q.—What is your jurisdiction? Does it include the four Ceded districts and Chittoor also?

A.—As Supervisor, I have jurisdiction in Bellary and Kurnool districts and as Assistant Engineer my jurisdiction covered the Ceded districts, Chittoor and Nellore.

Q.—So you have a fairly intimate knowledge of districts of Bellary, Anantapur and Kurnool and the economic problems that affect them?

A.—Yes.

Q.—Have you any idea whether the staple cotton grown is good for a spinning mill if one is started? Have we to go for supply of cotton outside these districts or do you think the cotton grown here will be enough to feed the spinning mill?

A.—Yes, I think so.

Q.—You have made a suggestion regarding wood frames for the slate industry at Markapur. You have said that the cost of producing these wood frames is so prohibitive that merchants find it cheaper to get them from Kallai or Hyderabad. Have you any suggestion to make to improve the industry?

A.—The Forest department have to reduce the rates for soft wood.

Q.—It really looks strange that wooden frames have to be brought from Kallai in Malabar and from Hyderabad, when there is forest so near Markapur. Would you suggest that the State should undertake in the beginning to prepare wooden frames and then pass it on to a private company or individual? Do you think it is worth while for the State to take up this business?

A.—Before attempting to do like that by the department itself, it is better to reduce the rates for soft wood and allow the private manufacturer to produce them. People will be forthcoming to undertake this business provided the rates for soft wood are cheaper than in Hyderabad and Kallai.

Q.—What prevents the prospecting of minerals round about Betamcherla? Is it for want of initiative or capital or both?

A.—That is confined to a few merchants. It may be done on a co-operative basis.

Q.—Do you think that the State should take the initiative in this matter as the people are very ignorant?

A.—Yes.

Q.—You have said that wool is being exported to foreign countries. Can you give us a definite idea of the places from which it is exported?

A.—Most of the wool is exported from Adoni to Liverpool.

Q.—Would you suggest any method of preventing this export?

A.—By putting some duty on the export of wool so that it may not be exported to foreign countries and also by encouraging the local cumbly industry to make use of that wool.

Q.—The Department of Industries have organized some cumbly-weaving industry in these parts on co-operative basis. Is there scope for expansion of such an organization in these districts still further?

A.—Yes, certainly.

Q.—I suppose you get a subsidy from the Government of India for the development of these industries?

A.—Yes, the Government of India have been giving a grant for the purpose.

Q.—Are there a sufficiently large number of Malas and Madigas engaged in the tanning industry in the villages?

A.—These Malas and Madigas had been working as labourers in the ginning and cotton pressing factories when the price of cotton was high because they got good wages. But now as the price of cotton has fallen down most of the ginning and cotton presses are not working and they are thrown out of employment. They want to get back to their own profession.

Q.—But what is it that prevents them? Do they want any assistance in the form of co-operative marketing and finance?

A.—Yes, that would greatly help them.

Q.—Were you connected with the boring operations conducted in Bellary firka in 1929?

A.—Yes, I conducted them for a short period during the absence of special supervisor who was in charge of these operations.

Q.—To what depths have the bores gone down? Will it be, say, to a depth of 100 to 120 feet on an average?

A.—Here in this area we went up to 200 feet.

Q.—What has happened to those bore-wells?

A.—They were all abandoned as the ryots had not taken advantage of them.

Q.—You sunk so many bores and have shown water to the ryots and also proved that the water in some places was potable and drinkable. What attempts were made by the Industries department to see that the good work that was done was being properly utilized by the ryots?

A.—We have done our duty and it is for the ryot to sink a well and make use of the water.

Q.—Did you find out why the ryots were reluctant?

A.—Because it is their nature.

Q.—You said that you have sunk 97 bores and you left the bores to themselves. I do not know whether you removed at least the tubes?

A.—We have removed all the tubes.

Q.—What I am suggesting is that in this report we may have to tell the Government that there is no use of bore-wells in this district, if as you say the ryots are not keen about these wells?

A.—In Rayadrug we have put down a bore to 200 feet depth and also installed an oil engine and pump. It was working for some time and afterwards it was kept idle.

Q.—Why are they not making use of it now?

A.—I do not know.

Q.—They are crying for water, you bore holes and show them water and also good water fit for irrigation and drinking purposes, why don't they make use of the wells? We want to know that.

A.—Probably they are too poor to sink wells. Besides the supply of water was only two gallons per minute which was not enough for irrigation. If a well of 20 or 30 feet diameter is sunk sufficiently deep that will probably irrigate a few acres.

Q.—May I take it then that, in view of the poverty of the people, they were not able to make use of the information you gave them about the existence of underground water resources and failed to sink wells? Do you think a survey would conclusively give us evidence in what places water is available and where it is not?

A.—That has already been done.

Q.—Supposing the State in view of the poverty of the people sinks wells and gives water to the ryots and impose a water-rate just as they do in the case of tanks, would you suggest that it would be better than leaving it to the ryots to dig wells themselves?

A.—If it is left to the ryots they will do it economically.

Q.—But you say that the ryot has not taken the advantage of your help in the past. Even if he wants a loan from Government they may not be able to give him the loan because there may not be enough security. Would you advise in such cases, where the ryots are not in a position to offer necessary security to borrow the amount, that the Government should sink wells and charge water-rate for giving water to the ryots for cultivation? Will they be agreeable to that, in the interests of the agriculture and prosperity of the country?

A.—That has to be tried as an experiment.

Q.—Would you suggest that Bellary firka be taken first?

A.—Bellary firka is 95 per cent black soil and you get only saline water. The bores put by the department were in the red-soil areas of the district.

Q.—Do you think in the case of black soils, if you go deeper than 120 feet, you would get good water instead of brackish water?

A.—Bellary is one full sheet of rock and so even if you go deeper, you may not be able to get much water. The 200 feet deep bore-well is giving only 5 gallons per minute.

Q.—Do you think that a geological survey on scientific lines of the whole area liable to famine may help us to find out where we can get water instead of wasting time and money in making trial borings to find out the underground water resources?

A.—That would be better.

Q.—You seem to have a lot of faith in co-operation. What is your trouble in not being able to start co-operative societies now?

A.—It is the Co-operative department that has to do it. I am only concerned with pumping and boring.

Q.—Did you address the Co-operative department for the formation of co-operative societies with reference to the matters mentioned in your written evidence?

A.—I have no jurisdiction to do it.

Q.—Do you think that a co-ordination of the several departments is necessary for the formation and working of such societies?

A.—Yes, that is necessary.

Q.—You also mention the care of the Forest department. Do you think that if the Forest department co-operates with the Industries and Co-operative departments the particular work you want to be done could be done easily?

A.—Yes.

Mr. L. B. GAKEN: The question of the supply of wood is at present under very close investigation of the Forest department at my instance. The whole question is being re-examined by the Forest department and as regards co-operative societies they have been formed in these areas for cotton weaving and cumbly-weaving.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—So you say that only if the several departments concerned work together what you want can be achieved?

A.—Yes.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—I understand that as a result of the borings you have made, you give all the data connected with it and place it at the ryots' disposal. But that man is equally ignorant as to what it would cost to put a well there. I wish to know whether it would not be more helpful to give him information on that point and also the area it is likely to irrigate. If an attempt is made to show whether the sinking of a well would be remunerative or not that would be more to the point. It is no use throwing all the blame on the ryot because he has no confidence to go forward.

A.—There is the cost of sand, quarrying, chunam, etc. The ryot would be able to estimate for himself what it would cost for these, but it is initiative that is wanting. We give information regarding yield, capacity and the quantity of water available. The work of constructing wells is left to the ryots because he knows the work and can do it cheaper.

Sri N. SANKARA REDDI: Q.—You have said that nearly 95 per cent of the wool is exported to foreign countries. Is this wool considered to be better stuff and used for better clothes?

A.—I know that it is being exported. I don't know for what purpose they have been using it.

Q.—Is there a possibility of training the local people here to weave this wool into better clothes?

A.—There are people who have been handling this industry from age-long times and they require some better method of spinning and weaving, so that the outturn may be greater.

Q.—Another difficulty is that the present cumblies are a little rough and are not attractive. Is there any way of making the stuff softer and turning out better variety of clothes?

A.—That can be done to a certain degree. Better sheep must be reared and this is a big problem to tackle. In Kudittani the industry is done in a better way.

Q.—Is there any chemical process to make the wool soft? Can the Department of Industries investigate the matter and make researches and teach this process to the people concerned?

A.—That can be done.

Q.—You are of opinion that artesian wells are not possible in black soils?

A.—We have not come across any one in these areas.

Q.—May I know the geological conditions that are favourable for artesian wells?

A.—Clay, sand and rock (not one sheet of rock) in the shape of boulders and also chalk.

Q.—About the slate industry at Markapur, supposing some large company undertakes the manufacture, as a large scale industry, do you think all the workers will be employed?

A.—It is better to take it as a cottage industry, then only all the people will find work. They should form themselves into a co-operative society for the purpose.

Q.—It is felt that at present the slates manufactured here are not so good and hence cannot stand foreign competition?

A.—If they go beyond 16 feet they can get blacker variety which is more suitable for manufacturing better polished slates.

Q.—Can you suggest any other subsidiary industry to give occupation for these villages because agriculturists need some subsidiary occupation?

A.—You have got these mines. If they are worked on co-operative basis they would get better wages and spinning and weaving, toy making, etc., in other areas. In Nallamalais there is soft wood which will be useful for toy industry. If people would take a fancy and learn the art they can well do it as there is plenty of soft wood in these forests.

ABDUL RAWOOF SAHIB Bahadur: Q.—You have said something about minor minerals. Have you any idea of the quality of these minerals? I refer particularly to the yellow ochre round about Betamcherla. Is it of a commercial character?

A.—They are being exported to Calcutta and other places.

Q.—Is it being worked on a commercial basis?

A.—Yes, it is.

Q.—Is the quality good?

A.—The quality is tolerable. It finds a market. I have not chemically examined them.

Q.—Are you in a position to say why these minor minerals are not working? Do you attribute it to lack of initiative?

A.—The business is confined to only a few merchants.

Q.—What is it due to?

A.—Because they are rich and have the necessary capital.

Q.—You say then that the working of this industry requires large capital and that people do not have the means to undertake it?

A.—Yes.

The examination of Janab M. AMANUDDIN SAHIB Bahadur, Charge Officer, was then taken up.

Written evidence.

I beg to submit that I am a stranger to Bellary district having come here from Guntur district on famine duty; I am not in the know of the agricultural conditions, the geography and the resources of this district. As such, I submit, that I am unable to make any suggestions on sections I and II of the questionnaire.

2. I submit I can only make a few suggestions regarding the practical difficulties in the observance of the rules laid down in the Famine Code and their drawbacks so far as they relate to the working of a famine charge, I think, I am duly expected to do that much. My experience as a Famine Charge Officer is short. Nevertheless, I have endeavoured to the utmost of my ability to make a few suggestions. Reference to the questionnaire is noted in the margin.

3. Section III—Paragraph 7.—I think, on the whole, the classifications made in the sections 97 and 116 of the Famine Code do not require any modifications, except some alteration in the age-limits of classes III and V-E. According to section 115, the charge officer has to satisfy himself before admitting dependents to relief that they are unable to work. In fact some children, though they are ten or eleven years of age, seem fit for work and capable of turning out some work. Generally the children of labouring classes, though they are ten or eleven years of age are capable of doing work. But under conditions of severe distress it may not be advisable to admit such children for work. After they are fed for some days in the kitchen, they can be taken for work. Further, the attraction of cash doles gives the children impetus to work. Hence, I beg to suggest that the age-limits for clause III, children may be modified as between the ages of ten and fourteen years, who are able to work. Babies in arms (class V-E) only up to one year are eligible for cash allowance. Babies over one year have to be fed in kitchen. Babies over one year and below two years generally do not entirely depend upon food and the food supplied in the kitchen is not suitable for them. Children up to two years cannot walk to the kitchen and their parents have to carry them to the feeding sheds. I have seen some parents spending away most of their time during the day on this plea to the detriment of work. Hence, I beg to suggest that babies up to two years may be classed under V-E.

4. Too many women and children seek admission for work. Approximately the ratio between men and women is 1:2. This is mostly due, I think, to the low wages paid to men. There ought to be some marked difference between the wages of classes I and II.

Q.—Do you think that the State should step in and help the people in the case of the minor minerals industry?

A.—I think that would be better in order to give employment to the workers.

Mr. H. R. DOERA: Q.—You said that a deep bore-well was put down in Rayadrug. At what depth was it put?

A.—Four bore-wells were put to a depth of 200 feet, 150 feet, 120 feet and 100 feet at the cost of the Rayadrug Panchayat Board. We tapped good water for drinking purposes. Three horse-power oil engine with 9 inches working head was installed for one of them giving about 15 gallons of water per minute.

Q.—Where was the water stored after pumping?

A.—There was no storage tank. The engine was working and water was supplied to people whenever they wanted.

Q.—If the engine is to be started every time water is wanted, is it not more expensive?

A.—Of course, to a certain extent. A pipe system would be better where there is sufficient water in a bore-well.

Q.—Is the machine working now?

A.—No. It was stopped after some months.

Q.—Why was it stopped?

A.—Because it was not paying probably and nobody took interest in it.

Mr. F. M. DOWLEY: Q.—Would it not be cheaper to put up a reservoir and pump water into it for a few hours rather than keep the engine pumping always?

A.—Having a reservoir would be better.

Q.—Is not the absence of a storage reservoir one of the causes of its failure or stoppage of the work?

A.—I don't think so.

Further, it is the adults employed on digging that turn out the hard and difficult portion of the work, and yet they are paid only one pice in excess over the women. Further, another defect in the scale of wages fixed is that at times for less percentage of work done only the wages of men class I are effected, the other two classes of wages remaining unchanged. Thus there is very little encouragement or attraction for men to resort to famine works. Women and children cannot otherwise generally secure any employment or labour and hence they flock in large numbers. Hence, I beg to suggest that the wages of men may be increased slightly keeping the difference between classes I and II constant at two pice.

5. I am of the opinion that the system of cash doles to workers is attracting many people who are really not in the danger of starvation. The cash dole system without much inconvenience and to much advantage can be converted to doles in kind. Generally in villages labourers are paid only in kind and not cash. This system will not attract people who are not in the danger of starvation. Further many of the existing evils of corruption and fraud may be minimised. At present there is a bad tendency among gang headman and maistris to mark false attendance and play fraud. By introducing kind dole system, I think, these evils can be minimised to some extents. Measure for distributing grain as per the scales of grain for classes I, II and III, shown in column 3 of the table in section 128 (a) may be got prepared and similarly for pulse item. Grain and pulse may be distributed thus according to the scale fixed and to compensate for the other items each worker may be paid one pice. The only difficulty for this system will be to secure sufficient grain and pulse for distribution. But from my local enquiries I learn from some of the grain merchants that grain and pulse can be obtained and conserved in sufficient quantities without much difficulty.

6. From my experience in this famine charge, I find that the scales of grain items provided in section 128 (a) columns 3 and 4 for the dependents [classes IV (a), IV (b), V (a) to (d)] require some change. Further, the present system of preparing food-cakes for each class separately and the calculations involved therein are confusing and difficult. The food-cakes supplied to each classes IV (a), IV (b) and V (a) are not sufficient. Those supplied to classes V (c) and (d) are a little in excess. I suggest that the scales may be revised as follows:—

	Dependents.								Grain equivalents.	Grain Item.
IV (a)	90	60
IV (b)	90	60
V (a)	60	40
V (b)	60	40
V (c)	30	20
V (d)	30	20

I propose the above scales with a view to avoid the necessity of preparing separate cakes for each class. At present the difference in the size of the cakes of classes IV (a), V (a), V (b) and V (c) is very little and there is much confusion in serving the proper cakes to the children. The cakes prepared should be of one standard size of 20 tolas each. Classes V (a) and V (b) may be served two cakes each and classes IV (a) and IV (b) three each. This method avoids the difficulty in preparing the cakes and their service to the dependents. The calculation work also will be very much lightened. By multiplying the number of dependents in classes IV (a) and IV (b) by three and the numbers in classes V (a) and V (b) by two all can be converted to children of class V (c), and thus the total quantities of grain equivalent and grain item can be calculated easily at one stretch. The number of cakes that have to be prepared can be also checked easily. The increased difference between the grain equivalent and the grain item suggested above will enable us to purchase other items required for soup as per the scales laid down in columns 4 to 8. At present it is found that the other items as per the scales laid down in columns 4 to 8 cannot be purchased for the value of the difference of columns 2 and 3.

7. Paragraph 8 (b).—The existing scales of allowances provided for pulse, vegetables, etc., in columns 4 to 8 of the table under section 128 (a) are quite sufficient. But the total value of these items has to be limited to the difference in value of grain equivalent and grain item (columns 2 and 3). Due to the high prices of these items it is found that these items cannot be purchased in full as per the scales provided. By increasing the scales as suggested by me alone it will be possible to purchase the other items in full as per the scales provided. But considering the type of individual who resorts to famine works, I think, the scales of the other items provided is too much and normally the workers are not used to consume this much quantity of vegetables, etc.

8. *Paragraph 8 (c)*.—I think distribution of wages in kind as suggested by me in paragraph 5 above is a good measure by which we can ensure that the worker is spending the wages for his food.

9. *Paragraph 8 (d)*.—Chapter IX relates to gratuitous relief given in villages and poor houses. I have no modifications to suggest to this chapter.

10. *Section IV—Paragraph 9*.—The general physical condition of the labourers in this district is poor. They are weak and emaciated in appearance. They cannot withstand the strain of 8 hours work each day. As per paragraph 34 of Appendix D the workers have to work from 7-30 a.m. to sunset with an interval of two hours from 12 noon to 2 p.m. If this rule were to be enforced rigidly the workers will have absolutely no time left for them to attend to their other domestic works such as fetching water, gathering fuel, cooking, etc. Some of the workers come from villages 3 to 5 miles in distance. By the time they reach their houses from work it will be 7-30 or 8 p.m. and again they must start from home before 6 a.m. I think it is too harsh under famine conditions to enforce 8 hours work a day. I therefore beg to suggest that the working hours may be reduced to 6 and the workers let off from work at 4 p.m.

11. I find that workers are unable to turn out the task imposed for earth-work when the soil is hard and saline ("tsoudu") and for metal breaking when the lead is less than 500 yards. If the working hours are reduced to 6 the full task laid down in section 103 may be reduced to two-thirds of the normal task.

12. *Section V—Paragraph 10*.—I have no suggestions to make on this point.

13. *Section VI—Paragraph 11*.—I have no suggestions to make on this point.

14. *Section VIII—Paragraph 12*.—I have no suggestions to make on this point and I do not consider that the system is unduly costly.

15. *Paragraph 13—Appendix D, part IX—Recruiting*.—A worker who comes late and is marked absent by the gang maistri sits at the recruiting ground and gets recruited as a new comer. Workers from the gangs which are working far away from their village likewise get recruited to the gangs working nearer to the village. Again workers from the gangs which are given earth-work get recruited into the gangs doing metal work or other light work. The charge officer or the recruiting maistri cannot possibly identify persons who have been already recruited. These methods adopted by the workers are opposed to discipline and also give unnecessary work to the charge officer. No possible check is mentioned against this in Part IX of Appendix D. Hence I beg to suggest that a recruiting register may be maintained by the recruiting maistri and the names of all the persons recruited may be written up villagewar, and in three sections, viz., classes I, II and III. It will not take much time to do this at the recruiting ground. The recruiting maistri can easily check with this register whether or not a person is a new comer. Further, the daily entries made in the muster rolls by the maistris can be checked with this register. Statistics of workers recruited can be easily got from this register. Hence I think a recruiting register can be easily maintained in a charge to much advantage.

16. No effective disciplinary measures are provided anywhere in the Code against headmen and workers. A worker who wantonly sits idle and is found indifferent and unruly may be marked absent for the day. A Kolkar who neglects his duties may be likewise marked absent or suspended for a few days. The work agents also may be authorized to exercise such disciplinary measures.

17. *Part XV, Appendix D*.—The gang maistris daily abstract D-IV must also be signed by the work agents and the latter made responsible for the accuracy of the figures noted in the statement. This is not provided in the Code. Generally the maistris prepare the D-IV statement carelessly. The daily attendance figures from D-III musters are not accurately noted in the D-IV statements. The percentage of work done and the wages payable have also to be accurately noted. At present there is no provision in the Code for the work agents to check the D-IV's before they are sent to the charge officer for payment. Hence the work agents must be made responsible for the accurate preparation of the D-IV statements.

18. *Paragraph 82, Part XV, Appendix D*.—The payment to the gangs must be made independent of the gang maistris. The disbursing agent should be some other than the gang maistris. This procedure in my opinion gives less scope and inclination for the gang maistris to play fraud. The maistri marks the attendance and himself disburses the wages. This gives scope for him to play fraud. The sub-cashier of the charge can directly pay the amounts to the headman and obtain acknowledgments.

19. Section 134.—The Code does not provide any relief for workers who are rendered temporarily unfit for work on account of injuries to the fingers, fever, scorpion bite, etc. Such persons require rest for a day or two. They cannot be admitted in the hospital as in-patients. Provision may be made in the Code for exempting such persons from work for a period not exceeding three days in a month.

20. Famine Code may be included as a book in the Government Test Examinations for Deputy Tahsildars.

21. I am willing to give evidence before the Famine Code Revision Committee should the Collector deem it necessary. I have no other suggestions to add to the above.

Oral evidence.

Sri R. SURYANARAYANA RAO: Q.—You suggest the inclusion of the Famine Code as one of the subjects for Government Test Examinations. In view of your experience here you think it would be useful to have this added as one of the subjects to be passed by Deputy Tahsildars in their Revenue Test Examinations?

A.—Yes, Sir.

Q.—In paragraph 19, you suggest that those who cannot be admitted as in-patients in hospitals on account of minor ailments and who are rendered temporarily unfit for work should be given some allowance. You suggest some provision may be made for giving them wage allowance, or rest day allowance or dependent's allowance?

A.—I would suggest dependent's allowance.

Q.—Why do you then fix three days? Why not leave it to the doctor's certificate?

A.—Because there should be some restriction.

Q.—It is not casual leave, but sick leave. Don't you think it would be better to leave it to the discretion of the doctor?

A.—It can be left to the advice of the doctor.

Q.—In paragraph 18, you think there is a real difficulty in the system of the maistri extracting work, marking attendance and himself disbursing the wages. So, to ensure honest distribution of wages, the distribution should be in the hands of a different agency?

A.—Yes, Sir.

Q.—You would suggest a sub-cashier or some assistant to the charge officer should attend to that work?

A.—Yes, Sir.

Q.—You suggest that because of the difficulty of people walking long distances, hours of work may be cut down to six?

A.—Yes, Sir.

Q.—As an alternative would you suggest that in regard to people coming from long distances instead of reducing the hours of work a reduction in the task to make up for the loss of energy and time taken in walking the distance may be given?

A.—In the case of villages five miles from the headquarters and beyond I think they may be allowed some distance allowance.

Q.—In view of the fact that they have to go home walking a long distance, they have to pick up fuel and attend to other items of household business, and they have also to get up early to go to work, don't you think their work is too much?

A.—Yes, even those coming from nearer villages have also to attend to those items of work.

Q.—You express the difficulty of finding enough money to purchase the other items with the balance of the grain equivalent available in regard to items V (c) and (d). In view of your experience do you think the scales of grain equivalent would enable you to give the necessary amount of grain as well as the other items?

A.—Yes, Sir.

Q.—Have you understood what this grain equivalent means?

A.—No, I have not.

Q.—Supposing the grain equivalent is allowed and the value of the other items like pulses, salt, etc., are added once a week and the Collector notifies the wages, don't you think it is better than converting it into the grain equivalent?

A.—It can also be done in that way.

Q.—You suggest payment of wages in kind. Supposing in your charge there are 5,000 men. Now the maistri or sub-cashier may distribute wages. But in the case of the grain equivalent it would be very difficult to carry it from gang to gang and so they must all come from all centres to one place?

A.—No, at every work-spot the grain may be stored and the workers can be gathered there during the rest hours (i.e.) between 12 and 2. I think it can be managed.

Q.—Why do you suggest the giving of grain instead of wages?

A.—Because from my experience I have found some of the people who are not really starving are attending the famine work.

Q.—You want to keep up the difference between men and women. There is nothing to prevent your putting the women in Class I, because the only classification is diggers and carriers?

A.—Generally women are not able to do hard work. It is the men that do the digging portion of the work.

Q.—Did you find out what work is given to those in Class III?

A.—I have no idea.

Q.—You suggest a reclassification of V (e). Don't you think that children below three years won't go to the kitchen unless the mother or some other relation accompanies them and in that case it interferes with the work of the mother. Why not put them also under the cash dole system?

A.—Yes, Sir.

Q.—Don't you think a distinction should be made in the case of children under one year who should be given one pice and those between one and three given two pice?

A.—It can be done, but there will be some confusion if that distinction is made. It would be better to classify children between one and three as one class.

Q.—What I mean is children under one year require the nursing of the mother and those above two can walk. Don't you think the work of the mother suffers when the children have to be taken to kitchen?

A.—Yes, Sir.

Q.—Supposing a dining shed is attached to each gang?

A.—In fact I have also tried another system by which I appointed an old man or woman to take the children to the kitchen but they refuse to go unless accompanied by their mother, sister or some other relation.

Q.—That is why I suggest a dining shed being attached to each gang?

A.—That cannot be managed because there are 65 gangs and the cost will be too heavy. Besides that the cholam "mudda" that is given won't be suitable to children and even if they are taken there they won't eat but will be merely sitting. They require some liquid diet.

Q.—Supposing the shed is nearer. You think it would solve the difficulty?

A.—I think the age must be two as I have suggested. I have already stated that even in the case of these children there are difficulties of feeding.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—Have you had any trouble with your work agents?

A.—No, Sir. In the first place the duties of a charge officer are quite different from those of a Deputy Tahsildar or a Stationary Sub-Magistrate. He is placed in the midst of Public Works Department people. The work agent is a Public Works

Department man and his superiors are the Public Works Department men. The duties of the charge officer according to the Code are numerous and the charge officer without any experience of the Public Works Department cannot discharge his work satisfactorily. For instance, there is an item, viz., the adjustment of task within the limits allowed in the authorized tables, which he cannot do without experience of Public Works Department work.

Q.—Is there any friction in actual working between the charge officer and the work agents?

A.—I had no friction. Though I have power to check the work of the work agents I did not do it for fear there might be a hitch. I never interfered with the tasks which the work agent imposed on the workers nor did I check their measurements.

Q.—Your point is, that there are certain duties imposed on you which if you had exercised it would have led to friction and to avoid friction you never exercised those powers?

A.—Yes, Sir.

Q.—You never enquired whether the grievances of workers were genuine or not?

A.—No, Sir.

Q.—What is your suggestion then? Do you want to exercise that power?

A.—As the charge officer is responsible for the general conduct of the charge he must have the power to interfere if necessity arises. He must be given power to exercise control over the work agent and if necessary to report against him.

Mr. H. R. DOGRA: Q.—Are you prohibited from doing so now?

A.—I think so; it is not in the Code. The Subdivisional Officers are of the opinion that the charge officer has no right to interfere in technical matters.

Sri R. SURYANARAYANA RAO: Q.—Had you any occasion to take such things to the notice of the Subdivisional Officer and note whether he relished it or not?

A.—I did not report anything regarding the setting of the task, but I reported about the preparation of D. IV statement. The Code does not clearly fix the responsibility for the preparation of the D. IV statements. In practice it is being done by the maistri who submits them to the charge officer. The maistri commits a lot of mistakes even in copying, not to speak of calculation of wages.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—You should report to the Subdivisional Officer.

A.—Yes, I did and he ordered that work agent should sign the D. IV statement but the Executive Engineer again ordered that the work agent need not sign the form.

Q.—So, your suggestion is that the Code should be amended leaving the preparation of the D. IV statement to the work agent?

A.—Yes, I have suggested that.

Q.—Is it also your suggestion that once it is done the maistri need not have anything to do with payments?

A.—Yes, Sir.

Sri R. SURYANARAYANA RAO: Q.—You think the headmen can be entrusted with payment and not the maistri?

A.—Both should not be entrusted. Anyway the presence of the headman is necessary at the time of payments. If some of the workers are absent, the amount due to them may be entrusted to the headman.

Mr. H. R. DOGRA: Q.—If the headman does not know how to sign?

A.—So far all our headmen are literate.

Sri Diwan Bahadur N. SWAMINATHA AYYAR: Q.—You say that too many women and children seek work. You say it is due to low wages paid to men. In fact you know that in many camps the proportion of men to women is 1 to 5. It has been due to paucity of men and not to the low wages paid to men.

A.—I don't say it is entirely due to wages paid.

Q.—Unless you say that men eat more, how can you increase the wage? If the wages are given in cash it may be suitably increased?

A.—There are also other circumstances. When the work turned out 90 per cent or so it is the men that get one pice less whereas the women and children get the same wages. This will be clearly seen from page 135 of the Code.

Q.—Your opinion is that something should be done to attract more men?

A.—Yes, Sir.

The CHAIRMAN: Q.—You say there is very little encouragement or attraction for men to resort to famine work. Do you suggest that men can find other employment or labour?

A.—In fact some of the men can and do get other kinds of labour. That is one of the reasons why all the poor men do not resort to these camps.

Q.—The whole scheme of the operations is to provide employment for people who can find none. You say you have to pay more to attract more men. Again you say that the cash dole system is attracting many men who are really not in danger of starvation. I cannot reconcile these two principles. Do you suggest that men should be given more because they work more, or is to keep the ratio of men to women more fair? By introducing payment of wages in kind, how many people do you have under your charge who would be receiving wages in kind?

A.—About 5,000.

Q.—How long do you expect to take to dole out if each man is to hold his cloth?

A.—About 15 seconds.

Q.—That will come to 1,250 minutes for the whole lot and that will mean you want at least half a dozen persons for this work of distribution?

A.—At present the distribution of cash wages is entrusted to headman, similarly he may be entrusted with the distribution of wages in kind.

Q.—In regard to hours of work you suggest it should be reduced to six hours. In your charge has it frequently exceeded six hours a day?

A.—The actual work that they do is only for six hours. As per the Code they have to remain on the workspot till sunset.

Q.—Would you like them to be brought up to the workspot earlier?

A.—7-30 should be enforced.

Sri H. SITARAMA REDDI: Q.—If they come at 7-30 don't you think the work agent will not be able to allocate work for all the people?

A.—That can be done even on the previous day.

Q.—What is the actual practice; is it done on the previous day or the next morning?

A.—Yes, the task is set up every morning, but they may be asked even the previous evening to go and work at such and such a mile the next day.

Q.—Does not the re-stocking of metal from one place to another involve unnecessary labour?

A.—Yes, Sir.

Q.—Once it is stocked in four or five places and again they are stocked in a different manner. Is this done under the instructions of the Subdivisional Officer?

A.—I did not know anything about it. Nor did I question why it was done so.

Mr. H. R. DOGRA: Q.—You say "a worker who comes late and is marked absent by the gang maistri sits at the recruiting ground and gets recruited as a new comer." Is this not a definite attempt to get work in gangs working nearer to the villages? If they are engaged in gangs farther away from villages will this not be avoided?

A.—Yes, Sir.

Q.—Is this not an indication that their work is not properly allotted? Why is it necessary that all villagers should be engaged at places which are nearer to their villages?

A.—It is not necessary. Some of the gangs have to be placed far from their villages.

Sri K. SUBBA RAO: Q.—Don't you agree that if they are given work near their villages they will roam about?

A.—May be.

Mr. H. R. DOGRA: Q.—Is it your experience that metal breaking is a lighter work?

A.—Yes, Sir.

ABDUL RAWOOF SAHIB Bahadur: Q.—The Chairman asked you certain questions about the actual number of hours of work and you said that they actually work for only six hours. I have visited your camp and there is a complaint that the workers are not able to get back home early. If they really

finish the work at 4, why is this complaint? You keep them till the measurements are made even if their regular work is finished?

A.—We ask them to work until sunset.

Sri K. SUBBA RAO: Q.—If they work, do you give them more wages?

A.—No, Sir.

ABDUL RAWOOF SAHIB Bahadur: Q.—So, even though they finish their work before 4, you don't let them go?

A.—No, Sir, I should not but I have cut down the recess by half an hour and let them off at 5-30 p.m.

The CHAIRMAN: Q.—You know of cases where a gang did more work than was actually entrusted to it?

A.—Yes, Sir. I think four hours actual hard work is enough to finish a work entrusted to the workers.

ABDUL RAWOOF SAHIB Bahadur: Q.—When you answered a question to the Chairman you presumed that they are actual coolies accustomed to work. But don't you know that people who come to famine camps are agriculturists who come there because they have no other work?

A.—Yes.

Q.—Do you want to give a statutory basis so that people might be let off earlier?

A.—Yes, at least at 4 p.m.

Sri R. SUBYANARAYANA RAO: Q.—Don't you think that in summer the recess period should be increased?

A.—Yes, by half an hour and they can be let off then at 4-30.

ABDUL RAWOOF SAHIB Bahadur: Q.—Can you tell me at what time they leave the workspot generally?

A.—At 5-30 p.m. they leave the workspot.

Mr. H. R. DOGRA: Q.—If they are able to finish the work very early is it not an indication of work being shorter than what it ought to be?

A.—Yes, Sir. The Code itself says it is three-fourths of the normal work.

Q.—Have you come across workers coming long before 7-30 and beginning to work?

A.—Yes; some of the workers stay at the work-spot and begin to do the work before the appointed time.

ABDUL RAWOOF SAHIB Bahadur: Q.—During rest period also they work. Do they not?

A.—Yes. But I have been objecting to it.

Q.—And so it is because of the continuous work they are able to finish the work very early, and not because the work is short?

Mr. H. R. DOGRA: Q.—Is the task set by the Code not light?

A.—Even in regard to earthwork it is so. About 98 per cent of the gang in my charge earn the full wage. The 2 per cent shortage I can say is due to the negligence of the maistris to give them the task at the right time and some of the workers sit idling away their time for lack of supervision.

Sri R. SUBYANARAYANA RAO: Q.—Or is it due to the hardness of the earth?

A.—No. Generally in these districts people know what famine work is and they can do without the aid of maistris.

Mr. H. R. DOGRA: Q.—Have you received any complaint of higher tasks being given by the Public Works Department?

A.—No. The coolies have not complained that the work has been too much.

Sri H. SITARAMA REDDI: Q.—In earthwork does the lightness or hardness depend on the classification of the soil?

A.—Yes. Where the earth was very hard on hot days I asked the work agent to show them work at places where the earth was soft.

Mr. H. R. DOGRA: Q.—You did not bring it to the notice of the Subdivisional Officer?

A.—No, my instructions were carried out.

The examination of Sri Y. S. ANANTARAJAYYA, Tahsildar, Bellary, was then taken up.

Written evidence.

SECTION I.

Measures for the prevention or mitigation of famine.

1. To take up Tungabhadra project, revival of local industries such as cotton spinning, blanket making, etc., are some of the measures to mitigate famine.

2. (a) (i) *Irrigation—Major.*—Bellary taluk is purely a dry taluk and hence nothing can be said about the practical knowledge of irrigation under canals. If the Tungabhadra project materialises, it will certainly prevent the distress of the people in the famine affected areas to a great extent for the following reasons:—

(1) As this taluk is mostly a black-soil taluk, and the ryots are accustomed to raise only dry crops, it is hoped that the ryots may not all in a sudden take to wet cultivation as it is costlier than dry cultivation.

(2) It is also possible that they may not take up to wet cultivation for the fear that the best black-cotton soil lands may become saline by constant irrigation. At the most the ryots can use canal water to raise dry crops. In red soil the ryots may gradually raise wet crops like paddy and sugarcane. In course of time, as ryots become accustomed to irrigation, a large area will be brought under irrigation by which Government may get enough revenue and famine may be a rare occurrence. Even in the places that cannot be protected by the project, famine will be mitigated to some extent as the people of that area will find employment in the area benefited by the project. Hence it is suggested that earnest endeavours may be made to see that the project materialises.

(ii) I have no suggestions to offer as I do not know the details of the project.

(iii) There is no other major productive or protective work except the Tungabhadra project.

(b) *Minor irrigation and wells.*—(i) The only minor irrigation sources are the Hagari spring channels in this taluk. They are not decreased in number. Mostly the tanks get silted up and hold less water with the result all the ayacut cannot be irrigated if wet crop

is raised. Removing of silt may not be possible as the cost involved may be high. In such cases only dry crops may be allowed to be raised in the ayacut so that crop may be irrigated when there is failure of rain. There are tanks which do not contain sufficient water for raising a wet crop. The ryots generally raise a wet crop on the ayacut of the tank when once it (tank) is full with the hope that there may be more rains to supplement the supply in the tank. Generally they get disappointed. The crops do not yield anything at all. Hence in the case of such tanks, the ryots should be made to raise only dry crops so that the water in the tank may be sufficient to irrigate them when there is failure of rain. As regards wells they are only available in villages bordering the Hagari river and in a few red soil villages. All these are private wells. Supply in them is decreasing on account of continued failure of rains. There is no possibility of well irrigation in other black soil villages as the water will be brackish and quite unfit for irrigation.

(ii) The silt clearance in all the Hagari spring channels is attended to by ryots under the kudimaramat labour.

(iii) Yes. It is a fact that the supply in minor irrigation sources will certainly fail in seasons of distress. The Hagari channels mainly depend upon the springs in the Hagari which is depending upon adequate rains.

(iv) There is no possibility to increase the number of wells in this taluk as the sub-soil water is usually brackish.

(c) *Contour bund farming.*—Bunding up of the lands in black soil lands may be encouraged with some advantage. So far Bellary taluk is concerned, there are few minor irrigation sources. Formation of bundings will not affect any irrigation sources.

(d) I have no suggestions to make. The method suggested in the report on the agricultural research station, Hagari, may be adopted.

(e) *Afforestation.*—Since this taluk is mostly black soil taluk, it may not be possible to increase the area under forest and topes as there are no water facilities. But in suitable places along the Hagari, trees may be grown. Babul and margosa are the only trees that thrive well in the soil of this taluk.

(f) *Alternative of subsidiary sources of employment*—(i) *Large scale industry.*—Kudatini is the centre for manufacturing blankets. Sidiginamola, Gotur, Dasaraganahalli and Sindhavalam are some of the villages where blankets are prepared on a small scale. This industry is likely to increase if Government subsidy is given.

(ii) *Cotton industries.*—This taluk produces cotton on a large scale and this industry has disappeared on account of the cheap production of cloth by means of machinery. Introduction of handspinning and handlooms in all the villages is sure to increase this industry. Government subsidy is required for this also. Sarees are woven in Moka and Kurugodu villages. But they do not find a ready market as they are coarse and of old pattern. It will go a long way in improving the industry if a weaving factory is opened at Bellary to train selected weavers from the villages where weaving is still in existence.

(g) I have no practical knowledge of this. It may be tried in Hagari farm-station.

SECTION II.

Purpose of famine operations and principles of famine relief.

3. There is no need to revise the policy that the wages should be the lowest amount to keep healthy persons in health.

4. *Chapter II of the Code.*—Preliminary measures of enquiry and preparation when the rains fail.

In my opinion the measures laid down in Chapter II of the Code need not be modified.

5. *Chapter III—Period of observation and test.*—(a) It is essential to test the existence of distress. Opening of relief works straightaway in an area where distress is not acute involves waste of money as kitchen and other sheds are to be constructed. In this year some camps, e.g., Gudadur did not attract workers and the camps had to be closed. If a test work attracts large numbers the Collector may be empowered to convert it into a relief in anticipation of the sanction of the Board.

(b) No modification is necessary. But it is better to make payment of wages to the workers daily. If payment is allowed to be made twice a week the headmen get confused when distributing the amount, especially when workers do not attend the work continuously. Besides the workers who have no stock of grain will be forced to get grain only from the shopkeeper who is willing to give it on credit with the result that they will have to pay the rate demanded by the shopkeeper. If they are paid daily they can purchase grain anywhere they please. For these reasons payment of wages daily should be made compulsory.

6. *Chapters IV and VI.*—Declaration of distress and commencement of relief and description of the various measures of relief.

No modifications are necessary to the Chapters IV and VI.

SECTION III.

Scale of wages and allowances and the diet scale.

7. At present all men are included in class I and women and males between the ages of 14 and 18 in class II. Old men and old women who cannot do full task are included in classes I and II, respectively. Old persons do not consume so much of food as workers of class I. Hence old men may be included in class II and old women in class III. Such old persons do not want to be relieved by food. Under section 107 of the Code the old persons are to be formed into a weekly gang and given light work. They are to be paid wages of the class M-1 or class W-2 as the case may be. Generally no task which can be measured can be given to them as they cannot do it. For example if they are given metal breaking they cannot carry metal if the lead is long nor can they be given earth work as they cannot dig. Only miscellaneous work such as spreading of gravel, breaking of clods, etc., can be given to them. Such works will be available only when formation of berms and consolidation are taken up and not at the time when metal is collected. Even if such work is available the work turned out cannot be easily measured and there will be much scope for them to idle away their time and such work will be a source of attraction for even to those old persons who are not in need of relief. To avoid all these difficulties old men may be included in class II and old women in class III. This procedure was adopted in 1935 famine.

Children between the ages of one and three years may be formed into a separate class so that they may be given cash dole as they cannot attend kitchen. Their parents cannot take them to kitchen as their work suffers and they cannot wait till the food is served in kitchen. Hence they are fed by their mothers in the morning. For this reason they cannot consume the food prescribed for them.

8. (a) No modification in the scale of wages is necessary.

(b) The existing allowance for vegetables is sufficient. It is possible to get the required quantity of vegetables in this taluk in the hot season in the famine years. In normal years the labouring classes do not generally consume the required quantity of vegetables in hot season. Generally either the ryots or the labouring classes do not spend any amount for the vegetables. For about eight months in a year vegetables can be had free of cost. Those who possess land, grow them on their fields and the labouring class get them free of cost. In summer they purchase vegetable occasionally. The famine workers rarely spend any amount on vegetable. The excess amount remaining after the purchase of grain will be spent for betel, etc.

(c) The only way of making the workers spend their entire wages on procuring articles is to pay them in kind on the scale fixed in the Code instead of in cash or to feed them on works. It is not at all advisable to resort to any of these ways. Many landowners also attend work. Generally they leave one or two old persons or children at home to look after the cattle and the land when there is crop on it. They have to feed these also from their wages. Besides they require some amount for betel leaves, kerosine oil, etc. It is therefore advisable to give their wages in cash only.

(d) *Chapter IX.*—*Gratuitous relief.*—Relief workers, if they stop away on account of sickness, they cannot be paid allowance on work. They do not want to remain in famine hospital as in-patients. The names of such persons are to be recommended to the Tahsildar for payment of gratuitous relief in villages under section 140 (vii). This procedure is cumbersome and some days elapse by the time the worker is relieved in village. Such sick persons may be paid on work only, on the certificate of the Medical Officer. At present pregnant and delivered women are being paid on works. In the case of a pregnant woman, who has a close relative in the work, the amount is being sent to her through him. Otherwise, it has to be sent through a distant relative of her. It is not possible to verify whether the amount reaches her. For these reasons, it is better to pay them in villages.

According to the note under section 132, if a woman in advanced stage of pregnancy offers herself for work, she has to be sent back to her village, as it is not permissible to pay gratuitous relief on work to such women and the Tahsildar has to be asked to pay her gratuitous relief to her. It is not clear if she is to be paid gratuitous relief irrespective of the fact whether she has a relative bound to support her or not, and the period for which she is to be paid is not known. Women who are not in need of relief, offer themselves for work when in advanced stage of pregnancy knowing that they would get some amount. To prevent this abuse, only those that offer themselves for work within one month from the starting of the work may be given allowance.

It is interpreted that according to section 132 read with section 135, pregnant women are to get only allowance prescribed for dependents, on rest days and only such allowance is being given now in famine camps. To give dependents allowance only on rest days and full wages on other days is not fair. They may be given full wages throughout the period prescribed.

SECTION IV.

The size and nature of the task in famine works.

9. At present, in relief work the task to be done is only 75 per cent of the ordinary task. This the labourers are able to do. In the beginning they will not be able to earn full wages as they will not be accustomed to it. But there is a provision in the Famine Code to reduce the task to new comers. In earth work owing to the want of proper proportion of carriers to diggers, prescribed quantity of work cannot be turned out. But if the lead is increased as given in paragraph 2, Appendix D of the Famine Code, this difficulty can be overcome. There is no necessity to reduce the task prescribed in the Code.

SECTION V.

The possibility of providing famine relief by works of more appreciable benefit to the community than stone breaking, e.g., irrigation works of suitable size.

10. Construction of tanks in the famine area wherever possible may be taken up.

SECTION VI.

Expansion of ordinary programme as a normal preliminary to the period of test and observation.

11. No suggestions.

SECTION VII.

Reduction of expenditure on famine establishment.

12. *Establishment.*—The number of cooks provided in paragraph 11, Appendix G, is too much. According to paragraph 14 they are expected to distribute food. It may be that they are expected to make the food into moulds also. This may be the reason for providing so many cooks. The work of preparing moulds of food and serving it can be done by relief workers. It is not possible to get a cook on a pay of less than Rs. 7 or Rs. 8 per month. The number of cooks may be minimised and provision may be made to entertain workers on famine wages to prepare moulds and for serving food. When the work is spread over a greater distance sub-dining sheds are to be opened near to the work spots. To supervise the feeding there and to check the attendance of the dependents, a maistri on a pay of about Rs. 15 is necessary. There is no provision in Famine Code for such appointment. For the post of kitchen superintendent invariably one from the Revenue Department should be selected. When the work is spread over a wide area it is not possible for one charge officer to manage the work. The kitchen requires close supervision. Gangs are to be checked frequently especially at the close of the camp. To discharge these and other duties expected of him, he requires an assistant at least one clerk in upper division.

There is provision for only one storekeeper in the Code. As the work advances it will be necessary to open stores at convenient places, so that the workers may get tools in time in the mornings. For this purpose more store-keepers are to be provided.

13. *General.*—According to section 135 of the Code, workers who attend work for three days in a week are entitled for rest day allowance. Sometimes it happens that a worker after attending work for some days in the week leaves the work once for all. On the day when the allowance is given, if he is absent, the allowance is given to his near relatives though he has left the work. Hence attendance on the last day of the week should be taken into consideration when calculating rest day allowance. Besides there is room for fraud. A worker having got his name registered in two gangs, may work in one gang the first three days and in the other gang during the remaining period of the week and according to the existing rule, he will get double payment if the fraud is not found out.

Kitchen.—(a) The system of issuing tickets to the dependents is to be abolished as it is not workable. The dependents lose the tickets in no time. The gang maistri takes the attendance of the dependents in the morning and sends them with a list of the dependents present to the dining sheds. The warder or the kitchen superintendent in charge of the dining shed verifies the list and notes the attendance in G-1. This procedure is sufficient to keep out the children not dependent on the workers.

(b) Paragraph 6, Appendix G, contemplates that the dependents should be classified into suitable messes according to their ages. This was found not practicable. Children of the same family prefer to sit together and when attempts are made to separate them they begin to cry. This difficulty is found especially in the case of classes V (c) and (d). Besides many children partake of the food brought by their parents before they are fed at kitchen in the morning. Such children do not consume all the quantity of food meant for them. Some children especially of depressed class who cannot afford to have any food till the meal time for want of sufficient food at home, consume more. If the food is served according to the needs of the children it will be just sufficient for all. In the evening children do not consume as much as in the mornings. Generally appreciable quantity of food remains over in the evening and it will be a waste. In preparing food some quantity will be burnt at the bottom of the vessel. For this reason the required number of moulds for a given quantity of flour cannot be prepared.

(c) According to paragraph 4 (b), Appendix G, the kitchen superintendent should keep a record of the number of dependents of each class present at each meal. For this purpose he has to take attendance of the dependants in the evening also. This serves no purpose. Some children stay away in the evening and the food prepared for them cannot be kept for the next day and it is not possible to cook food after taking the attendance in the evening. This year they are given second meal at 4 p.m. to enable them to return to their villages with their parents. Hence taking attendance in the evening may be dispensed with.

(d) It is not definitely stated in the Code if the children present on the last day of the week should be given rest day allowance or they have to be present for three days in a week as in the case of workers. I wish to submit that some children have their attendance marked merely to get rest day allowance. All the children who give attendance before the gang maistri do not go for food and the kitchen superintendent has to mark them absent and the attendance by the maistri will not tally with that marked by kitchen superintendent in G-1, for this reason the list of dependents sent by maistri serves no purpose. Instead of this the kitchen superintendent himself may be made to take the attendance and the rest day allowance calculated on this attendance. But it is better that the gang maistri distributes the rest day allowance in the presence of their parents so that the workers may receive the amount of their dependents. Otherwise small children lose the amount or the older children snatch away the amount from them. At the time of distributing rest day allowance the maistri can verify if the workers on whom the children are dependent continue to attend work or not so that the dependents of the worker who stops away, may not be fed. If a worker stops away temporarily for some reason or other it is not known if his children are to be fed in the kitchen or not.

Though there is a provision in the Code to have the thattis and baskets required woven at the workspot, it is not being done now. They are got through contractors to the headquarters of the Subdivisional Officer and supplied to the concerned charges paying conveyance charges. To avoid the expenditure under this head, the Revenue Department may be asked to induce the weavers (Medars) of the adjacent villages of the famine works to work on the spot. If necessary the bamboos may be supplied to the Medars and they may be paid on the work turned out.

A sketch for the construction of a poor house is to be found in the Famine Code. A similar sketch showing the location and measurements of the kitchen, dining sheds, hospital stores, quarters for officers and maistris, etc., will be useful in laying out a camp. This will save unnecessary wastage of materials.

Oral evidence.

Sri R. SURYANARAYANA RAO: Q.—From your experience at Gudalur you say a test work is necessary before famine work is started?

A.—Yes.

Q.—Would you substitute expansion of ordinary work?

A.—No. The difficulty is with regard to the payment of wages. Wages are to be paid only twice a week, not daily. For three days in the week they have to depend on the grace of the shopkeepers to give them articles on credit.

Q.—In section III you say "old men may be included in class II and old women in class III." May I take it you are suggesting a reallocation of the different classes?

A.—Yes.

Q.—Is it because of any difficulty?

A.—Generally they cannot do any work.

Q.—Why not form them into a separate gang?

A.—I would have formed them into a separate gang. The difficulty at Basarkode camp was they

could not carry metal as the lead was long; nor could they break metal.

Q.—So in Basarkode you had a special difficulty?

A.—Yes. They had to walk 15 to 18 miles a day and finish the required task.

Q.—Don't you think it is hard to make them walk such a long distance?

A.—But I give them lead by three miles. If the lead is nearer, the work they have to turn out is greater; and so on the whole the distance will be the same.

Q.—Don't you think the task is heavy?

A.—I don't think so.

Q.—Is there any provision to give them light work?

A.—But that is in the relief work, and not in the test work. It is not advisable to reduce the work in the test work. If possible, the period of test work may be reduced, say, to a fortnight.

Q.—Would you suggest that children between one and three years be formed into one class as they can't attend kitchen?

A.—There is difficulty in feeding children between one and three.

Q.—Don't you think two meals a day are not sufficient for children?

A.—Children are accustomed to frequent meals. When the workers come to the workspot at 7-30 a.m. they take food; at that time the children will not keep quiet. Again at 10 or 11 a.m. the parents will take food; at that time also the children will take food.

Q.—Don't you think it will be better if three meals are provided for them?

A.—It may be reallocation of quantity.

Q.—Then you have suggested payment in kind instead of in cash. They may not like it.

A.—Apart from their liking or not, according to the present arrangement it would take much time.

Q.—Under Chapter 9, you have suggested the difficulties of people who do not get anything when they fall ill. You say they can be recommended for payment of gratuitous relief in villages. Is it your suggestion that they are entitled to receive dependent allowance when they fall ill and when the doctor certifies that they cannot work and should not work?

A.—Dependent allowance can be given in cash only to children in arms and pregnant women.

Q.—Don't you think a provision is necessary to meet such a case?

A.—Yes.

Q.—Why not have them as out-patients and pay them?

A.—It is not advisable to do so. For the man may not come for medicine, and there is every possibility of the man receiving allowance even after recovery.

Q.—Suppose a man is laid up with fever and after three days he is not able to walk to the hospital and he gets from the village officer a certificate that he is still bed-ridden?

A.—But such cases will be few and it takes for granted that the village officer can find out the disease. But the man says it is headache; there will be room for fraud.

Q.—So do you suggest he should be given nothing?

A.—They may be paid in the village once a week. But the difficulty is to find out whether he is really ill. In the 1931 famine we kept them as in-patients in Korugodu, and we paid only such persons as remained there.

Q.—You say there is no necessity to reduce the task but it is enough if the lead is increased. Did you bring it to the notice of the officer?

A.—In Basarkodu camp, women were not able to finish the work. We gave them 50 yards lead to enable them to complete the work. I told the work agent to increase the lead. But he reduced it and so they could not finish the work. Next day the Collector came and he ordered the lead to be increased.

Q.—So it was an artificial increase?

A.—Yes.

Q.—So what do you suggest?

A.—It is not necessary to change the task table. I would suggest that the workers may be divided into gangs and that only proper carriers are given to the proper gangs.

Q.—With regard to the rest day allowance, the Executive Engineer says it should not be given to those who have been for less than three days on the work in the week including the day previous to the rest day. Do you agree?

A.—I agree.

Examined by ABDUL RAWOOF SAHIB Bahadur: Q.—May I take it that the observations you make about the closing of the Gudadur camp is from hearsay?

A.—Yes.

Q.—Is it not because there was another camp at Sirigiri and at Batrahalli within five miles of Gudadur camp, that Gudadur camp was abolished?

A.—No, there was cotton-picking there and hence people rushed there.

Q.—At the time of closure, the camp was 800 strong. Is it not so?

A.—Yes.

Q.—So far as babies are concerned I understand they are not given cash allowances unless they are brought.

A.—Yes, otherwise fraud is practised. In 1935, the Collector issued orders that they need not be brought. The result was the number of babies increased. I investigated into it and I was told mothers having no children brought other people's children. In this way fraud was going on and so the production of the child was insisted on. The presumption is children cannot leave their mothers.

Q.—These mothers, you suggest, might be given lighter work?

A.—No. It is better to reduce the task.

Q.—Do you suggest they should be put into a separate gang?

A.—No. It is better to mix them with fathers, brothers, etc.

Q.—How is it practicable to reduce the task then for them?

A.—Because the work is given to the gang.

Q.—It appears some of the dependents who are fed at the kitchens have to come from a distance of five miles just for their meal?

A.—Yes.

Q.—Have you any suggestions to make to prevent this, at the same time taking precautions to prevent fraud?

A.—I can think of no suitable suggestion. The only other course is to pay them money.

Q.—Suppose you open sub-dining sheds?

A.—In my opinion children do not mind walking. Their parents carry the younger ones; and the grown-up children walk themselves.

Examined by Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Is the kitchen arranged in the middle of the reach of the work covered by the camp?

A.—The kitchen will be at the camp and the food will be sent to the dining sheds.

Examined by Mr. H. R. DOGRA: Q.—You have been Tahsildar; do you think it is possible to get the supply of requirements for the camps locally?

A.—For date baskets you can have any number in Bellary. So far as thattis are concerned, the bamboo weavers are not able to supply; but if we supply them with bamboos, they are able to supply thattis.

Q.—Do you mean to say you can have thattis if you supply bamboos?

A.—Yes; only we have to inform them a week earlier. With regard to baskets there is no need to supply them with bamboos.

Q.—What about the conveyance charges?

A.—In camp the baskets can be purchased at Rs. 3 per 100. Contractors' rate is Rs. 5 or Rs. 5-8-0 per hundred besides conveyance charges. In the famine of 1935 we were purchasing them locally. I think all the charge officers were supplied in that way; and my work was not hindered in any way.

Q.—Why I ask is, yesterday Mr. Balraj told us he could not get the necessary stock locally, as the demand is by hundreds and thousands.

A.—I find no difficulty; it is only necessary to give the local people roughly a week's notice and the same thing happens with the case of contractors also. By supplying bamboos to the local people, you also give them relief work, as most of them will be engaged in famine work.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Do the cooks get food in the kitchens?

A.—Rules require that they should not be given food; but everyone knows what actually happens.

ABDUL RAWOOF SAHIB Bahadur. Q.—Kitchen moulds are made of different sizes and all placed in one basket. Perhaps they may differ in weight. Suppose the server puts the bigger mould in the smaller basket?

A.—It is not possible to distribute by moulds. All the children do not consume the same quantity of food. They will take some food generally in the morning; some are weak and cannot consume much; the scheduled classes children consume more.

Sri R. SURYANARAYANA RAO: Q.—Do you think a child of two years and a child between five and twelve years will consume the same amount?

A.—Certainly not.

Q.—Another category is children between eight and twelve years. Do you mean to say that a child of eight years will consume the same amount as that of a child of twelve years?

A.—The latter will consume more; Oddas and Koyyas children generally consume more.

ABDUL RAWOOF SAHIB Bahadur: Q.—The previous witness said that we should have one uniform mould.

A.—I do not think it is advisable. I suggest, as the age advances, you should give more food. It is better to prescribe a quantity for each class and serve little by little.

Q.—Supposing you reduce the number of classes?

A.—Children of the same family will sit together.

Sri KALLUR SUBBA RAO: Q.—Will they not adjust the food among themselves?

A.—No. Another difficulty is to stop them from taking food home.

The CHAIRMAN: I have seen a child and the adult eating together. It is difficult to make them sit separate. Sometimes old men, and children under 5 (b), (c) and (d) all sit together and eat.

The Committee then rose for the day to meet again at 10-30 a.m. the next day.

8th September 1938.

The Famine Code Revision Committee reassembled in the Collector's Court Hall, Bellary, at 10-30 a.m. on Thursday, 8th September 1938, with Mr. C. A. HENDERSON in the Chair.

The following members were present:—

- (1) Mr. F. M. DOWLEY.
- (2) " H. R. DOGRA.
- (3) " L. B. GREEN.
- (4) Sri T. A. RAMALINGAM CHETTIYAR.
- (5) " K. KOTI REDDI.
- (6) " H. SITARAMA REDDI.
- (7) " R. SURYANABAYANA RAO.
- (8) " Kallur SUBBA RAO.
- (9) ABDUL RAWOOF SAHIB Bahadur.

The Secretary, Mr. D. I. R. Muir, was also present. The oral examination of Sri Y. S. Anantaramajaya was continued.

The CHAIRMAN: Q.—In paragraph 4 (e), you say that "babul and margosa are the only trees that thrive well in the soil of this taluk." Have you no tamarind topes?

A.—Very few in the red soil villages in Siruguppa and on the borders of the Tungabhadra.

Mr. L. B. GREEN: Q.—Under the subject "cotton industries" you say "that the taluk produces cotton on a large scale but that the industry has disappeared due to cheap production of cloth by means of machinery?"

A.—I was only referring to the handloom weaving industry.

Q.—Is it not an exaggeration to say that handloom weaving industry has disappeared on account of mill cloths?

A.—These weavers are accustomed to weave only old patterns and of a coarse variety. They have no sales as refined cloths of new patterns are being imported from other parts.

Q.—Can you give me an idea of the number of looms at work in Bellary taluk on the basis of your observations during your visits to the different villages? Did you find that the cotton handlooms were not working?

A.—I have no idea of the number of looms in Bellary taluk. I found that some of them were working and some others were idle. Those that are idle are very few.

Q.—You suggest that "it will go a long way in improving the industry if a weaving factory is opened at Bellary to train selected weavers from the villages where weaving is still in existence." Do you mean an instructional institution or is it your idea that people from villages should come to Bellary and receive instructions in improved methods of weaving?

A.—I mean only an institution just on the lines of the Government factory at Bangalore. Students who come there are given the necessary training and

a diploma at the end of the period. Some of them have opened weaving factories.

Q.—Do you refer to the silk weaving factory in Bangalore?

A.—I refer to the silk and cotton weaving factory.

Q.—I am not aware of a cotton weaving factory in Bangalore. If it is a question of providing instruction to improve the technique of the weaving, don't you think it is better given in their own villages by demonstrations than by sending them to instructional institutions?

A.—That would be better.

Q.—You make a brief reference to cumbli weaving industry. I think there are a number of cumbli weaving villages in Bellary taluk. What is your experience in visiting the villages in Bellary taluk as regards the cumbli weaving looms? Are they standing idle?

A.—Some are idle because they cannot get a ready market for their products.

Q.—Do you attribute that to the scarcity of wool or lack of marketing?

A.—Lack of markets. There is not much scarcity of wool. It is sufficient, but the difficulty is that there is no market because they will be a bit costly and it takes a long time to finish a blanket.

Q.—In Kudatini we introduced the fly shuttle on the cumbli loom for the first time. That undoubtedly will enable the weavers to speed up production. But it may lead to overproduction until we are able to extend the market for them?

A.—These cumblies find a ready market in Coorg and other places. If they have better marketing facilities, they will command better sales.

Q.—In regard to the cumbli weaving industry a view has been expressed that the deterioration of the industry is due to lack of suitable and adequate grazing facilities for sheep. Do you subscribe to that view?

A.—Yes.

Q.—How can that be remedied? Will improved pasture do?

A.—Pasture cannot be had in black-soil areas. But it can be had only in hilly places. There are few hilly places in Bellary.

Q.—Is it your view that the chief need of the cumbli weaving industry is rather the development of markets than increase of supply of wool?

A.—Yes.

Q.—I have seen a good number of looms standing idle and I am of opinion that they were unable to get wool?

A.—To a certain extent they have to purchase wool from outside, which is a costly affair. But if there is a market for cumblies and if they are able to earn something they may purchase yarn from outside.

Q.—Do you think the cumbli weaving societies are working successfully?

A.—I have no idea. My impression is that they are bound to be a success.

Q.—Do you think that there is scope for organizing additional co-operative cumbli weaving societies?

A.—That may be taken up after studying the present conditions.

Examined by Mr. H. R. DOGRA: Q.—With reference to task work you have suggested that sub-gangs should be formed. Will you please explain what you mean by sub-gangs and what work are we to give them?

A.—Especially in earthwork these sub-gangs are necessary. In road work some people are breaking metal, some are collecting metal, some are spreading and some are consolidating and watering. If there are more carriers and helpers in a gang doing earthwork they can be formed into a sub-gang and given other work such as breaking metal, etc.

Q.—For all practical purposes they are two gangs and the work can be shown separately, then why should not there be two separate gangs?

A.—Generally people of the same village prefer to be in the same gang.

Q.—There can be more than one gang of the same village?

A.—Then they will mix up with the people of adjoining villages. If there are very few workers from a particular village and the number is not sufficient for one gang, then we take up workers of the adjacent village and form them, into one gang. They will be too small to form two separate gangs.

Q.—Is there anything in the Code which prevents the adoption of the method suggested by you?

A.—As far as I know there is provision in the Famine Code for the formation of sub-gangs but each sub-gang should be independent and should contain proportionate number of men and women.

Q.—You have suggested that local purchase of materials may be allowed by the Charge Officers, because purchase through the contractors leads to waste. You are aware of the circular issued by the Collector recently in connexion with this permitting local purchase?

A.—I am not aware of it. It would have been issued after I left the charge.

Q.—How do you propose that indents should be sent by the Charge Officer. The indents have to be passed by the Subdivisional Officer because he knows what materials are required, say for coolies' sheds, etc. Do you suggest that the Charge Officers should send their indents through supervisors?

A.—Not necessary. The work agent in charge will send the indent to the Charge Officer and the Charge Officer to the Subdivisional Officer.

Q.—You suggest that the indents should pass through the Charge Officers?

A.—Yes.

Sri R. SURYANARAYANA RAO: Q.—What is the practice now?

A.—The Charge Officer himself sends the indents after consulting the work agents.

Mr. H. R. DOGRA: Q.—Do you want the work agents to send them?

A.—Yes. Because the work agent will have an idea about the materials required for the work.

Q.—Do you think it would be possible to purchase all the materials required for the different camps from the local villages?

A.—It may not be possible in all the charges.

Q.—Would you suggest in cases where local purchase is not possible that they may be obtained from places where they can be had?

A.—Yes.

Q.—You are not in favour of keeping a stock of such materials in Subdivisional Officer's headquarters?

A.—No, because it leads to unnecessary waste of money.

Q.—Do you suggest that contractors of the locality should be employed for the purchase of these materials in cases where the Charge Officers are not able to purchase direct?

A.—Yes.

Q.—Do you know how many contractors are there now in Bellary for the supply of these materials?

A.—I think two. I am only talking about thatties and baskets. The other articles may be arranged from Bellary itself. If they cannot be had from adjacent villages nearer than Bellary they may be arranged for in Bellary.

Q.—For that purpose you suggest that contractors should be arranged beforehand?

A.—Yes, if they cannot be had near the charge.

Sri R. SURYANARAYANA RAO: Q.—What was the practice in 1935?

A.—Baskets were purchased locally and only those articles that cannot be had there were purchased from Bellary. The Charge Officer used to purchase them and intimate the fact to the Subdivisional Officer. The charges were also economical.

Mr. H. R. DOGRA: There is a circular to the effect that local purchases can be made as long as rates are cheap. Even before the issue of that circular buying of materials locally was not prevented. The Charge Officer was only asked to explain the necessity for it because the audit has to be satisfied.

Sri KALLUR SUBRA RAO: Q.—How long have you been in Bellary district?

A.—For the last 10 or 12 years.

VOL. II—62

Q.—Is it your idea that, if the Tungabhadra Project comes in and water is allowed in the black-cotton soil, the ryots would refuse to take water for irrigation?

A.—They would gladly take it.

Q.—You say that the ryots may not all of a sudden take to wet cultivation as it is costlier than dry cultivation. You think that water will be taken for dry cultivation?

A.—Yes. For wet crops they may gradually take water because it involves some extra expenditure. In the beginning they may take it for dry cultivation, if the rains fail.

Q.—Then you think that if Tungabhadra Project comes into being, people will take water only for dry cultivation?

A.—Yes, because the black soil in so many places is only 2 or 3 feet deep and beneath it is saline. The whole soil will become useless on account of wet cultivation.

Q.—Have you asked the ryots about this and are they unwilling to take water for wet cultivation?

A.—I have not enquired on those lines.

Q.—Then you say that dry cultivation only must be encouraged?

A.—Yes.

Q.—Is it your idea that control of crops must be in the hands of Government?

A.—Yes, in the beginning.

Q.—Have you any experience of spring channel cultivation?

A.—I know only a few in Hagari.

Q.—Are they successfully working?

A.—They complain that it is not paying and that they have to work very hard.

Q.—In your written evidence under 2 (b) (ii) you have said that "the silt clearance in all the Hagari spring channels is attended to by ryots under Kudimaramat labour." Is it your experience that Kudimaramat is working very well?

A.—For the present it works well, otherwise they will have to lose what little they get. This is done only in spring channels but in tanks and other places silt is not removed.

Q.—Why is silt not cleared in other channels?

A.—Now the ryots are under the impression that it is a forbidden thing to remove the silt. If they are permitted they will remove the silt and use it for manure.

Q.—You have said that there are tanks which do not contain sufficient water for raising a wet crop. Even in the case of these tanks do you suggest that there must be control of crops or that people should be compelled to irrigate a certain portion of the ayacut and raise wet crops and on the rest dry crops?

A.—Yes, there should be a restriction that people should irrigate certain survey numbers for wet crop and certain other survey numbers for dry crop. In that case, Government will have to forego its revenue.

The CHAIRMAN: Q.—May I know how in practice the system of gratuitous relief works now? You are responsible for it as Tahsildar. How many circle officers are there now?

A.—There are three circle officers, all revenue inspectors. They are on special duty selected for the purpose. They have to go round the villages and visit every village at least once a week.

Q.—We are told that in some cases there may be a man who sent back from a work on to the gratuitous relief in the village would not obtain any relief for a whole week. Have you heard any such cases?

A.—There were one or two cases in Bellary taluk.

Q.—You see section 144 specifically prescribes that village headman shall arrange for the relief of persons not on the list pending enquiry by the circle officer on his next visit. Is that being done?

A.—In this taluk the village officers are not entrusted with the work of distributing the amount.

Q.—I want to draw attention to section 144 which lays down this specific duty on the village headman. Is it not being carried out in specific cases?

A.—He is not doing it now, as the section was not understood properly. They thought that because such persons had somebody to support them they were not entitled to relief.

Sri R. SURYANARAYANA RAO: They don't fall within section 140 (vii). "Those who are temporarily unable to work . . . can be given."

The CHAIRMAN: If a man is disabled at the camp and he becomes unable to do the work, he may be brought on the village gratuitous relief.

Sri R. SURYANARAYANA RAO: He cannot if he has any relatives able and by the custom of the country bound to support him. Section 140 is an elaboration of section 137.

The CHAIRMAN: If the head of a family becomes disabled having been at a work and is returned to his village, he is taken on to the village gratuitous relief and this duty of the headman is obvious.

Q.—Do you receive periodical reports from these circle officers?

A.—Yes, every week they send reports.

Q.—You get the abstract bills for gratuitous relief to be passed?

A.—Circle officers send the bills.

Q.—Who passes these bills?

A.—The Tahsildar passes them.

Q.—Do they return to headquarters to recoup?

A.—They will have an advance and they recoup it when necessary.

Sri K. KOTI REDDI: Q.—Can you say whether hand-spinning can be organized as famine relief work? Can it be organized in the villages?

A.—They are to be trained for it. They take some time to pick up and there should be proper instructors. That might take not less than a month. I have no practical experience.

Sri R. SURYANARAYANA RAO: Q.—Have you any idea that under section 145 such work is prescribed for those on gratuitous relief?

A.—No.

Sri K. KOTI REDDI: Q.—You say that generally neither the ryots nor the labouring classes spend any amount for the vegetables. Is it not a sweeping statement?

The examination of Mr. K. M. UNNITHAN, Collector of Anantapur, was then taken up.

Written evidence.

SECTION I.

Measures for the prevention or mitigation of famines.

1. The only possible way of guarding against famine is to improve the economic condition of the agriculturist by providing facilities for irrigation as the want of timely water-supply is the main cause of famine. Side by side the encouragement of cottage industries such as spinning and weaving on a small scale, may be taken up as part of the programme of economical development, though as a preventive measure, these may not go far.

2. (a) (i) *Irrigation—Major.*—There are no canals in this district and I have no practical knowledge of canal irrigation. The Tungabhadra project is the only major project suggested in this district. If the project materializes, it will certainly contribute towards improving the resources of the agriculturists within the reach of this protected supply and thus mitigate famine in the area. As now designed, the project serves only a portion of Gooty taluk consisting of 70 villages. I am not able to say what the results would be if the ryots are left to grow what they liked with the Tungabhadra water.

(ii) The question whether the original scheme or the present scheme is more useful may be investigated. The reasons for giving up the original scheme are not known. According to the original scheme the tract to be benefited is—

Taluk.	Number of villages.	Probable area of irrigation including the present irrigated lands.
ACS.		
1 Gooty	67	54,000
2 Tadpatri	30	19,000
3 Anantapur	96	62,713
4 Dharmavaram	37	39,415
Total ..	230	175,128

A.—It is true in villages. They don't purchase vegetables in rainy season; in the hot season they purchase to some extent. They use mostly leafy vegetables. At times they get them free.

Q.—Is it your experience that during famine nursing mothers are required to work after a month after delivery and they bring their babies to the work spot. Are there any special arrangements made for these babies?

A.—Sheds are constructed on the work spot. In summer they will require sheds but they do not use them even. Generally, unless they are hard pressed, no woman will come to work with a baby only a month old. They generally come for work three or four months after delivery.

Q.—Since they have been working in the camps before they delivered they are expected to work even after delivery?

A.—Most of these nursing mothers do not come to work at least for three months. This time it was ordered by the Collector that such females should be given the option of having their food in the kitchen and not asked to do any work. It was left to their option either to go to work or take food in the kitchen.

ABDUL RAWOOF SAHIB Bahadur: Q.—You say that sheds were constructed for these babies. Are there any in Battarahalli camp?

A.—When they are engaged in consolidation work, there will be sheds here and there. If there are good trees they prefer tree shelter to sheds. Whenever there is necessity they use sheds.

Sri K. KOTI REDDI: Q.—In Bellary district so far only road works have been taken up. Probably there are not many tanks to be taken up as relief works. Where there are no other useful works, therefore, tank works may be taken up?

A.—Yes, if it is possible, for irrigation.

Q.—There is need to conserve more water for drinking, etc. Some of these vakkaranis may be taken and improved?

A.—Yes.

(iii) No other major productive or protective project can be suggested. But there are some minor projects which seem feasible. The following schemes have been under contemplation and may be investigated :—

(1) *Pennar-Kumudavati Project*.—This scheme consists of the construction of an anicut on the Pennar just below its confluence with the Kumudavati river in the Hindupur taluk, with channels taking off on both the banks to supplement the supply to the six tanks of Parigi, Kodigenahalli, Kotnur and Utakur in Hindupur taluk and Nallur and Kalipi tanks in the Penukonda taluk, and also the Peddamanathur river channel in the Penukonda taluk. The approximate cost of the scheme is estimated at Rs. 4 lakhs and the net revenue anticipated is Rs. 38,000 representing a return of 9½ per cent on the capital outlay. The extent likely to be irrigated is 5,337 acres. In G.O. No. 918-1, Public Works and Labour, dated 10th April 1935, the Government ordered that it was inadvisable to incur any expenditure on this scheme till the results of the gauging were known. The gauge reading and velocity observations are being conducted by the Public Works Department. This is the fourth year out of the five years' period fixed for observation. Twelve villages in the Hindupur taluk and four villages in the Penukonda taluk are notified in G.O. No. 763, Revenue, dated 9th April 1937, as likely to be affected by the project. Ryots have been agitating for the speedy execution of this project and steps in the direction may be taken up. The affected villages are in the famine zone of Hindupur and Penukonda taluks.

(2) *Bhairavanithippa scheme*.—This scheme consists of the construction of a dam across the Hagari or Vedavathi river at Bhairavanithippa in Kalyandrug taluk and excavating channels for augmenting supplies to the tanks along the margin of the river. An extent of about 30,000 acres in the Kalyandrug taluk of this district and Rayadrug taluk of Bellary district are estimated to be irrigable by this scheme. The following eight villages are notified in G.O. No. 763, Revenue, dated 9th April 1937, as likely to be affected by the project in this district :—

- | | |
|-----------------------|-------------------------|
| (1) Bhyrasamudram, | (5) Naranjagundlapalli, |
| (2) Bhairavanithippa, | (6) Narasapuram, |
| (3) Hulikallu, | (7) Srirangapuram, and |
| (4) Kannepalli, | (8) Thitakallu. |

The area comprising of these villages and the surrounding villages was never famine stricken, but scarcity conditions have been prevailing whenever rains failed. In this locality expansion works were taken up this year to relieve the labourers.

The Public Works Department have deferred consideration of this scheme till a decision is reached on the Tungabhadra project.

(3) A third project—the Dharmavaram taluk Mushtikovila project is being urged by ryots of Dharmavaram taluk. The project consists of opening of new channel for a short distance of about eight miles from the Pennar river near Roddam (Penukonda taluk) and diverting the flood supply to Mushtikovila tank in Dharmavaram taluk and to a chain of six tanks lower down to benefit an extent of about 4,000 acres. This scheme has not yet been investigated. The off-take of the new supply channel will be about fifteen miles below the head works of the Kumudavati project. Hence a decision regarding this project depends on the decision on the Kumudavati project; if the latter is pushed through, the question of availability of surplus water may have to be investigated.

(b) (i) *Minor irrigation and wells*.—(1) It cannot be said that the number of these sources and the area irrigated by them are decreasing. On the other hand there has been a slight increase in the number of wells shown below :—

Statement showing the particulars of irrigation under wells and minor irrigation tanks in Anantapur district during the last five faslis.

Serial number and fasli.	Wells.		Tanks (minor irrigation).		
	Number.	Area irrigated.	Number.	Area irrigated.	
1 1342	25,791	72,398	.. *	89,876	* Information not available. One tank abandoned.
2 1343	25,511	74,450	.. *	98,697	
3 1344	26,499	76,129	1,051	38,249	
4 1345	26,139	70,644	1,050	95,235	
5 1346	26,494	81,472	1,050	73,747	

The extents cultivated under the sources have been varying due mostly to uncertain rainfall.

(ii) This is a matter for the Engineers.

I am not qualified to suggest any method.

(iii) Most of the Minor Irrigation tanks in this district are rain-fed, and it is a fact that supplies fail entirely when there is a failure of the monsoon. They are no doubt of little direct use in seasons of distress. But properly maintained irrigation sources will tend to add to the stocks of food-grains in normal years and thus increase the power of ryots to resist famine. Irrigation wells do not fail so easily as tanks, as these depend upon sub-soil springs also, which rarely fail to any appreciable extent unless there is continued drought extending over more than one year. It is significant that in fasli 1344 when six out of nine taluks were famine affected there was an increase in the extent of cultivation under wells as compared with the previous year—76,129 acres in fasli 1344 as against 74,450 acres in fasli 1343. The reason is not far to seek. As the crops on dry lands failed, the ryots resorted more to cultivation under wells.

(iv) An increase of the tanks will be helpful in mitigating the famine. An increase of wells with assured supply of water may in certain areas be even a preventive against famine. The wells in the wet ayacut under tanks in particular have steady supplies, and they are very useful by way of supplementing the irrigation from tanks. Even when the latter get dried up, cultivation is carried on solely with the aid of wells; hence it will be advantageous to take steps to increase the number of such wells and to improve the existing ones particularly in red-soil areas. To achieve this it is suggested that provision may be made for granting special takavi loans, on nominal or even no interest. This will be an impetus to ryots to undertake wells works wherever necessary since a certain percentage of would-be borrowers are discouraged owing to the interest charges that have to be met.

It is true that sub-soil water in black cotton soil areas is usually brackish. It is said to be deleterious to crops. Hence the sinking of wells in black-cotton soil areas for the purposes of irrigation may not be quite successful.

(c) *Contour bund forming.*—As these bunds help the conservation of moisture, the system may be more popularized in black cotton areas where, already to some extent the system of forming them is prevalent. I am told that disputes between ryots owning neighbouring fields have arisen over the "formation of these bunds." As regards the red soil areas, where a series of tanks are linked together, contour bunding in the upper regions will tend to diminish supplies to the sources.

(d) *Dry farming.*—In view of the poverty of the soil in a major portion of the district no suitable methods of dry farming occur to me.

(e) *Afforestation.*—Reservation of plots of land for growing trees, and the planting of trees in the existing tope porambokes may contribute to some extent towards increasing the area under forests and topes. Kanuga, ippa, margosa, bamboo and tamarind trees may be planted on such lands. Small allotments from general revenues may be made year after year for the development of Government topes which are now decaying. Babul, Kanuga and other tree plantations may be specially encouraged in the foreshore of tanks, river margins and other suitable porambokes under the provisions contained in Board's Standing Order No. 19-B by the relaxation of rules on the following points:—

(1) The special permission for raising fences (Board's Standing Order No. 19-B, condition 5) may be liberally granted; and

(2) the tree-tax fee under condition 8 of Board's Standing Order No. 19-B may be waived.

(f) *Alternative or subsidiary sources of employment*—(i) *Large scale industry.*—The natural resources of this district are so poor that they hardly permit any industrial development on a large scale.

(ii) *Cottage industries.*—I would suggest spinning and weaving. These industries which have been in existence in the district are decaying owing to the competition of mills. They formed the subsidiary occupation of the agriculturists in the off-season in almost all villages in former years. A revival of these industries helped by Government subsidies may go a long way in improving the economic condition of the ryots in general. It may be mentioned here that the Government have under contemplation the scheme of opening a spinning centre at Uravakonda under the management of the All-India Spinners' Association (vide Board's reference No. M. 889/38-3, dated 9th April 1938).

(g) I have no practical experience and I cannot say anything in the matter.

SECTION II.

Purposes of famine operations and principles of famine relief.

3. I agree with the policy and principles laid down in the introduction of the Famine Code and Section 127 thereof. I think the policy is sound and requires no change.

4. *Chapter II of the Code—Preliminary measures of enquiry and preparation when the rains fail.*—I suggest no modifications.

5. *Chapter III, Period of observation and test.*—(a) I do not think that the opening of a test work should be made a necessary preliminary to the opening of a relief work. The Code may be modified giving discretion to the Collectors to propose relief works straightaway if the attendance on the ordinary expansion works justifies the opening of relief works.

A provision may also be made in the Code for the Collector to fix the wages on the ordinary expansion works irrespective of the agency through which the work is done. In practice this is what is being done, but there is no definite provision in the Code.

(b) No amendments are suggested.

6. *Chapters IV and VI—Declaration of distress and commencement of relief and description of the various measures of relief.*—The phrase "declaration of distress" may be deleted from the heading of Chapter IV, as there is no such formal declaration.

SECTION III.

Scale of wages and allowances and the diet scale.

7. Class III (workers) under section 97 of the Code consists of children between the ages of twelve and fourteen years who are able to work and class V (a) among dependants under section 116 consists of children the ages of twelve and fourteen years who are unable to work. It is difficult to carry out the distinction in practice and the result is that large numbers of children of tender age who are really unable to work get into class III of workers—more on account of the eagerness of the parents to earn an extra pice by getting the children admitted into class III. This is likely to impair the health of children who cannot bear the strain of hard physical labour. I, therefore, suggest that class III under workers may be abolished and class V (a) may be modified so as to include all children between the ages of twelve and fourteen years. The result will be that there would be no worker aged twelve to fourteen years.

8. (a) (i) The table under section 128 (a) of the Famine Code fixes the wages and allowances in terms of grain. The grain equivalent allowed in the case of class V (c), V (d) dependants is not sufficient to purchase grain and other items according to the scale in the table. It is necessary to increase the grain equivalent by five tolas in each of these two cases as in the case of other class of dependants except V (e) and also to increase the corresponding money rate in the revised table X at page 134 of the Famine Code.

(ii) Section 135 of the Famine Code authorizes the payment of the rest-day allowances to all those who have attended the work for not less than three days in the week. According to the section, the attendance of the recipient on the day of distribution is not compulsory but the distribution of the allowance in the absence of the recipient may give scope for fraud or misappropriation. The section may be amended so as to make the attendance of the recipient compulsory on the day of distribution.

(b) On the existing scale in the table under section 128 (a), as last revised, it is possible to obtain vegetables in normal years in hot weather except in the cases of class V (c) and (d) dependants to which a reference has already been made. It may be increased as suggested above (against 8-a). If this is done, it will remove the difficulty which exists in these two cases. The allowance provided would give the various classes just what they are accustomed to have in normal years by way of vegetables. Cholan and ragi form the food of these classes and for them some "Pulusu" or "Chutni" is necessary. For this purpose only locally grown vegetables such as onions, brinjals and greens are commonly used in the hot weather and these are procurable with the allowance given.

(c) The only possible method that occurs to me is to pay wages and allowances in kind according to the scale fixed in the table under section 128 (a): but this course would involve so much time and labour as to make it almost impracticable. Even this method will not result in unqualified success because a labourer can convert what he gets in kind into cash, if he so chooses.

(d) Section 145 of the Famine Code provides for engaging the recipients of gratuitous relief in villages, if fit for work, on light work suitable to their conditions such as spinning cotton or winding silk; but the Code does not contain details for the practical application of this section. A scheme may be devised for supplying spinning wheel and cotton to persons of this class.

SECTION IV.

The size and nature of the task in famine works.

9. My opinion is that the code requires no revision with reference to the size and nature of the task in famine work.

SECTION V.

The possibility of providing famine relief by works of more appreciable benefit to the community than stone-breaking, e.g., irrigation works of suitable size.

10. Improvement of irrigation sources will be more beneficial to ryots than road works which consist mostly of stone-breaking. But the difficulty in carrying out this programme is mainly the want of suitable irrigation works in the localities affected. Most of the tank works are too small to provide unskilled labour to large numbers and they are also too scattered.

SECTION VI.

Expansion of the ordinary programme as a normal preliminary to the period of observation and test.

11. The expansion of ordinary works is an effective remedial measure and at the same time less expensive. They are therefore absolutely necessary as a part of the famine programme. Such work will give adequate relief if the distress is not acute, and may obviate the necessity of instituting a test work by serving as an index to acuteness of the distress.

SECTION VII.

Reduction of expenditure on famine establishment.

12. I do not consider that the system is unduly costly. It cannot be reduced if efficiency is expected.

However the provision of an officer of the superior Engineer establishment made in section 255 of the Famine Code may be deleted as such an appointment is not necessary.

13. *Other suggestions—(a) Section 99 (b).*—The necessity for the creation of additional subdivisions as the rules stand now, depends upon the number of workers. But it would be better to make this dependant on the number of charges, and the area over which these are located. Section 99 (b) may be suitably amended. Necessary amendments may also be issued to paragraph 5 of Appendix D to the Famine Code.

(b) According to paragraph 34 of Appendix D to the Famine Code rest from mid-day till 2 p.m. is allowed. The workers may require an hour more during the hot weather (April). The Collectors may be authorized to increase the rest-period by an hour if necessary during the summer season and allow a corresponding reduction in task. The paragraphs may be suitably amended.

(c) Paragraph 83 (a) of Appendix D allows the maistris to make payments to coolies if the headmen of gangs are illiterate. Illiteracy of a headman does not stand in the way of distribution of wages. As the headman belongs to the village of the workers it is always safe to disburse the wages through him. The paragraph may be amended suitably.

(d) *Under section 274.*—The Collectors can sanction appointments carrying a consolidated salary of not more than Rs. 150. Deputy Tahsildars who have completed probation are generally appointed as Charge officers. The present limit of Collector's sanctioning power under this section may be raised to the maximum pay in the cadre of a Deputy Tahsildar so as to enable him to sanction the posts of all Charge officers.

(e) According to Appendix D the scale of pay prescribed for peons is only Rs. 12. Peons on permanent employ drawing a salary of more than Rs. 12 cannot now be employed on famine duty except as peons under village works managers. The scale of pay Rs. 12—17, sanctioned for peons under the village works manager may be made applicable to all peons on famine duty.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—In paragraph 2 of your written evidence you say you are not able to say what the results would be if the ryots are left to grow what crops they liked with the Tungabhadra water. Are you in favour of restricting the discretion of the ryot by telling him what crops he should grow?

A.—I cannot say anything definite on that point, because I have not had any experience of restricted cultivation and it was only from what is found in the questionnaire that I came to know that there was some trouble.

Q.—You have suggested three minor projects relating to the Anantapur district. Would you proceed with them irrespective of whether they are productive or protective in view of the fact that they will help to rehabilitate the agriculturists in parts of the country liable to famine.

A.—I should certainly recommend them.

Q.—You would not allow them to be kept pending till the consideration of the big Tungabhadra project is over?

A.—But that has nothing to do with these and these are projects that will help areas which may not be irrigated by the Tungabhadra project.

Q.—You make certain suggestions in regard to afforestation. In order to encourage the ryots to give more attention to tree planting, do you think your suggestions will help them in a great way?

A.—Yes, I should think so.

Q.—You also suggest that with regard to Government topes, the Revenue Department must make efforts to grow more trees in them?

A.—Yes.

Q.—You say that the policy underlying the Famine Code is sound and that it requires no change. Don't you think that it is time now that the idea of State has changed, their duties towards the people also require a change?

A.—If you ask me specifically about any particular aspect I may answer.

Q.—I shall explain it. The State is bound to protect people not merely from starvation but I would even say keep them in a normal state of comfort because as soon as the period of employment is over they have again to work for the State. The State exists for the people and the people do not exist for the State. Taking that view, don't you think in order to keep them in normal state of comfort to which they were accustomed before, they are entitled to better treatment from the State than being saved from starvation?

A.—Is the State out for doing such a thing? We are here concerned only with the famine area and the amount of money that we put in the district.

Q.—Under the chapter relating to period of observation and test, you have stated that the opening of a test work need not necessarily be a preliminary to the opening of relief works and that expansion of ordinary work is quite enough for understanding the existence of distress?

A.—Yes, I think so.

Q.—You don't insist upon test work or would you leave it to the discretion of the Collector?

A.—Yes.

Q.—Supposing the expansion of the ordinary work has to be done by the district boards as it was done during the previous famines, would you like the Collector to have control over the conditions of work and the agency of work?

A.—Certainly; it is only then that the Collector will be able to find out the existence of real distress.

Q.—You suggest the abolition of class III and having only two classes of workers, i.e., boys between 12 to 14. But diggers are mentioned there. I can understand if you put children above 12 in class II or if you take them under V (a) though they may be in a position to work?

A.—I would keep them out of work; of the two evils I would prefer boys being fed rather than made to work.

Q.—Is it difficult to get work from them?

A.—In the interests of the children themselves I would not give them work.

Q.—You would put them as dependants?

A.—Yes.

Q.—In regard to the payment of rest-day allowance, the Executive Engineer has made a certain suggestion, namely, the allowance shall not be given to those who have been less than three days on the work spot in a week including the day previous to the rest-day. At present it is not uniform in all camps?

A.—That is what I have also suggested.

Q.—Under section 145 you suggest that those who are getting gratuitous relief may be given some work and the task laid down. Do you think the task could be laid down and supposing you ask the circle officers to make them do work, how can they ask them to do work as there is no provision at present?

A.—There may be many people who could be made to work by altering the rules.

Q.—You suggest that Collectors may be empowered to increase the period of mid-day rest during summer which would involve the reduction of the task by one hour. You want that power to be vested in the Collector and provision made to that effect?

A.—Yes.

Q.—In summer don't you think this allowance of one hour more would be absolutely necessary in view of the scorching sun?

A.—Yes.

Q.—You suggest that the distribution of wages should be in the hands of headman and not maistris. Don't you think it would be better if it is in the hands of some person like the charge officer or an assistant to him?

A.—I believe so.

Q.—Had you any difficulty in regard to the probation of Deputy Tahsildars who were appointed as charge officers in view of the Government Order relating to probation and would you like the period spent as charge officer should also count for probation?

A.—Yes.

Q.—Coming to section 132 relating to pregnant women, now the rule is that instead of the woman appearing before the medical officer to obtain certificate for the extension of the period beyond three weeks, a certificate from the village officer is found to be sufficient. That is the reason why you as Collector of the district passed an order that a pregnant woman who does not deliver within three weeks should be removed to the village list?

A.—That was the suggestion from the District Medical Officer.

Q.—You know the idea of the section is that pregnant women should be cared for properly and once they are transferred to the village—and no doctor can say how long she will take for delivery—and after confinement she has again to be brought back to the charge list. Don't you think it is a cumbersome procedure?

A.—If any better solution can be thought of I have no objection. There is no provision at present to give them full wages.

Q.—What made you issue the instruction?

A.—The difficulty of asking pregnant women to come before the medical officer and some of them may be five or six miles away.

Q.—Is it the idea that they need not also be given the maternity allowance of Rs. 2?

A.—I think she may be given that. The section refers to exceptional cases. The District Medical Officer pointed out certain specific reasons and it was thought a convenient arrangement.

Q.—So, you agree these are exceptional cases. In such cases don't you think the Code should be revised to minimize the amount of trouble and in order to prevent fraud and things like that the doctor should be careful in giving the certificate so that the women should not be penalized?

A.—It is possible that the District Medical Officer thought the doctors were not experienced enough in judging the correct period of delivery. If there had been such cases they might have been brought to our notice by you and they could have been rectified.

Q.—I came here only three days ago and one or two cases have been brought to my notice and you passed the order only recently in August. You know that after the rains the work gets disturbed and people stop work even though there is rain at 10 a.m. or 12 noon. If the rain sets in after the mid-day rest, they

are forced to stop work. Is it not just and proper that they should be given the full day's wage? It is not their fault if they stop work.

A.—You want full wages to be given irrespective of the actual amount of work turned out. Because of the difficulty you want to show a concession. Except from the financial aspect, I have no objection to that.

Q.—Section 137 relating to gratuitous relief lays down the classes of persons who are eligible for such relief provided that they have no relatives able and by the custom of the country bound to support them. This section deprives persons who are sick of the benefits. Don't you think that this clause really binds people to maintain others who belong to the family and that it requires a change in view of the modern changes in the joint family system?

A.—That is taking away the responsibility from the head of the family.

Q.—Don't you know that various Commissions which have gone into the question and examined it have come to the conclusion that it would be interfering with the custom of the country?

A.—No. The only suggestion I could make is that some more discretion may be allowed in the matter of elimination from the list, i.e., if there are such able relatives, the cases concerned may be taken off the list the officer using his discretion.

Q.—I would invite your attention to Chapter X, page 45 of the Code. Don't you think that those clauses are not applicable to present conditions? That is, you cannot stop them from relief as soon as monsoon breaks because they must be given reasonable time to grow crops and they won't be anywhere near normality.

A.—Probably the expression "shall" causes some difficulty. What actually happens is, the officers are taking care to see that discretion is used, and properly.

Q.—It has been suggested by some Collectors that this section might be re-written taking our present conditions into account?

A.—I do not think there is any necessity to re-write it because the chapter relates only to policy. It is quite possible to deviate from that.

Q.—After you took charge, had you any occasion to study the conditions here?

A.—Yes.

Q.—Don't you think that the weavers suffer equally with the ryots when the crops fail, especially as there is no purchasing power?

A.—It all depends to which market they supply. If weavers are depending upon the local market, probably the distress will last longer than in other places of distress.

Q.—Do you think that relief for weavers also may be undertaken as soon as famine is declared?

A.—As I have already stated it depends on the market to which they supply and the extent of distress.

Q.—You would think it should be continued a little longer in the case of these weavers because the after-effects still continue in their case?

A.—Yes. That also depends according to the nature of the place.

Sri H. SITARAMA REDDI: Q.—About this gratuitous relief, it should be given only after relief works are opened?

A.—No.

Q.—Will you agree if a proposal is made that gratuitous relief may be given even at the time of the test stage?

A.—I think there is some technical difficulty in giving gratuitous relief when no test work is opened. But the then Collector of Bellary issued orders (when I was in charge of Hospet division) and we had been paying it in about eight villages.

Q.—But in any case during the test period, you are bound to?

A.—Yes.

Q.—But one of the Collectors was saying that it takes time to prepare the gratuitous relief list and suggested that it would be better if the list is got ready much earlier than what is usually done?

A.—It will be very ideal no doubt but it will not be practicable.

Q.—Why?

A.—Because I had recently an experience. We wanted to start test work and by the time the list

was made ready the test had to be stopped. Ordinarily the existing staff has to collect statistics and then the Tahsildar has got to verify the lists and all these things naturally take time.

Sri R. SUBYANARAYANA RAO: Q.—One Collector suggested that the Collector should arrange for the preparation of these things and suggested that extra staff be given to him to keep the list ready?

A.—If extra staff is given that would certainly bring down the delay.

Sri H. SITARAMA REDDI: Q.—You suggest that a scheme may be devised for the supply of spinning wheel and cotton for those who are in receipt of gratuitous relief in villages and you want some provision to that effect should be made?

A.—Some such provision like that is desirable because if some light work is given to them which they are inclined to do, they may not become lazy.

Q.—About contour bund forming, you say that "disputes between ryots owning neighbouring fields have arisen over the formation of these bunds." May I know why?

A.—It naturally arises because one man thinks—not rightly probably—that the water which ought to percolate into his field is being obstructed by the contour bund. It may not after all be true. But I was told by a Tahsildar in Anantapur that several disputes of that kind came to his notice; but none have come to my notice.

Q.—Contour bund is prevalent in your district?

A.—Yes.

Q.—You mean field bunding?

A.—Yes, not the scientific bund forming.

Sri K. KORU REDDI: Q.—You say the possible way of guarding against famine is to improve the economic condition of the people and side by side with that you would encourage cottage industries such as spinning and weaving so that during the off-season people may take to them as subsidiary industry?

A.—Yes.

Q.—Will you suggest any sort of help being given to people in these areas for encouraging these things?

A.—I suppose encouragement can be given by Government.

Q.—By way of subsidy?

A.—It is not so much the money that is required, but the creation of interest in the work and making the people feel that there is some good in that.

Q.—Do you think spinning can be taken up as a form of famine work also?

A.—Yes, if they are well trained, from the day you start famine work it will be a success, but the difficulty is they are not trained.

Q.—Have you any experience how long it will take to spin some rough yarn?

A.—For the first month they can spin some rough yarn, but I do not know how long it will take to spin good yarn. If the thing can be done within a month I think it can be tried as a measure of famine relief. I am not sure whether men and women will take to this work because so far as 90 per cent of them are concerned they are used to road-making or similar type of work. Spinning means they have to be sitting on one place and so I do not know whether all of them will be agreeable to it.

Q.—You say that irrigation sources should be developed. Do you consider that the original Tungabhadra scheme would be more beneficial to Anantapur than the modified scheme?

A.—Yes.

Q.—You suggest that the benefits of this scheme should be extended, as it was thought during the earlier stages of the project, to Anantapur, Dharmavaram and Tadpatri taluks also?

A.—Yes.

Q.—You consider that all the other smaller projects which were given up on account of the fact that a higher return could not be expected should be taken up now in the interest of developing irrigation sources in the Anantapur district and that the only way in which they could help the people would be to take up many of these projects as famine-relief measures?

A.—If finances permit these also can be taken up.

Q.—In regard to minor irrigation sources also all those which were given up for some reason or other may also be taken up and improved and even the construction of small tanks also. Do you agree?

A.—Yes.

Q.—You make a suggestion regarding the planting of trees and you suggest afforestation as a means of increasing the economic resources of the people?

A.—Yes, to a very small extent.

Q.—You know in most parts of the Anantapur district the soil is very poor and you don't really get very good crops even with the best of rains. In that connexion don't you think that the ryots could be helped if they are encouraged to plant trees during intervals as a means of improving their economic resources? Would you suggest any methods by which you can induce the ryots to take to afforestation?

A.—It is very difficult.

Q.—Supposing Government show some concession by putting off collection in the case of those people who plant trees in their fields or give them half or quarter concession in assessment, will that help?

A.—I do not know whether they would like the idea at all. In fact they might rather prefer to grow cholam than trees.

Q.—The idea is if they plant trees even if there is not enough rain they may not die and may yield some return after some years and so if some concession is given to induce them to grow trees, don't you think it would help them?

A.—If some inducement to make them grow trees is shown, of course it might encourage them to some extent to grow the trees.

Q.—There should be some inducement to the people to grow aloes.

A.—It is doubtful whether they will take to it even then.

Q.—You know the rest wage; it is only dependent wage; it is rather unjust that actual workers who have been working the whole week should not be given the same wage on the rest day. Ordinarily they don't eat less on the rest day; so is it not better to pay them the ordinary wage on the rest day also?

A.—I do not think it is really necessary, as in no wage system you get that allowance. If it is monthly salary or weekly salary I can understand, but under the system now in vogue I don't think it is necessary.

Q.—Your contention is not that they eat less on rest day. Then why not pay them not dependent wage but the average wage?

A.—If it is average wage the difference will be very little.

ABDUL RAWOOF SAHIB Bahadur: Q.—Would not that mean a lot of calculation and additional staff to do the business?

Sri R. SURYANARAYANA RAO: Q.—Why not pay the previous day's wage?

ABDUL RAWOOF SAHIB Bahadur: That would be something.

Q.—With regard to nursing mothers, after a month or three weeks after delivery, they have to come to the camp and work to get wages. Do you make any provision for the keeping of these babies?

A.—Such women are put in a special gang. In one camp some of them complained about work and I asked the doctor to see whether they required any extension of period by a week or two beyond the three weeks.

Q.—But with regard to the babies that are brought to the camp by mothers do you make any special arrangement for their feeding, for their being properly kept and looked after?

A.—"Looking after" is very often done by some old women.

Q.—With regard to nursing mothers is it not better if they are asked to stay in their own home for a period of three months after delivery?

A.—That depends upon the custom prevailing in the locality.

Q.—No, my point is they should be kept in the village and made to do some spinning work or that sort of work?

A.—If work for "gratuitous relief" people is put in some definite form, these people can be put along with them. I cannot suggest they should be given gratuitous relief. At present some consideration is being shown to them. They are put in the weakly gang.

Q.—My point is they should not be made to walk and work in the sun.

A.—Yes; it would be better if that is done.

Q.—At present some arrangement is made to provide some clothing for the necessitous. Do you recommend that ordinarily, if the famine continues for some time, some clothing may be given to the people, say, a sari to each woman and a pair of dhotis to every man?

A.—How long should the famine continue?

Q.—Say for not less than six months.

A.—Yes, that may be done.

Examined by Sri T. A. RAMALINGAM CHETTIYAR:

Q.—Is there large scope for digging wells in the district?

A.—There is scope; but the success depends upon various factors.

Q.—What is the difficulty?

A.—About getting water. The other day in Kalyandrug a well was dug, but no water could be found. It was in the Public Works Department kungalow and the well was dug to a depth of about 75 feet; water was found, but it was not fit for drinking. It is red-soil area there, not black-cotton soil area.

Q.—So there is no scope for digging wells?

A.—I can't say that.

Q.—Would you suggest a sort of sub-soil survey for this purpose?

A.—Yes.

Q.—With reference to the digging of wells in valleys, near water-courses and tanks, I suppose there is no such difficulty?

A.—Not so much.

Q.—Will it be possible to make the ryots in these places dig more wells if help is given to them?

A.—Yes.

Q.—What sort of help would you suggest?

A.—Loans.

Q.—Beyond that?

A.—Beyond that I can suggest nothing now.

Q.—If takkavi loans are given at low interest or at nominal rates of interest, will they be able to repay?

A.—That is a question to be decided in each individual case.

Q.—In cases where the ryot will not be able to repay the loan, would you suggest the State digging wells?

A.—Yes, it may be tried.

Q.—Are there large areas which are capable of being irrigated by wells?

A.—No.

Q.—If loans are given, will people be ready to take them?

A.—I think they will; that is all I can say.

Sri R. SURYANARAYANA RAO: Q.—As regards abandoned wells, why not deepen them. Take Hindupur taluk, if the ryot is not able to take loans, would you suggest the State taking them up?

A.—Abandoned wells are of different types. Some of them are abandoned because they were dug only for temporary use; some are abandoned for loss of source of water-supply; and in some cases I have been told it is better to dig fresh wells than attempt to repair the abandoned wells.

Examined by Mr. L. B. GREEN: Q.—In Anantapur there are 6,494 handlooms and 20 lakhs worth of cotton yarn; do you think there is scope for setting up a cotton spinning mill to meet the requirements of the handloom weavers at Pamidi?

A.—I think it will probably affect the charka people.

Q.—I want to ask you whether local labour available in non-agricultural seasons cannot be made use of in the mills?

A.—The mill requires a specialized kind of labour; and people who get into mills will seldom come out of them to work as agricultural labourers.

Q.—Is not labour available in large quantities?

A.—There are a large number of gins. I think local labour is available.

Q.—If a mill is established, cannot each family at least contribute one member to it?

A.—I don't think it is workable.

Examined by the CHAIRMAN: Q.—Under irrigation under wells, minor irrigation, in fasli 1345 you say, one tank was abandoned. Did you ascertain why it was abandoned?

A.—No.

Q.—Under 'Afforestation' with reference to your remarks, may I ask you whether the forest lands on the western bank of the river, which soil is dry red soil, cannot be converted into patta land, like the adjoining patta lands there?

A.—If there is a good season they will get more than 2 annas crop.

Q.—In section II you say "a provision may be made in the Code for the Collector to fix the wages on the ordinary expansion works irrespective of the agency through which the work is done. In practice this is what is being done, but there is no definite provision in Code." May I know how it is being worked? In your district perhaps it was done before you came?

A.—After I came I have done it.

Q.—How was it arranged?

A.—I got into touch with the District Board Engineer and suggested it (the system of the Collector fixing wages) to him, and he was quite willing to take it up.

Q.—Was it done as a departmental or contract work?

A.—It was done as contract work; the wage was fixed a little lower than the schedule wages.

Sri R. SURYANARAYANA RAO: Q.—I think Mr. Viswanatha Rao said he arranged it?

A.—But if the District Board Engineer objects there will be difficulty. So far no difficulty has arisen.

Q.—Why do you insist on attendance on the last day of the week?

A.—Perhaps it was intended for those people who might have absented before, just to make up for the loss so as to make their attendance up to the minimum required.

Q.—Hence the attendance is large on the last day?

A.—Yes.

Examined by Mr. F. M. DOWLEY: Q.—You are in favour of starting minor irrigation works in those areas which will not be benefited by the Tungabhadra scheme?

A.—Yes.

Q.—By how much, will the value of land be increased?

A.—I have no idea; but the value will be increased.

Q.—In view of the fact that it is almost impossible to realize the amount invested in the scheme by normal water-rate do you think it is unfair for the Government to levy an inclusion fee equivalent to half the amount by which the value of land is increased? I suggest this, so that it may be attractive to the Government to take up the scheme.

A.—I think so.

Q.—Will not the ryots object?

A.—Of course ryots will object.

Q.—Will the ryots be able to pay?

A.—About the ability of the ryots to pay, how can I speak? Conditions are rather bad for them now.

Q.—Government need not get the return in the form of money necessarily. Do you think Government are entitled to get part of the increased value?

(No answer.)

Q.—Would you restrict cultivation in those areas to dry crops (as because there is a tendency to grow wet crops) so that a greater area may be benefited.

A.—Yes.

Sri R. SURYANARAYANA RAO: Q.—Don't you know that paddy is not generally grown there, but only cholam?

A.—Probably so.

Q.—Has the Tank Restoration Scheme investigation not been completed in your district?

A.—I do not know.

Sri T. A. RAMALINGAM CHETTIYAR: Q.—Under these minor irrigation works, are you sure of getting water?

A.—Yes, under the Pennar-Kumudavati basin scheme.

Examined by Mr. H. R. DOGRA: Q.—I have not been able to understand exactly what the system is in which you ask the Collector to fix the wages on the ordinary expansion works irrespective of the

agency through which the work is done. What was the system actually adopted in carrying out the work?

A.—The road work in Parigi was done as a test work. When the District Board Engineer was asked to take it up as departmental work, the District Board Engineer arranged for a contractor, a certain percentage of wage was cut from the estimate, and he was asked to pay wages at the rates fixed by the Tahsildar from time to time. He gave that undertaking, and then he was getting money and disbursing it to the coolies.

Q.—Was the contractor given extra to provide workmen?

A.—The contractor employed coolies who were prepared to work. It was departmental work only in the sense that the contractor did it under the department.

Q.—What is this margin; is it to provide fund?

A.—The wages were kept low; for we wanted to prevent a sudden inrush of people who were getting till then nine pies or an anna, so that the situation may not become too difficult to manage. Otherwise the attendance would go up and the situation would become unmanageable.

Q.—For what was the contractor paid this extra? (The difference between the schedule rate and the wages as fixed by the Collector.)

A.—It was not intended for the contractor. For one thing, one of the conditions was that he should not restrict labour. Any able bodied person who came to work should be admitted, and further there was this percentage cut. At first there was some difficulty, as he did not agree to a ten per cent cut.

Q.—Would it be possible for the District Board Engineer to give us a note about this?

A.—Yes.

The CHAIRMAN: Q.—Would you do it.

A.—Yes.

Sri R. SURYANARAYANA RAO: Q.—Were the wages paid ordinarily, as if it were a test work?

A.—Once in three days.

Q.—Do you know before you took charge, for 15 days they were not paid?

A.—Probably.

Mr. H. R. DOGRA: Q.—How the work was supervised, what establishment was engaged and so on, we would like to know.

A.—Yes, a note on this shall be prepared and sent.

Q.—You say, the "Collectors may be authorized to increase the rest period by an hour if necessary during the summer season and allow a corresponding reduction in task." Previous witnesses told us that the task could after some experience be finished by the workers by four o'clock in the evening with two hours of rest. And the suggestion was that the work may be closed at five o'clock instead of at sunset. If this increase is made in the rest hours from two to three, will not they be able to finish the work if they are allowed to work till sunset?

A.—Yes; generally they work up to 5-30 in the evening.

Q.—Some of the witnesses said they could finish their work before 4 p.m., and so they wanted provision that the work should be closed definitely at five o'clock so as to give time to the establishment to work out the daily wages?

A.—Actually if they are allowed to work till sunset, many, who come from a distance of five to six miles, will not be able to return home. I have received complaints that the mairtris are not permitting the workmen to go away, as they were afraid that some inspecting officer might come on the way.

Q.—Would you like to increase the rest hours in some seasons?

A.—Yes in some seasons.

Q.—In such cases do you think they should work till sunset?

A.—But they have to go away early to reach their home.

Q.—So, you suggest a reduction of task?

A.—Yes.

Q.—If they are able to finish the work before four in the afternoon does that not show that the task prescribed is light?

A.—Probably.

Q.—Perhaps you don't know that they also work early in the morning and also in the midday interval?

A.—It all depends upon the coolies.

Q.—So in general if the interval is three hours, the task should be reduced? Is it not?

The CHAIRMAN: Q.—Is not that taking too much for granted? It is a matter at which time the labourers come to work?

Examined by Sri KALLUR SURBA RAO: Q.—You recommend the taking up of the Pennar-Kumudavati project. Are you receiving representations from the people with regard to that?

A.—Yes.

Q.—Have you any idea of the amount of remission given in the last ten years?

A.—No.

Q.—I think you had good rains in Hindupur this year?

A.—Yes.

Q.—So have your tanks not been filled?

A.—My information is that generally all the tanks received good supply. With regard to two particular tanks I have not received any information.

Q.—Is not the area between Hindupur and Parigi in the Pennar-Kumudavati project a good area?

A.—Yes.

Q.—So there is good marketing facilities for the people of that area in Hindupur?

A.—Yes.

Q.—So people will be benefited if that area is taken up at once?

A.—I have already said that in the written answer.

Q.—So you suggest, whether it is productive or not, it should be taken up at once?

A.—There are various things to be considered before a project is taken up.

Q.—Do you suggest that it should be taken up as a productive scheme?

A.—No; this area is affected by famine and to avoid famine this scheme may be taken up; or for that matter, all the scheme suggested by me may be taken up.

Q.—Have you any scheme in Kadiri taluk (Ethodu project)?

A.—Nothing, so far as I can remember.

Q.—Have you any idea of the writing off of the takkavi loan on account of the poverty of the people?

A.—Yes, there have been some cases.

Examined by ABDUL RAWOOF SAHIB Bahadur: Q.—Do you think the yarns to be manufactured in the spinning mills suggested by Mr. Green, can be consumed in the local handlooms in the Anantapur district?

A.—I have not studied that question; I hear there are a number of looms.

Q.—You were Sub-Collector of Hospet Subdivision for some time?

A.—Yes.

Q.—For what period?

A.—For about a year.

Q.—Do you know famine conditions prevailed there?

A.—Not in the whole subdivision; only in the western portion; and even there, there was only scarcity condition in certain portions, and almost famine conditions only in certain portions.

Q.—Don't you know there are a large number of tanks which are no longer useful now because of neglect?

A.—I have not examined that question.

Q.—There was a minor irrigation officer in your subdivision for the western taluks?

A.—I am not quite sure; as I left the place some months back I don't remember clearly. I think there were two officers and one of whom was at Hospet.

Q.—In the western taluks you had a number of wells for irrigation?

A.—Not many; for example, in the Kampli side there will be very few. But in Harpanahalli, Hada-galli and Kudligi taluks there are a number of wells.

Q.—Is the water there generally potable and fit for cultivation?

A.—I think they are good. I have never examined the nature of the water; but I know there is a lot of well water available for cultivation.

Q.—Would you advocate the restoration of the tanks for these taluks?

A.—Yes.

The examination of Sri S. RAJAGOPALA AYYANGAR, Revenue Divisional Officer, Gooty, was then taken up.

Written evidence.

SECTION I.

My observations and answers relate mainly to circumstances prevailing prominently in Gooty division—more especially Gooty taluk—which on account of its peculiar physical features and locality has been suffering worse than the other parts of Ceded districts. "Being away from the east coast to enjoy the full benefits of the north-east monsoon and being cut off from the high Western Ghats from the heavy rainfall on the west coast during the south-west monsoon, this district does not enjoy the full benefit of either monsoon; hence it is frequently subject to draughts and has had many bad seasons since the Great Famine of 1876-77. Scanty rainfall is the general feature of the district and no year passes without causing anxiety to the ryot." Even in years of adequate rainfall, it is either untimely or excessive for the crops to develop or mature. Another feature of this tract is that most of the arable land is dry and its agricultural practice is mostly of an ancient type. There is not much agricultural enterprise in these parts nor is there any large land-owner who can help the tenant or labourer in times of need. "The majority of the people live hand to mouth existence and from 1878 to the present year, it may be safely asserted that the district has not enjoyed more than two good years consecutively and that the number of single good year may be counted on the fingers of one hand." General illiteracy and consequent ignorance to take to new methods of raising crops also contribute to the frequency of famine. With the above basis the questionnaire of the Famine Committee is answered below seriatim.

Question No. 1.—The measures suggested for the prevention or mitigation of famine are (1) encouragement of free and extensive growth of plantations and trees to attract

greater amount of rainfall, (2) improvement of irrigation works, (3) construction of new protective major irrigation works and minor works, (4) more propaganda and experimental work in connexion with agricultural operations especially gardening and (5) provision for the encouragement of cottage industries.

Question No. 2 (a) (1).—It is presumed that most of the tract intended to be benefited by the Tungabhadra project, is generally black cotton soil from which greater profit can be derived by irrigating dry crops than by paddy and other wet crops. In small red soil tracts through which the canal may run, paddy and other wet crops may be raised. The latter extent may however be comparatively small. I have been a Tahsildar in Kurnool, Nandyal, Koilkuntla, Sirvel and Pattikonda taluks in Kurnool district and the area under wet cultivation is comparatively small and not much use is made of water in the canal until it reaches the Cuddapah limits where almost all the water in the canal is used for raising wet crops, mostly paddy. In Kurnool district limits, most of the water is wasted in good years so much so that the canal water is allowed to flow back as waste either in Tungabhadra, or the Hundri or into the Kundu rivers. Practically the canal is useful mainly for watering the ordinary dry crops in years of scarcity within restricted limits and is serving only as a protective work in the tract through which it runs. Thus the indirect protection against draught by Kurnool-Cuddapah canal by increasing the surplus produce of tracts commanded by it or by using the water brought to them to the fullest extent in the ordinary season is largely absent; while the direct protection as observed by saving of the crop, ordinarily unirrigated in a season of partial or total failure of rains, is appreciable under the canal. The same will be the case under the Tungabhadra project. The raising of paddy and other wet crops under the project on an extensive scale is impossible owing (1) to the sparsity of the population in the villages, (2) the involving of more labour and expense in raising wet crop, (3) cheapness in the price of paddy as compared with dry food-grains and (4) the nature of the staple food of the majority of the people who live on dry food-grains. As has been said by Colonel A. W. Smart, Chief Engineer for Irrigation, if the Tungabhadra work is to serve as a protective work, the cultivation of paddy under it should not be fostered, and if water is given to it, it should be on the distinct understanding that the dry crop will have the preference and during a time of draught, the water should be distributed over the greatest possible area of dry crop with a view of saving it. If worked on the above principle, the project will not only make less frequent any famine in the tract through which it passes but will also to some extent serve to mitigate its effect in other adjoining portions of the district on account of its proximity to the area situated in a favourable condition.

Question No. 2 (a) (ii).—It is understood that on account of the limited water-supply, a larger area than what has been now designed cannot be irrigated; but if the principle enunciated in Question No. 2 (a)(i) supra is followed, a greater area can be cultivated under the irrigated dry crops, than a few acres of intensive cultivation of wet crops. It is a well-known fact that water required for one acre of paddy will irrigate successfully four acres of dry crop and the direct return to the State by irrigation of dry crops will be about the same as for paddy and the benefit to the people much greater.

Question No. 2 (a) (iii).—This district is traversed by the Pennar and Chitravati and their distributaries. I shall confine myself to the Pennar as I have no knowledge of the other river. The building of a series of storage reservoirs in many of the sites which exist in Pennar river basin will go a long way to lessen the frequent recurrence of famine. This river is said to be slightly affected by the south-west monsoon as it rises far from the Western Ghats. If the north-east monsoon is heavy, the Pennar receives an abundant supply which runs off very rapidly waste into the sea. To erect a series of barrages or high anicuts to serve as a sort of reservoirs not only useful for direct irrigation but also to feed other major and minor tanks in the basin and thus not allow a drop of it to go waste is a matter worthy of consideration. Further, one tail-end of Tungabhadra project is, it is understood, proposed to empty itself into the Pennar river. If this is correct, this will give greater utility for the reservoirs. The construction of one such reservoir near Pennahobalam where the river is narrow and rocky can with advantage be investigated.

Question No. 2 (b) (i).—Yes. The reasons are (1) the deficiency of rainfall, (2) consequent shrinking of sub-soil level of water in wells and springs, (3) silting up of the beds of tanks and (4) want of effective application of the provisions under Kudimaramat Act.

Question No. 2 (b) (ii).—The deterioration of these sources can be prevented to a large extent by adopting the following remedial measures. The best remedy for preventing the silting of tanks is to encourage the ryots to remove freely the silt and use it as manure. In famine times when the tanks are quite dry, the people can well be employed in removing silt out of these tanks and casting it away in fields in every village.

Question No. 2 (b) (iii).—It cannot altogether be said that a failure of monsoon will bring a total failure of the supplies in all the minor irrigation sources and wells. In ordinary years the produce under well irrigation is very considerable though the number of wells may be small but it gives a reserve of capital on which a ryot may live during times of famine should his well fail him then. There are no doubt very patent and strong objections for the Government to sink wells in private lands but they could liberalize the present Takkavi rules in that direction. The Government may offer loans where wells could successfully be struck at a nominal rate of interest, say one or two per cent, after undertaking the hydro-graphic survey of the district. The Government could also give an impetus to such construction by remission of assessment for the first five years after its construction. Even though these minor irrigation tanks and wells may fail once in six years and get themselves dried up completely during the period of famine, yet "five good years will enable a thrifty ryot to tide over the year of failure with the least possible suffering." Further, the general permission to ryots in the village to plant trees on the other side, i.e., catchment side of the tank and treat them as their own will tend to prevent silt being carried into the tank.

Question No. 2 (b) (iv).—The increase in the number of wells will certainly tend to improve the situation; only there should be a hydro-graphic survey in the Ceded districts and an encouragement to ryots to sink more wells should be given as stated above.

The theory that in black soil areas, the sub-soil water is brackish and useless for crops is not a correct one. There are many villages in black soil areas, containing wells under which irrigation is extensively carried on. Most of the villages in black soil areas will have some facilities for drinking water-source and the sinking of wells near such localities can usefully be undertaken.

Question No. 2 (c)—Contour bund forming.—In black soil areas, the extent of some of the fields varies from 40 to 50 acres in some cases. It is impossible—nay, the cost would be prohibitive—to bund up such fields. Otherwise in most other cases, the fields are limited in size and in view of the many advantages derived in bunding up the lands in black soil areas, I recommend the suggestion that State loans may be granted at a nominal rate of interest just like wells, i.e., until people get to know the advantages of it. The advantage of such bunding was clearly seen during the present famine in Uravakonda sub-taluk of this division where the fields on either side of the district board road—which acted as a bund—had fared well, yielding 6 to 8 annas outturn when only the field adjoining it in turn had failed completely. Extensive bunding will not diminish the supply to minor irrigation sources. As per experiments described in the Villagers' Calendar of 1938, only 18 per cent of the rainfall is cut off. This quantity is so small and out of proportion to the drainage water that otherwise flows through vankas and rivers, without reaching the irrigation sources.

Question No. 2 (d).—I have no personal experience of dry-farming methods and so I cannot suggest any.

Question No. 2 (e).—This question involves two aspects: (1) maintenance of the existing trees and topes and (2) planting of new ones. Almost every village in these districts had once commanded or now commands the facilities for a tope or two. Beyond selling away the amaroy produce and realizing the sale produce of dead trees, no steps are taken for their proper upkeep and improvement. The vandalism of the villagers who did not know the value of topes, in illicitly removing almost all trees in topes in most of the villages has affected the sub-soil drainage in most of the villages. The first step in the right direction is to see to the proper maintenance and improvement of existing topes. Next as to the plantation of new trees, the rules now in force, under Board's Standing Order Nos. 18 and 19 (b) must be made more liberal. Restrictions regarding the area to be cultivated, the nature of the trees grown, levy of fees or assessment and water-rate for irrigating trees should all be modified and the ryots should be given a free choice of planting trees on all Government lands—porambokes, assessed or unassessed—except in the middle of roads or tanks, without restrictions. They should also be permitted to claim them as their own only restraining them not to cut any green tree and in the place of any dead tree, another one should be planted and tended by him before the dead tree is removed. Another suggestion which would encourage the ryot to grow plantations on Government lands, and patta lands which are waste for last ten years, is to encourage a ryot by remitting assessment on the actual area covered by plantations. Here also State loans may be advanced for bona fide planters at favourable rate of interest. So also in regard to forest panchayats. Those who successfully raise trees and tend them may be given a rebate in the lease amount to be paid by them to Government.

Question No. 2 (f) (i).—In Ceded Districts, the spirit of private industrial enterprise, and flow of capital for commercial purposes are both wanting. As in the case of glass or paper manufacture, the State itself may after investigation can see to the establishment of one or two large scale industries. With the produce of Nallamalais and other

forests, paper and match industries on a large scale under the management of Government appears possible. So also with regard to cotton and groundnut which abounds in black soil tract. Already Messrs. Binny & Co., have got a ginning factory at Tadpatri which is worked on a large scale. With the aid of a bounty from Government, until the industry establishes, spinning and weaving industry may be tried. So also with groundnut oil and its allied industry, the soap manufacture. Experience has also shown that Barytes are available in large quantities in the Ceded Districts. Messrs. Vishnu Nimbakar & Co. of Bombay have already started a factory for crushing and powdering the ore and they export the stuff to Bombay where it is converted into the finished product—paints. Here also the Government could give a helping hand in the shape of bounties for a few years at the initial stage.

Question No. 2 (j) (ii)—Cottage industries.—The cottage industries which can be adopted economically are (1) hand ginning of cotton, (2) hand spinning, (3) weaving, (4) bee-keeping, (5) poultry farming, (6) cumbli weaving, (7) glass bangle industry, (8) dairying, etc. The cottage industry—filigree work—in Nossam is almost becoming extinct. It may be revived.

Question No. 2 (g).—I have no experience of the use of "sparked water" on crops and I think it has no immediate bearing on the question of famine.

SECTION II.

Question No. 3.—In providing famine wages to the labourers only one item of human requirements is looked after by the State, i.e., food. The principle adopted is that the wage should be the lowest amount sufficient to maintain health under given circumstances. It is simply "to save life but not to maintain the labouring community at its normal level of comfort." A human being under a civilized Government is in inevitable need of clothing, light during nights, etc., to protect his body. In a non-famine season, a labourer gets more wages and sometimes with a meal daily. Thus he will have some part of the wages left to meet his inevitable needs—apart from comforts or luxuries. Absence of it involves naturally deterioration in his physique and consequently tells upon his mind and body. It is therefore a serious question to consider whether these necessities for a human being should be provided or not. I consider that the raising of the wage all round by three pies or one pice—will go a long way towards meeting this demand.

Question No. 4, Chapter II of the Famine Code.—The nature and number of signals indicated in section 34 of the Famine Code are, as admitted by the Famine Commission of 1901, to some extent "defective." Probably these symptoms appeared very prominently in former days, i.e., in the famine of 1876-77. Private charity has become a thing of the past so far as Ceded Districts are concerned, credit has reached its lowest ebb, grain trade is dull and the labourers have become comparatively weak and their physical appearance has deteriorated, when compared with what they were 20 or 25 years ago, for them to take to crime; the absence of pasture on any large scale in most of the Ceded Districts—except Kurnool—has adversely affected the flocks and herds to be maintained in large numbers even in normal times. All these symptoms have become normal nowadays. So the failure of rain by itself for a sufficiently long interval can produce the disastrous effects to indicate the existence of famine. Want of rain during the year accompanied by crop failures and unemployment among the labouring classes may therefore be adopted as a criterion for declaring famine.

Question No. 5.—The notion is generally prevalent in these parts that when once the existence of distress is known why the poor labourers should be subjected to a further, and trying test of withstanding the rigorous treatment in order to open what is called a relief work when only additional facilities are provided in the shape of kitchens, medical aid, shade and rest-day allowance. The question usually raised is "why not start relief work straight off where distress is prevalent." The test works are opened "not to relieve the famine, but to test the presence of it, not to appease hunger, but to find out whether people are hungry." As an example of the efficacy of this test, I may mention that a good lot of agitation was prevalent in the taluks of Penukonda and Hindupur that distress was prevalent in the present year and when test works were opened, the number of labourers was not encouraging, showing that real distress among labouring classes in general was not in general prevalent and the works had to be closed down. If without this preliminary test, relief works are opened straightaway, there would have resulted much waste of money.

When so much is said about the necessity to have test work in the preliminary stages, it may be laid as a condition that it should not be unduly prolonged, say, for more than a fortnight. One should decide within that time whether to convert it into a relief work or abandon it once for all on the ground that general measures of State relief were not required. I found a tendency in these parts, if the test works are prolonged, for some

public benefactors to come forward to render additional aid to the labourers till the works are declared as relief works. These things are done clandestinely no doubt but there it is. The best remedy for it is as stated in paragraph 1 above.

Question No. 6.—No modifications under Chapters 4 and 6 are called for.

SECTION III.

Question No. 7—Scale of wages, etc.—Under section 97, children between ages of 12 and 14 are listed as III class workers only if they are able to work. On the other hand the children of the same ages are to be treated as “dependants” when they are unable to work. Ability to work is the criterion for the classification of the children of this class. As a matter of fact, any adult male or female who is unable to work for any reason can only be treated as dependant. The peculiar distinction to be appended to the children of ages 12 to 14 alone appears to be an anomaly.

So in section 116 of the Code, under class IV, the sub-clause (c) may be added “children between 12 and 14” who are unable to work. Again classification under (b), (c), (d) and (e) under V are confusive. Children between 5 and 12 and one year and below five and within one year, may be classified as V (a), (b) and (c), respectively.

Question No. 8 (a).—The wages and allowances provided for in Chapter VIII of the Code appears to be inadequate on the ground of basic principle that it is meant to maintain health under given circumstances. A healthy adult labourer when at work in these parts gets three meals a day and on each occasion he consumes a minimum of one-fourth of a seer of staple food-grain. The grain item alone comes to 63 tolas but 55 tolas are set out as the grain item in the Code which is certainly inadequate to keep an adult in proper state of health. The other items of food which have been commuted into grain tolas do not require to be increased proportionately except some provision has to be made for butter-milk which labourers are accustomed to take in these parts daily for which an allowance 15 tolas of grain may be given. This makes the wages for the first-class workers at about 118 or 120 tolas of grain equivalent. At this rate, the scale of wages and allowances has to be increased to all workers and dependants to 1-1/5 times the quantity now provided for under section 128-A.

(b) A labourer in normal times for most of the days in a week lives upon greens. He cannot get vegetables in most of the villages in dry season except at a prohibitive cost. Rarely he may go in for brinjals, etc., but he is satisfied with greens. It is normally possible to obtain greens on the existing scale and no enhancement of allowance on that ground is therefore called for.

(c) I presume that this question is based on a suspicion that the worker spends a portion of his wages on drinking and other vices such as chewing betels or smoking beedies. Ordinarily whole families come for work and the presence of a wife at the time of payment of wages acts as a check in most cases on the husband's using a portion of it on drink. In some of the grain dealers shop at the famine camp, betel leaves and tobacco were sold. If this is prohibited, the attraction for these luxuries will be removed. As regards drinking, it has to be admitted that a small proportion of labourers do however go in for toddy if the shops are near at hand. New copper coins issued to the labourers were found among the cash with the renter during surprise inspection. In Tondapad famine camp, the toddy shop was close to it—only a few yards away—and proposals were sent either for its closure or shifting to a distant place. I would consider it advisable if the famine camps are so chosen as to be three or four miles off from the nearest toddy shop or the toddy shops within that radius closed.

(d) *Gratuitous relief.*—I have got no modifications to suggest under this head.

SECTION IV.

Question No. 9.—I have no proposals or modifications to suggest.

SECTION V.

Question No. 10.—A famine work is ordinarily known as road work which consists of metal breaking, digging of earth or gravel or consolidation. The Code makes no doubt ample provision for preferring irrigation works in particular but the rule is more honoured in its breach than in observance. The execution of irrigation works in the affected locality not only fortifies one against famine but also mitigates the effect of future famines. First of all more estimates for the construction of or repairs to any tank, kunta or nala must be got prepared ready for any emergency. Steps may also be taken to excavate a series of wells as famine works. These will certainly serve as protective works to a certain extent. The road work should be regarded as a last measure of relief when it is impossible to secure any other work for the benefit of the village community. The district boards to whom the

famine roads are handed over take no interest to maintain them properly either on the ground of want of finance or some other cause, so much so that the roads which were laid up at enormous cost soon become unfit for use even for pedestrians and the money spent on such works proves itself a waste. If more attention is bestowed on village works it will not only prove more economical by way of saving of expenditure on large scale and useful but will promote easy resumption of work soon after the famine is over, and agricultural activity sets in. These village works are less likely to loosen morals and domestic ties than in such large famine camps like Tondapad or Laksanipalli each of which has a total of more than 7,000 individuals. A better programme of such works than at present existing may be insisted upon.

SECTION VI.

Question No. 11.—The expansion of ordinary programme as a normal preliminary to the period of test and observation has been followed in Gooty and Tadpatri taluks during the present famine year with good results. The work of repairs to many irrigation sources such as at Vemulapad, Tondapad, Jakkalacheruvu and also to Gooty-Tadpatri-Kurnool-Bellary road works were undertaken with useful results. It had the effect of postponing the next stage of famine operations as long as possible. The expansion of ordinary works is therefore a preliminary necessary step in the right direction.

SECTION VII.

Question No. 12.—It is an admitted fact that relief works under the management of the Public Works Department are more costly than those run under the village works system. A paraphernalia of establishment and the magnitude of the works and the distance of workers from their homes, congestions and confusion arising on account of the unlimited congregation of workers of different caste, creeds, etc., and consequent susceptibility to the spread of epidemics are incidental to public works. Added to this, they are a hindrance to the early resumption of agricultural activity soon after rains and are likely to affect the morals and domestic ties among the labourers. If village works are preferred, they will be done more economically, will be more useful and less exposed to epidemics and more easy to control. A number of such works or a group of such village works under the control of managers and work agents will amply serve the purpose and the heavy expenditure that is otherwise incurred on the establishments, on hutting, hospital and other incidental charges which are heavy will be considerably minimized. Further, experience has shown that the works begun under the management of Public Works Department are left incomplete so much so you can find the metal broken in previous famines of a two or three decades ago lying unused even now. I suggest therefore that in almost every case, the system of village works may be adopted unless for exceptional causes, the control of Public Works Department is necessary as in the case of large protective irrigation works undertaken during famine.

Question No. 13.—None.

Oral evidence.

At this stage Mr. F. M. DOWLEY occupied the chair, as Mr. C. A. Henderson, the chairman, was suddenly called away to Madras.

Examined by Sri T. A. RAMALINGAM CHETTIYAR:

Q.—You know the working of the Kurnool-Cuddapah canal?

A.—Yes.

Q.—In Cuddapah water is taken but not in Kurnool?

A.—Yes.

Q.—You expect that the same will be the case under the Tungabhadra also?

A.—Yes.

Q.—Supposing you make it compulsory by legislation that even if they do not take water they will have to pay you think it will be a success?

A.—I do not think it will be successful because 90 per cent of the ryots say that they do not want water and the result will be a very limited ayacut.

Q.—But other people lower down will take water?

A.—Yes, only for dry crops.

Q.—Do you think if you have legislation to that effect and even if dry crops are grown, it will solve the difficulty?

A.—I have knowledge only of Anantapur district. Then the question will arise whether the ryots will be able to pay because almost all the ryots are poor and the outturn will be very little.

Q.—When the crop is irrigated the ryot will be in a position to get more?

A.—Nearly 50 per cent of the land is black soil and the assessment is comparatively heavy. But if any additional assessment is levied it will be felt as a burden. But he must be given the option to take water for dry crops whenever he wants.

Q.—From your experience of the Kurnool ryots do you think they would be prepared to come into the scheme?

A.—I think in 1930 an attempt was made in Kurnool and option was given to the ryots to come within the ayacut. But that did not produce the desired effect.

Q.—Supposing people do not take water, what is the use of Government spending money when there is no sufficient acreage coming under?

A.—What I fear is ryots may want water at one time or other, i.e., when there is failure of rainfall.

Q.—Supposing Government bring in legislation. Then you think it may be possible?

A.—Yes.

Q.—Otherwise you won't advise any such project being taken up?

A.—My view is that it won't end in success.

Q.—Will there be sufficient acreage lower down and do you think that they will take water?

A.—I cannot give any opinion on this.

Q.—It is said there may be some sort of control over the crops that would be grown, for instance, a particular rotation and so on, will this be accepted?

A.—Provided Government give facilities for the growing of particular crops according to their dictation I don't think there will be objection. But mere detailing of the order in which the crops should be grown may work hardship.

Q.—What are the facilities you want?

A.—Government may advance money for the purpose of seeds, etc.

Q.—Can't they get money from co-operative societies?

A.—I don't think it will be much of a success in these parts.

Q.—Once the canal comes, co-operative societies will work very well. Now you are not sure of the crops.

A.—Yes, may be.

Q.—Do you think any such legislation is possible for the Kurnool-Cuddapah canal?

A.—From what I see, the lay-out of the canal itself was condemned by one of the engineers and if it had been laid out much higher, some more land could have been brought under irrigation.

Mr. F. M. DOWLEY (CHAIRMAN): Q.—You say they would object to legislation if you compel them to take water?

A.—I think it will be doing an injustice.

Q.—If you take those who come under the scheme and calculate the quantity of water necessary and the rest of the water given lower down, can that be done?

A.—Yes.

Q.—Will there be agitation in the matter if it is only irrigation for dry crops?

A.—There won't be much of agitation.

Examined by Mr. H. R. DOGRA: Q.—In section VII, you refer to village work system. What proportion of the relief work is done under the village work system?

A.—It is very small and the work is taken on hand only after the regular famine camp is abolished just to give some time to the workers to get back to other avocations.

Q.—Have you got statistics of the work done? Does it not involve expenditure?

A.—In this case you need not have any large establishment, no expenditure in the putting of sheds and providing water, etc., and the incidental expenses of a famine camp may be avoided.

Q.—You know if work is done at a central place no such expenditure on establishment and supervision is required?

A.—Villages within a radius of five or six miles may be grouped under one work agent.

Q.—How many labourers do you think you can get in that unit?

A.—In big villages it will be 1,000 and in others 500.

Q.—At present we have in camps as many as five to six thousand and according to you, it requires more establishment for supervising these centres.

A.—My opinion is, it can be done through work agents, and supervision may be done by a special officer who will be personal adviser to the Collector.

Q.—The existence of a supervisor will be necessary for every thousand workers whereas in one camp you have 5,000?

A.—The other incidental charges will be much less. There need be no hospitals, no expenditure on that, or shifting from one spot to another.

Q.—According to you can one work agent do the measurement of the work turned out in all the

villages within a radius of 5 miles? He has also to prescribe work for the next day.

A.—I think it is possible. He can also have additional help in the village officers who will surely co-operate with him.

Q.—Are there sufficient works in the villages that can be undertaken?

A.—According to the programme laid down, there are several number of items, in the nature of village works, repair to tanks, etc.

Q.—What tanks?

A.—Minor irrigation tanks, channels, etc.

Q.—At the village site?

A.—Yes.

Q.—Do you propose to give works which cannot be measured?

A.—Every work must be measured.

Examined by Sri R. SURYANARAYANA RAO: Q.—You have three big works round about Gooty. How many workers on an average have you?

A.—On the whole nine to ten thousand.

Q.—Can you at any time provide sufficient number of village works to provide all the 10,000 in and around Gooty?

A.—If more attention is paid and if other small works are also included in the big programme it may be possible.

Q.—So your opinion is that village works also may form part of the programme?

A.—Yes.

Q.—You don't agree with the principles laid down in the introduction to the Famine Code?

A.—It requires some revision, in such a way that the State should be required not merely to save persons from starvation but also to keep them in their normal level of comfort to which they were accustomed before famine conditions began.

Q.—Do you think that in view of the changed conditions, failure of rain accompanied by failure of crop in the previous year and the consequent unemployment, are enough to declare famine straightaway in any area and to start relief works, or will you insist on the test stage?

A.—First of all, test is essential because Government have to incur a lot of expenditure. It is necessary because Government must make sure that there is real distress before they launch upon relief works.

Q.—You don't like to prolong the test stage?

A.—I will fix it at a fortnight. Otherwise it will tax the people.

Q.—You would leave to the decision of the Collector, the extension of ordinary works or to insist upon the test stage?

A.—Yes.

Q.—Is it your idea that class III should be abolished altogether?

A.—Yes.

Q.—What is the age you will fix for a man to get into class II.

A.—I would fix it at 12. All boys who are carriers will be classified as class II and if a boy is able to do digging work properly I would classify him in class I.

Q.—You say the ordinary labourer in the Ceded districts takes three meals a day and if on each occasion he takes one-fourth of a seer the grain would come to 63 tolas. Do you think the present 55 tolas should be raised to 63? Have you any suggestions in regard to the other items?

A.—What has been prescribed is fairly sufficient.

Q.—Under the Code the wage given would be enough to keep them in normal level of comfort. Do you consider toddy as a luxury or a necessity of life for these labourers in ordinary times?

A.—That is a rather tough question for me to answer.

Q.—Would you advocate the closure of these toddy shops as soon as famine is declared?

A.—Yes.

Q.—Not only near famine camps but also in villages in view of the fact that gratuitous relief is also given.

A.—The number of people who are in receipt of relief in villages is incomparable with the number of people who frequent toddy shops and do not receive wages.

Q.—Workers also may be coming from the same village. Don't you advocate the closure of liquor shops in all the famine affected areas?

A.—As a general proposition I grant that this is desirable. But it is not desirable to have a wholesale closure except within a certain radius, for it will ultimately affect the revenues of the Government.

Q.—You were visiting camps very often as Revenue Divisional Officer and have you had occasion to submit notes to the Collector?

A.—Yes, through the Executive Engineer.

Q.—Had you any occasion to issue urgent instructions to set right certain defects without consulting the Subdivisional Officer or the Collector?

A.—Only in matters where I found that labourers were cheating that I interfered for severe punishment. Otherwise not.

Q.—There was no hitch between you and the Public Works Department?

A.—Very rarely, happily I and the Subdivisional Officer move closely. Only on one occasion I had to point out in my notes of inspection in Thondapad camp that people were idling their time without doing any work. There, most of the females were patting their hands upon berms. I found that the males were disproportionately small and suggested an upper proportion might be maintained.

Examined by Mr. H. R. DOGRA: Q.—Was any improvement made as a result of your suggestion?

A.—Certainly, hammers, pick axes and other materials were supplied and the work got on.

Q.—Your suggestions were not resented to by the Subdivisional Officer?

A.—I had no occasion to consider that aspect of the question.

Sri R. SURYANARAYANA RAO: Q.—You started relief works for weavers in Uravakonda?

A.—I have already submitted a note.

Q.—You think the starting of relief for weavers was timely or could it have been started earlier? Should it be done simultaneously with the declaration of famine?

A.—Yes.

Q.—Do you think it has afforded relief to the weavers?

A.—It has afforded the much needed relief.

Q.—You also think that it would be a better return to Government if these and other artisans are helped in this way instead of asking them to do merely road work?

A.—Yes.

Examined by Sri H. SITARAMA REDDI: Q.—You say a human being under a civilized Government is in inevitable need of clothing, etc. The wage that is provided is merely intended to keep a healthy person in health and there is no possibility of his saving anything to purchase cloth. In view of that, would you agree that provision for clothing also might be included as a form of relief?

A.—Yes. But from my experience I found people who were sufficiently well clothed come to work. I thought those people need not be encouraged by giving some more cloth, but only people in absolute need may be given.

Q.—What will be the proportion of such people?

A.—It will be half and half.

Sri R. SURYANARAYANA RAO: Q.—According to section 156 of the Code, people coming to a poor house shall be supplied with clothing. Some of them who come as dependents to kitchens are almost in the same condition as those that come to a poor house. You would like, if possible, that clothing be provided for such men?

A.—Yes.

Sri H. SITARAMA REDDI: Q.—You think the money got from the Indian Peoples' Famine Trust Fund would be sufficient for the purpose?

A.—I think this year it would be found adequate.

Q.—If at any time it is found inadequate you have no objection to provision being made for supplying cloth from out of the famine fund for people coming to the kitchen?

A.—Quite so.

Q.—If it is inadequate would you have it supplemented from Government funds?

A.—It is necessary.

Q.—You say new copper coins given to labourers were found among the cash with the renters during surprise inspection. Did it strike you that a large amount of money was being used for the purpose?

A.—The sales at the Thondapadu shop was from 2 to 3 rupees a day and I found about 5 to 6 annas new copper coins. That is certainly a fair proportion.

Sri R. SURYANARAYANA RAO: Q.—Don't you think if the toddy shop is also located next to the kitchen of camps it would be a great temptation to labourers?

A.—Yes, it was on that account it was finally closed.

Sri H. SITARAMA REDDI: Q.—You say that in almost every case the system of village works may be adopted? In this year have you taken up any village improvement work within your division along with road works.

A.—No.

Q.—Don't you think it will be highly desirable in villages which are near relief centres that such village improvements should be taken up?

A.—From the villagers' point of view it is desirable but it will engage only very few coolies.

Q.—Suppose you divert one or two gangs to villages within a few furlongs from the main work and without detriment to the main work and under close supervision would it not be desirable?

A.—Yes, provided other conditions are satisfied.

Sri R. SURYANARAYANA RAO: Q.—Could you not have carried out certain improvements in the village of Peddavudugur easily by sending one or two gangs and completed the whole of the village improvement works in one or two weeks without disturbing the main road work or without extra supervision?

A.—It could have been done as an auxiliary one.

Sri K. KOTI REDDI: Q.—With regard to the Cuddapah-Kurnool canal you suggested that people may not be willing to take water for wet cultivation in the black-cotton soil. You have no objection to legislation being passed compelling ryots to pay a certain assessment whether they take water or not and do you think it will be successful?

A.—What I meant was, if legislation is passed giving people the power to exercise option, it is bound to be successful.

Q.—If you introduce compulsion there should be sufficient inducement for the ryots to utilize the water and for that purpose are you in favour of a lower rate of assessment. For instance with the amount of water required to raise an acre of paddy crop, they can irrigate four acres of dry crop. So, don't you think the rate of assessment should be sufficiently low to induce the ryot to take water?

A.—I cannot answer that except to say that the landholder must be made to take water either for wet or dry crop for lands commanded by the project.

Q.—Would you be in favour of a compulsory levy of water-cess on the ryot in the project area, irrespective of the fact whether the ryot utilizes the water or not?

A.—I can't answer that question.

Q.—So you would suggest that the utmost that can be charged one-fourth on the analogy of the Kurnool-Cuddapah canal?

A.—Yes.

Q.—With regard to the development of cottage industries as a subsidiary occupation to the ryots, do you think it will be possible to organize such work in the villages?

A.—That was the first step in that direction I tried to do: but I was alone and so I could not do anything. It can be done easily.

Q.—With regard to village relief work, do you think it should be preferred to large departmental work?

A.—Yes.

Q.—So, may I take it that so long as village work can make provision for employment of a sufficient number of people, that number should be put in the village work?

A.—Yes, but village work should not be too near famine work. Because it would unnecessarily lead to many methods of cheating; for example people may appear at both places.

Q.—So, you don't advocate village famine work with large departmental work?

A.—No.

Q.—You know, there are no kitchens for dependents; payment is not necessarily made every day; the task is higher than an ordinary public work. Don't you think, unless these conditions are relaxed, you cannot, in the interests of workers, make village work assume such an important place in relief work?

A.—No; I would insist on those conditions in village work because people are allowed to enjoy certain advantages by remaining in the village, which are denied to those who work in the regular famine relief work.

Q.—But there is no kitchen in the village camp?

A.—I want to point out that it is not very advantageous to have village works in the place of ordinary work from the point of view of workers. The village work should form part of famine work, and village work ought not to be very near famine work.

Q.—Between village work and departmental work, you would certainly give much attention to the village work?

A.—Yes; if relief could be dispensed with solely by village work it may be taken. But ordinarily, in times of large scarcity, one or two large famine works are necessary.

Q.—It all depends upon the area; I concede that. But to the extent it is possible, you certainly lay emphasis, or rather, you prefer village work from the point of view of utility to the people and the State?

A.—Yes, I would prefer village work.

Q.—And so, you will probably make some liberal provision with regard to village work?

A.—No. I would make it more rigorous.

Q.—Why?

A.—Because it has got certain advantages, which other works do not have. For example, their domestic ties are kept in tact; and immediately the distress is over they can revert to their old work.

Q.—What I mean is this: there are certain classes of labourers, who as labourers can go to a distance and do the work there and settle down at the work spot. Such classes can be posted to Public Works Department works. There are certain other classes, for example, small pattadars, who cannot go out of the village, and who even if they go out of the villages have to return home, as they have their kith and kin, their holdings, their cattle, etc. Such people can be engaged in village work.

A.—To a certain extent I agree. But I want the village work should be made rigorous; it should not be liberalized.

Sri R. SURYANARAYANA RAO: Q.—In 1935 the Famine Commissioner got a special permission by which the dependents of workers were in village works included in the list of persons entitled to gratuitous relief, and the task and wages on such works like public works should be the same. Do you know that?

A.—I don't know under what conditions that order was passed; nor am I aware of such an order. My reasonings are quite different. And what I say will be found in the Indian Famine Committee's Report. If I remember right, it is Mr. C. K. Bose who suggested it. If you want more people to work in the camp the rules with regard to village work should be more stringent.

Sri K. KOTI REDDI: Q.—For the rest day, don't you think the allowance should be modified. Should they not get the same wage they get on the working day?

A.—I have no experience of it, as I have nothing to do with it as revenue officer.

Q.—Can you suggest why this distinction is made? Is it because people who do not work do not eat more?

A.—I am incompetent to offer any opinion, because I have no experience.

Q.—You had experience of seeing some children partaking of the food of their parents?

A.—Naturally when the children are very near their parents, they eat out of their parent's food.

Q.—Can you suggest any method by which the parents may not be deprived of their food?

A.—It is not deprivation; you can't call it deprivation. Children will eat as many times as they get food. On the contrary I have seen parents depriving children of their food; for I have seen

parents bringing children with them and taking food on the plea they have come to get food for their children.

Sri R. SURYANARAYANA RAO: Q.—You know recently Government ordered an increase of wage by one pice over the scale of 1936?

A.—Yes.

Q.—Had you any occasion to compare how the new scales work as against the old scales?

A.—I don't think the new scales have altered matters in any way for the better.

Q.—You mean it has not improved much in the wage?

A.—Yes; because it depends upon the price of the grain; and in certain cases only women get the pice sanctioned by Government. Others don't get the benefit.

Sri K. KOTI REDDI: Q.—As regards buttermilk provision?

A.—Yes, I agree.

Q.—During famine times, what do the masons and bricklayers do? Do they resort to famine works?

A.—No, they do not come.

Q.—Practically in famine times, they get no work in their trade; how do they live then?

A.—I don't know what they do. My opinion is that they live upon the savings of the wages earned during the season of work.

Q.—Similarly you have no provision for weavers? Don't you think it is desirable to make some provision for them?

A.—Their number is not large.

Q.—Yes; but why not make some provision for them?

A.—I don't like to hazard an opinion.

Examined by Mr. L. B. GREEN: Q.—Are there any other cottage industries other than handloom weaving and handspinning in Anantapur district?

A.—No.

Q.—In Anantapur district there are 6,500 handlooms in existence. Is it your opinion that many of these looms are not having work?

A.—They are lying idle; and my house-to-house inspection in Uravakonda village showed that at least an appreciable number of people have left the place for Bombay, Dharwar and other parts in the Bombay Presidency, leaving their pucca houses, in some cases.

Q.—Are there many cumbli looms not at work?

A.—Not in Anantapur district. My experience is only about Gooty.

Q.—You say certain industries like paper manufacture and match manufacture should be started by Government and managed by them?

A.—Yes.

Q.—So also with regard to spinning and weaving?

A.—Yes; with the aid of a bounty from Government, until the industry establishes, spinning and weaving industry may be tried. Because it would relieve labourers in distress; and to that extent also I think unemployment will be relieved.

Q.—The question of establishing cotton spinning has been under consideration of the Government since 1932; and many witnesses have stressed the opening of such industry in Bellary and Anantapur. Do you think necessary capital will be forthcoming from these districts?

A.—If the Government take a good proportion of the shares of the company to be formed, and thus give encouragement to the public, the whole capital could be found in Anantapur and Bellary.

Q.—So you consider that Government should take a part of the capital?

A.—Yes.

Q.—Will not spinning industry alone be enough; as, if we are to start weaving industry also, it will affect the handloom weavers?

A.—Handloom weaving has already suffered and it is practically non-existent. Otherwise cloth from outside will come, and already there are such signs. So I suggest why not we start weaving industry also.

Q.—Perhaps you mean it will give more employment for handloom weavers?

A.—Yes.

The examination of Sri C. GOPALAM, Senior Work Agent, was then taken up.

Written evidence.

SECTION I.

Measures for the prevention of famine.

1. Famine in the Ceded districts is a recurring feature and the cause is primarily due to failure of crops resulting from failure of rain. It has become the practice for the people in this locality to depend on the Government for taking care of them during such periods of distress.

The following measures may prevent famine. Improving the existing village industries and introducing other industries on a large scale, such as, spinning, weaving, cambli and carpet making, poultry, tanning and other hand-crafts suitable for the locality, worked with advantage will engage the people in ordinary times and more so in days of distress or in days of failure of crop.

2. (a) (i) *Irrigation Major.*—The Tungabhadra project will in my opinion, provided adequate supply of water is ensured, improve the situation and prevent famine to a larger extent in these districts.

I have had three years of experience of irrigation under canals in the *Godavari Eastern Delta*, where I was in charge of canals and irrigation alone. During my service in the delta, branch channels and distributaries were largely extended to provide irrigation facilities to the saline lands bordering the sea near Cocanada. For these lands the 'Duty' was worked low and the water supplied amply so as to enable the ryots to inundate the fields frequently, allow the water to stagnate for three to four days, and then drained off and again flooded with fresh water from the canal. This procedure deposits silt on the surface of the field and makes it fertile. The yield for the first three years was ignorable and in the subsequent years it was moderate.

Under *Cuddapah-Kurnool canal* where dry crops are raised without resorting to wet cultivation, is presumably due to inadequate supply of water for raising wet crop or it may be due to the nature of the soil in the locality. I have no experience of the various soils in this district, but most of the black cotton and the red soils seem to be fertile and may with sufficient supply of water ensure good crop even with scanty rainfall. The proposed main canal of the Tungabhadra project runs for a length of 250 miles commanding an ayacut of ten lakhs of acres, will prevent famine to a very large extent in this famine zone. Though the benefits of this project are latent at the outset, they will be well appreciated by the coming generations.

(ii) The proposed dam across the Tungabhadra river, being of sufficient height, electricity can be produced and advantageously supplied to village industries.

(iii) There are no other major productive works in this district worth mentioning other than the Tungabhadra project.

(b) *Minor irrigation and wells.*—(i) The decrease in irrigation is due to the decrease in the capacity of the tank owing to the silting up of the bed year after year and also due to not properly maintaining the bunds as well as the masonry works of the supply channel. To this it may also be added that the marketing value of the produce is discouraging to the ryots. During the recent accelerated programme, most of the minor irrigation tanks in this district have been thoroughly repaired and strengthened. But, repairs to supply channels remains to be taken up, and this can be best done by transferring these tanks as well as the supply channels under the control of the Public Works Department.

(ii) Repairs to supply channels and providing catch pits at intervals in the bed of the supply channels as also annual silt clearance of the tank-beds will, to some extent, prevent the deterioration of these tanks.

(iii) Minor irrigation tanks and wells will fail if there is a failure of monsoon completely and over a large stretch of land. But generally it may not always be the case, as there is no precedent regarding the failure of the monsoon at the outset, and over a large stretch. These tanks will be partly filled by this first monsoon and reserve water for at least one wetting of the ayacut lands even if the subsequent monsoon fails. Further, specially in the hilly tracts of this district, if the monsoon fails in the locality, the supply channels of many of the tanks being long enough, taking their sources in the hills or ridges about five miles and more off, having a fairly good catchment, will feed the tank by the rainfall in the surroundings. The partially filled tank will enable the retention of water, though at a greater depth, in the surrounding wells which enables an industrious ryot to grow some crop or at least some vegetables to sustain himself from starvation during times of distress. There are cases near and around our camp, where vegetables are grown under wells in the middle of the dry season and supplied to the market locally. To make these sources efficient, they can be connected and supplied with water from the Tungabhadra channels wherever possible.

(iv) Increase in the number of wells in the black cotton areas will be of no avail as the subsoil water happens to be brackish and non-potable. But, an increase in the number of wells in the red soil where subsoil springs are close by, will be of much use for raising garden crops, etc., both in ordinary days as well as in days of distress. The wells near our camp, mentioned by me in the above paragraph, are very useful in this respect.

(c) *Contour bund forming*.—Bunding up the lands in black-cotton soil into small plots made to level as is done in the deltaic areas will perhaps retain moisture and probably enable the crops to withstand drought to some extent. But this is detrimental to the natural flow of water and will of course diminish the supply of water to the minor irrigation sources below, if any.

(d) I have no suggestions to make on dry farming.

(e) *Afforestations*.—In addition to the preservation of trees, some more trees in the adjoining areas can be planted useful as fuel and for other purposes, such as, casuarina, margosa, nalla thumma, tamarind and thungadu bark, etc., discontinuing the village forest panchayat system.

(f) *Alternative or subsidiary sources of employment*—(i) *Large-scale industries*.—Cambli and carpet-making as mentioned in paragraph 1 supra, which are the main industries in this locality deserve encouragement. In addition to this, spinning and weaving mills sufficient to consume the cotton produced in this area can be established under State management.

(ii) *Cottage industries*.—Spinning and weaving may be found to be of profitable engagement for people of all sexes in the villages.

(g) I am unable to make any suggestions.

SECTION II.

Purposes of famine operations and principles of famine relief.

3. The provisions of the Code in this respect are ample. I feel that the State is no doubt bound to maintain the poor in times of distress though not at their normal level but to such a level, as not to allow them to migrate in search of their livelihood. In these days of quick transport, suffering in the famine-affected area can be averted by getting goods from other less affected parts, though at a higher price so as to facilitate the people in procuring grain. To procure grain they require money. This is being done by giving daily payments engaging the people on works. The payments or the wages paid for the work done should be such as to enable the average ryot not only to maintain himself and his family but also to be able to continue his agricultural operations even after famine without incurring any extra debts for securing the necessary implements and cattle. Most of the ryots, unable to maintain the cattle they possess, resort for their sale at a far lower price than under ordinary circumstances. This leaves them in a very disadvantageous position for renewing their agricultural pursuits after the close of the famine. In view of this and the increase in the rate of provisions I would suggest an increase of wages to all classes by one-quarter of an anna for the corresponding grain basis given in the Code. If work in the famine camps is well organized and efficiently supervised, the Government generally gets a good and useful return for the money thus spent. And these works ultimately are of very good public utility.

4. *Chapter II of the Code—Preliminary measures of enquiry and preparation when the rains fail*.—The provisions of the Code in this chapter are very elaborate and require no changes. In addition to the Government, the rich ryots in the locality as well as the general public may be asked to contribute something to relieve their brethren from distress, instead of allowing them to stand aside and criticize the Government without understanding the difficulties involved in the enormity of the work and the responsibility therein, undertaken by the Government.

5. *Chapter III—Period of observation and test*.—(a) No period of observation is necessary when rains continuously fail in the famine zone and this can be best judged by the District officers of the various departments after obtaining the results of the action taken under sections 32-A and 212 of the Code.

(b) No modification to sections 49 and 50 is necessary. But, cash doles for babies-in-arms and pregnant women may be allowed during test period when the same is deemed necessary.

6. *Chapters IV and VI—Declaration of and commencement of relief and description of the various measures of relief*.—No alterations to these chapters are necessary except special attention to be taken for the preservation of cattle.

7. Do you suggest any modifications of the classification of workers and dependants prescribed in sections 97 and 116 of the Code? If so, for what reasons?

Section 97—Class I.—Workers to include adults and boys above 16 years of age who are able to turn out equally efficient work.

Class II.—Workers to include women and girls of and above 13 years of age who are capable of turning out the same work as that of adults.

Class III.—Workers to include boys and girls between the ages of 10 and 12, as in villages they are capable of turning out useful work, and experience has shown that these children do work and do not appreciate the food doles.

Section 116.—The kitchen classification is more elaborate and cumbersome resulting in delay of food doles. The margin of eating capacity is worked too hard causing delay in the preparation of G-2 statement for the issue of provisions. I suggest the following modifications:—

Class IV.—The eating capacity of both the old women and old men being same practically, classes IV-A and IV-B can be conveniently clubbed as *class IV*;

Class V-A.—Children of the ages of 10 and 12 (*class III* workers given above) may be classified as *V-A*;

Class V-B.—Children of the age of above 6 and below 10 years may be included as *V-B*;

Class V-C.—Children of the ages of 3 to 5 years may be included in *Class V-C*;

Class V-D.—Then *class V-D* will be babies-in-arms of below two years of age and will be entitled for cash doles of one-quarter of an anna. No *class V-E*.

8. (a) What modifications, if any, do you suggest in the scale of wages and allowances and the other provisions in Chapter VIII of the Code? On what grounds do you suggest the modifications?

A relief camp is generally attended by all members of a family and the aggregate amount of wages earned by them is found sufficient for their normal maintenance and is found sufficient for an average family to get through famine. The wages given to workers and food doles given to the dependants have kept them both in good health and spirits. A slight increase, i.e., an increase of one-quarter of an anna, will however be much useful to them for reasons stated in reply to question 3, section II. The wages of the headmen also require to be increased so that they may get half-an-anna more than the *Class I* worker, in consideration of the responsibility they undertake for the tools and other articles given to the gang, as generally the acknowledgment of the headman is taken and he is held responsible for them.

The provisions in the diet table given under section 128 of the Code are adequate, provided it is closely followed irrespective of the increase in the total cost over the grain equivalent, owing to the market variations in the cost of 'other items' and vegetables. To ensure good sauce one should adhere to the quantities given in the table even if it slightly goes above the total cost of the grain equivalent.

Section 132 provides for rest to be given to pregnant women for a period of 21 days before and 30 days after delivery. There are many cases where even though the medical officer certified that a particular case may come off within 21 days, the delivery was considerably delayed even to more than a month. In such cases rest was stopped after 21 days; at a period the person needs perfect rest. This should be suitably modified, providing rest for pregnant women till the time of their delivery on the first certificate of the Medical Officer, without asking them to appear before the Medical Officer once again after the expiry of 21 days.

Section 135 states that the rest-day allowance to workers and dependants should be paid on the day previous to the rest day. In the circular issued by the Collector it was ordered that persons present for three consecutive days prior to the rest day will be eligible for rest-day allowance. This means that rest-day allowance should be calculated after marking the morning attendance on the day previous to the rest day. This gives considerable trouble for the preparation of the rest day D. IV, early so as to enable the payment to the gangs before 3 p.m. This can be suitably modified as follows:—"Workers who attend the work for three consecutive days prior to the day on which the rest day allowance falls due should be made eligible for rest day allowance."

(b) The existing scale of vegetables is sufficient. It is not possible to get vegetables during the hot weather. The average child does not seem to be worried about the vegetables in the sauce. The workers attending the famine relief works will not be able to get this sort of vegetables even in ordinary times.

(c) The worker does spend his whole wages in procuring the necessary things for his food every day as could be ascertained both at the grain vendor at the camp and the petty shop-keeper in the adjoining villages.

Chapter IX—Gratuitous relief.—(d) Babies above one year and below three years are generally attended at the dining sheds by their mothers who have a tendency to purloin food from the dining sheds and these mothers absent themselves from the work on this

plea for an hour or two and thus avoid hard work. It will be better to give cash doles to children up to two years at the rate of one quarter of an anna as is done for babies-in-arms. These and other modifications were suggested by me in answer to questions 7 and 8 above.

SECTION IV.

9. *Size and nature of the task in famine works.*—The task under all the items of work except earthwork may be retained as at present. Task under earthwork requires reduction, at least till such time the soil becomes less hard or till monsoon sets in. The soil before rains being hard, workers were not able to turn out full task and earn full wages. However they are able to turn out 80 to 85 per cent of the full task after rains, when the soil happened to be less hard.

SECTION V.

10. There are no suitable irrigation works where so many workers can be engaged with advantage. The only remaining works being village roads, etc., where again either stone-breaking or earthwork or gravel collection requires to be done.

SECTION VI.

11. The existing provisions of the Code are sufficient and surfeit.

SECTION VII.

12. The establishment as laid down in Appendix D of the Code is necessary for conducting the famine relief operations efficiently. But, an officer of the grade of a Deputy Tahsildar as Charge Officer is obviously unnecessary and expensive. The charge can be managed by less expensive staff. The main important points requiring special attention in a famine relief camp are—

- (1) correct maintenance of D. III muster rolls which is the main basis for payments to workers;
- (2) good and efficient outturn of work by the workers for the money spent towards their payment; and
- (3) correctness of payments to workers and giving good food as per the scale prescribed to the dependants.

All these can be looked after by the management of a famine relief camp by one department instead of the present dovetail arrangement of the Revenue and the Public Works Departments. The officers of the Revenue Department are not well conversant with the details of the nature of the work and the upkeep of the accounts connected with the tools and the consequent audit, etc. Such being the case, I should like to suggest as follows:—

A charge can be placed under the management of a supervisor of the Public Works Department with two overseers to assist him for the supervision and conduct of the works. A clerk from the permanent establishment can be posted to each charge as sub-cashier to look after the counting and the proper distribution of money. The rest of the establishment can be retained as at present.

The difficulties in the present arrangement will be explained by me orally at the time of personal evidence.

13. *General.*—The period of service of all officers deputed to famine duty should be counted for their probation, as the nature and the amount of work done by them either on famine duty or otherwise is the same.

Charge allowance or famine allowance should be paid to all officers deputed to famine duty whether permanent or temporary as the nature and extent of work to be done by both the permanent and temporary officer is identical.

Conveyance allowance should be paid to all officers on famine duty according to the nature of the conveyance they maintain and prescribed for their grade.

In a relief camp the work section and the accounts or cash section should be separate and should be independent of each other. Control and powers for taking disciplinary actions over the maistris and the headman, etc., should be vested in the work agent. The stores and the tools should be under the control of the work agent for immediate issue to the workers. As is practically done at present, the recruiting should be done both by the work agent and the Charge Officer.

There are many practical difficulties regarding the preparation of the D. IV statement daily and furnishing the particulars required for the daily card such as village ward details, total number of each class of workers, etc., which require elaborate explanation. I reserve these for explaining during the time of my oral evidence.

The existing daily card requires some modifications giving more particulars.

Suitable modifications to the Code should be effected in the matter of policy and efficient control over famine works.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—You have been working as Work Agent in Dhana-puram six days after the work was started?

A.—Yes.

Q.—You had also worked in the Special Accelerated System of repairs to tanks, and so you have some experience of earthwork?

A.—Yes.

Q.—In section II, you say “in these days of quick transport, suffering in the famine-affected area can be averted by getting goods from other less affected parts, though at a higher price so as to facilitate the people in procuring grain.” So you say there is no difficulty in procuring grain?

A.—In previous famines, I understand, there was some difficulty, but in this famine there is no such difficulty.

Q.—In Chapter 2, you seem to say you are against any period of observation. You do not insist upon any test stage?

A.—No, period of test will be unnecessary, when by observation prior to starting famine relief works, it is found that crops have failed due to failure of rains in this famine zone.

Q.—But the test period enables Government to judge the acuteness of the famine?

A.—But in this district we have had repeated famines during the last four years and so, I am sure, there is no necessity for a test period, especially in this famine affected area.

Q.—But don't you know that Guduthur camp had to be closed almost immediately it was opened; and you know what great loss it involves. So don't you think a short period of test stage is necessary?

A.—If there is any doubt as to whether there is famine or not in a particular area, then we can have a test stage; and perhaps it would be, better to have a short period as test stage, say, fifteen days, or so.

Q.—For pregnant women and children, you know, cash doles are given. Why not extend it to other classes also, like the blind, the idiot and cripples?

A.—Yes, that can be extended to infirm persons as well.

Q.—So during the test stage they can be given cash doles?

A.—Yes.

Q.—You say efforts should be made for the preservation of cattle. Do you mean to say that the State should take charge of them and maintain them during famine and that as soon as the famine is over, they should hand them over to the people?

A.—No. I mean only that the wages should be so increased as to give the people some amount to meet the maintenance charges of their cattle.

Q.—How can you find out what amount is required to maintain the cattle?

A.—It is not possible unless cattle census is taken.

Q.—So you are in favour of increasing the wage?

A.—Yes.

Q.—Are you in favour of abolishing the third class of workers?

A.—No. I would like to reduce the age to ten.

Q.—Would you abolish class III?

A.—No; those children are useful on the work specially when employed for conveying.

Q.—Would you advocate the raising of the age of children to three?

A.—No. Children below two years do not take any food. If we raise the age of children to three, they will be brought to dining sheds by old women and they will try to purloin food cakes.

Q.—Do you think quarter of an anna will do?

A.—Yes. It is given to the mother; and according to the recent Board's Order babies above an year are classified as V (d) and each baby gets half an anna, on rest days.

Q.—Don't you think the child should get half an anna on other days also?

A.—No, I think quarter of an anna will be sufficient.

Q.—You had some trouble with regard to wages of headmen. Is it a fact that you don't get that sort of headman you would like to have?

A.—Yes.

Q.—Is it a fact that they do not get a status so as to enable them to get on?

A.—Yes. I think they should be paid something more to command dignity as headman, say half an anna.

Q.—It is in your camp that the total amount of rest-day allowance was higher, than the total cost of food in the kitchen?

A.—Yes.

Q.—You say “to ensure good sauce one should adhere to the quantities given in the table even if it slightly goes above the total cost of the grain equivalent?” Do you know how this grain equivalent is arrived at?

A.—No.

Q.—You say “the provisions in the diet table given under section 128 of the Code are adequate provided they are closely followed irrespective of the increase in the total cost over the grain equivalent, owing to the market variations in the cost of ‘other items and vegetables.’” So you say it is better to ignore grain item and arrive at the cost?

A.—Yes.

Q.—With regard to rest-day allowance the Executive Engineer says, it shall not be given to those who are not present for less than three days in the week including the day previous to the rest-day. What is your view?

A.—There is a practical difficulty in it. Rest-day wages are paid on the day previous to the rest-day, and that “previous day” is also included in the calculation of “three days attendance” before deciding whether a man is entitled to a rest-day allowance. In order to pay the rest-day allowance, the D. IV statement should have to be prepared before 12 o'clock so that it may be paid before 3 p.m. or 4 p.m. So we have to take into consideration only the morning attendance on the day previous to the rest-day. Suppose a man is present in the morning and is absent in the afternoon, then he will be “present” for the purpose of rest-day allowance but “absent” for the daily wages. So I suggest the three days may be taken as excluding the day previous to the rest-day.

Q.—Under section IV, you say the task under all the items of work except earthwork may be retained as at present. That means to say earthwork is somewhat hard. Would you advocate a reduction of it especially when the sun is hot?

A.—Yes. I have tested for fifteen days; the coolies are not able to do the full task.

Q.—Will you supply information to the Chairman?

A.—Yes.

Q.—Under section VII, you have made radical changes. Why do you make them?

A.—There are many practical difficulties in the charge, and only those who are on the spot know it.

MR. CHAIRMAN: This has been stressed by other witnesses also. So I don't see why he should repeat them.

Q.—Why do you say the work section and the payment section should be different?

A.—Supposing there is a charge officer; he should not interfere with the work; he should not come and say that this gang should not be here, and that gang should not be there, etc., and thus put obstacles in our work. Let him come and check gangs; let him come and pay cash to the headman. But, he should not boss over us, the duties should be specified.

Q.—I thought you wanted somebody else to pay the wages?

A.—No. Besides, in the daily card which gives information of the coolies, some modification is necessary.

Q.—I think that ought to be addressed to the Executive Engineer.

MR. CHAIRMAN: Yes.

Examined by Sri H. SITARAMA REDDI: Q.—Under Chapter III (b), you say “No modification to sections 49 and 50 is necessary. But cash doles for babies-in-arms and pregnant women may be allowed during test period when the same is deemed necessary.” You mean that this should be given even at the time of rest after delivery?

A.—Yes.

Q.—In view of the suggestion, is not a doctor necessary even for the test period?

A.—Yes. In his absence the village munsif may issue the certificate.

Examined by Sri K. KOTI REDDI: Q.—You find the task given to pregnant women is difficult. What amount would you prescribe to them?

A.—Half the task.

Q.—To the nursing mothers?

A.—Half the task.

Q.—Have you found any difficulty with regard to the babies?

A.—No difficulty except now and then the babies require suckling.

Q.—Who takes care of the babies in the absence of the mothers?

A.—There will be half a dozen babies, and two women will be put in charge of them; and by the time they are relieved some two other women will come and relieve them. For weakly women and pregnant women relief can be organized; there will be no difficulty on that score.

Q.—Perhaps you may know famine-relief workers can be divided into two broad classes: one class consisting of labourers who are willing to leave the village and settle at the work spot; and the second class consisting of small pattadars who cannot leave the village because of their holdings, cattle and other attachments. Consequently these people have to walk every day a distance of six or seven miles to the work spot, finish the task, and then walk back the whole distance of six or seven miles. Can you suggest whether it will be desirable to arrange work for these two types of men separately?

A.—No, it will not be possible to make any distinction.

Q.—From the first class of men you can get more work done; and the second class of workers you can let them return home early, say, at 4 p.m.?

A.—By experience I find that the gangs should be dispersed before 4-30 in the evening so as to enable us to measure the work. At present we have to walk the whole distance of four or five miles of work area measuring the work done and return home at 8 or 8-30 p.m. at night. The hours of work cannot be reduced; the interval may be reduced.

Q.—I do not mean that; I want to know whether there is any possibility of having two kinds of work for the two kinds of people I described?

A.—I don't think it will be possible.

Q.—There is village work, and I hope that work can be allotted to the second class of people?

A.—It will not be convenient to supervise.

Q.—Supposing there is a separate set of Supervisors for each class?

A.—Then there must be a Supervisor for each and every village work. I think, if the village is nearer the work spot, the people will not work; because, having given attendance, they will sit at home.

Q.—But in the Code, it is stated if they do not do any work, they won't get any wages?

A.—But there are certain classes of workers, who will come only at 10 o'clock, give the attendance, and say at the end of the day, "give us what we are entitled to as per rules."

Q.—With regard to the rest-day allowance, do you not think they are entitled to the allowance given to them on the working days?

A.—But they are satisfied with the rest-day allowance.

Q.—That is a quite different thing?

A.—I feel the dependent wages are enough on the rest-day.

Q.—Why?

A.—They do not turn out any work; and they do not exert. When they work on the other days I have seen them eating five times; they get food early in the morning, take food at 7 a.m.; then again at 10-30; then again at 3 p.m. then . . .

Q.—I am not concerned with the quantity of food eaten?

A.—I am not sure whether they eat as much on rest-days as on other days. But I feel dependent allowance is enough for the rest-day, as is allowed for dependants. A worker temporarily unemployed is classed as a dependant, and hence deserves only rest-day allowance but not full wages.

Q.—In that case the blind man also eats as much as a worker on the rest-day, as he does not work?

A.—I feel dependent allowance will do for the rest-day.

Q.—Don't you think some clothing should be given to the workers, say, a sari to each woman and a pair of dhoties to every man?

A.—Most of them are ill-clad. Provision may be made to provide them with clothing either at the commencement or at the end of the famine.

The committee rose for the day.

9th September 1939.

The Committee reassembled at 10-30 a.m. in the Collector's Court Hall, Bellary, with Mr. F. M. DOWLEY in the Chair. The following members were present:—

Mr. L. B. GREEN.

Dr. R. ADISESHAN.

Sri K. KOTI REDDI.

Sri H. SITARAMA REDDI.

Sri R. SURYANARAYANA RAO.

Sri KALLUR SUBBA RAO.

Sri Diwan Bahadur N. SWAMINATHA AYYAR.

ABDUL RAWOOF SAHIB BAHADUR.

The Secretary Mr. D. I. R. MUIR was also present.

The examination of Major E. M. Sewell, District Medical Officer, Bellary, was taken up.

Written evidence.

8. (a) I have no remarks to offer upon the question of wages.

As far as diet is concerned this appears to have been a matter of some contention in previous periods of famine and I would draw your attention to correspondence under G.O. No. 1954 of 4th September 1936. You will see that the diet scale as laid down in the Famine Code, Chapter VIII, section 128 (a), and as conformed to in the present famine, came under criticism as being ill-balanced and insufficient. If this were a fact, then why has the same diet been adhered to on this occasion?

I am inclined to agree with Colonel Ganapathi's remark (letter No. 4) that though the State is bound to protect the people from starvation in times of distress it is no part of its duty to maintain them at their normal level of comfort. Looking back over this period of 'famine' my impression is that the diet as at present laid down is adequate. At the inception of certain camps early in the period children with pinched faces and emaciated bodies were to be seen—later their improvement was very noticeable and they filled out enormously. I have no knowledge of the habits of these people in their villages under normal conditions but I should say that their improvement was in some part due to two meals daily, which it is possible many of the poorest are unaccustomed to under normal conditions. I understand the Committee have already taken the evidence of a Nutritional Expert from Coonoor recently.

I would suggest that, in future, in the case of camps supplying a long 'Work front,' viz., Hebbatam supplying some 8 miles of road work (8th February 1938), there should be subsidiary kitchens as well as dining halls. This would ensure dependants receiving their food reasonably hot. In this instance meals were distributed in the main camp at 11 a.m. and 5 p.m. In order to reach the dining halls at Holagondi and Hebbatam, food was despatched from the main camp at 9 a.m. and 3 p.m. It would only have been stone cold when it reached its destination.

8. (b) In the early months the supply of vegetables appeared adequate. Later there was a noticeable falling off, if not in the supply, at least in the issue. The answer was invariably that there was a scarcity of supply. Given the amounts as laid down in paragraph 128 (a) I think the allowance is adequate. My Assistant District Medical Officer has suggested the use of germinated greengram and chenadal. He states that four ounces of either, *dried*, per head, be given on four days in a week as a substitute for the stated allowance of pulse and vegetables. For the remaining three days the same plus half the quantity of allowed vegetables (keri).

I have no remarks to make with regard to the concluding questions of 8 (b).

8. (c) No remarks.

Oral evidence.

Examined by Sri R. SUBYANABAYANA RAO: Q.—In paragraph 2 of your written evidence you ask the question that if the diet as at present laid down in the Famine Code was considered inadequate why was it adopted during the present famine? It is for that purpose we have to consider whether it is still insufficient. You have seen the scale of allowance in vogue in 1936 and afterwards. Do you think the scale of allowances now prevailing is an improvement on 1936?

A.—If it is given in the quantity prescribed, yes.

Q.—Also in the matter of additional vegetables?

A.—Yes.

Q.—You quote Colonel Ganapathi. Don't you think it is necessary that the ryots who have to go back to the land and cultivate it as soon as the rains set in should not merely be prevented from dying of starvation but also maintained in their normal level of comfort so that they may continue their avocation when they go back?

A.—Yes.

Q.—You have stated that by the time the food is distributed it often becomes cold. Do you think it would meet the case if more kitchens are established according to the distance between two points so that it might not become cold?

A.—Yes.

Q.—Have you any suggestions to make regarding the changing of hours?

A.—I understand that in many instances meals are taken before going to and after coming from the camps.

Q.—You are referring to dependants and children?

A.—Yes.

Sri H. SITARAMA REDDI: Q.—You have experience of the heat in Bellary during summer?

A.—Yes. But I do not consider it unduly hot. The maximum temperature reached on one day only was 108°.

Q.—Now, there is a proposal put forward that in view of the severity of the heat in the area, the rest interval which is now between 12 and 2 may be

extended to three hours and the task reduced accordingly. Would you agree to such a course?

A.—I would make the interval from 1 to 3 because it is hotter during these hours.

Q.—You don't think in view of the severity of the heat the interval should be increased and the task reduced accordingly?

A.—Then the total hours of work will be reduced to 7 instead of the usual 8 hours.

Q.—Would you agree that such things may be decided by the Collector in consultation with the medical officer?

A.—Have there been any cases of suffering from heat? I think not.

Q.—Do you know that in summer most of the people do not work after 12 noon in these parts?

A.—No.

Q.—If that is the practice would you agree to the rest interval being made between 12 and 3?

A.—Yes.

Q.—You would have therefore no objection to regularize a practice that is being followed in these parts?

A.—Yes, I would agree to that.

Examined by Sri K. KOTI REDDI: Q.—With regard to nursing mothers and babies who are at present brought to camps, don't you think it would be better that they should be given work in the village itself rather than made to carry children to camps sometimes from a distance of 5 miles?

A.—I think you might.

Q.—In view of the fact that the agricultural labourer is an asset to the State, as a doctor would you not advocate the well-being of the agricultural labourer and see that his physical condition is not allowed to deteriorate as a result of the diet, etc., supplied to him?

A.—Yes.

Q.—You know that in the Famine Code no provision is made for supplying clothing to famine labourers or oil for the hair or soap, but the only provision made is to feed them to keep them at an ordinary level of health. Don't you think that these things are also necessary?

A.—Before you consider the question of supplying soap, you have to provide water for washing.

My experience is that they get no water for washing purposes. I do not know whether they are using oil and soap in their villages. I would call clothing a necessity but not oil. I do not think it is necessary to consider these details.

Q.—With regard to the rest day allowances, they do not get as much as they get on week days. In view of the fact that they eat the same quantity even on rest days, don't you think it is necessary that they should be given the same allowance?

A.—I do not think the question of wages comes within my province and it is not a medical question.

Q.—Do you think that people eat less on rest days? Don't you think they should be given the same amount of rations as they are allowed on week days?

A.—I do not think they eat less on the rest day. However I quite agree to the suggestion.

Dr. ADISESHAN: Q.—In your written memorandum, paragraph 2, you say "my impression is that the diet as at present laid down is adequate." Do you think that in spite of Dr. Passmore's remark that 30 per cent of men, women and children put together are deficient in A-vitamin and that it was due to under-feeding, the present scale is adequate?

A.—We have to assume that the state of deficiency existed even before famine set in.

Q.—Have you proved that it was due to deficiency in A-vitamin, as the result of famine or did it exist before the famine diet came into being?

A.—It is probable they had this deficiency before. Dr. Passmore visited the camps four or five months ago and if it was so, those cases of deficiency might have developed before the famine set in. I think it is very difficult to prove. For that you will have to take up investigation.

Q.—Can you suggest a solution for reducing vitamin A deficiency?

A.—Cod liver oil.

The examination of Sri P. H. RAMA REDDI, Director of Agriculture, was then taken up.

Written evidence.

SECTION I.

Measures for the prevention or mitigation of famine.

1. The chief causes for recurring famine in the Ceded districts may be attributed to insufficient and ill-distributed rainfall and to the undulating and clayey nature of land. Owing to its geographical situation, lying in the interior of the Peninsula and surrounded by hills on nearly all sides facing the West and East coasts, the tract is naturally subject to a low rainfall. The monsoon winds which blow from the south-west during June to September are denuded of moisture on the coastal belt; similar is the case in respect of the north-east monsoon, the moisture bearing winds from the Bay of Bengal being intercepted by the low hills along the East Coast. The result is scanty rainfall even in normal years.

Moisture is the limiting factor in crop production. Crops in the Ceded districts are almost entirely dependent on rainfall and are bound to fail if the precipitation is insufficient or unevenly distributed. More than half the rainfall is received in the course of five or six months, between June and November; both fine soil and water get lost by surface run off. To ensure against crop failures, measures should be devised to provide enough moisture in the soil for growing crops and conserve the same in the soil to get maximum crop production. Loss of rain water by surface run off may be curtailed by means of bunding, by the addition of humus and other dry farming methods.

This measure will mitigate famine but cannot be considered as a cure.

But the root cause of famine in this tract cannot be surmounted without irrigation to as large an area as possible. The solution of providing irrigation is a practical one, as the investigations on the Tungabhadra project which have been pursued for a number of years, have shown. This project is designed to irrigate over one million acres in the Anantapur, Bellary and Kurnool districts. The Tungabhadra river has been found to have a dependable surplus of water and there seems to be no serious obstacle to store this water at the proposed dam site near Hospet and supply water for irrigation through the proposed distributaries. The soil survey of the proposed command recently conducted by the Government Agricultural Chemist has shown that there is no reason to suppose that the black soils are likely to react unfavourably to irrigation. The greater

Q.—Are you agreeable for a change in the diet if it is found that the present diet is deficient in vitamins?

A.—It would involve a large supply of food sufficient in vitamins A and B.

Q.—If you analyse the scale of food now supplied and if it shows that the diet is deficient in certain vitamins, protein or fat, would you advocate a change in the diet?

A.—Yes, definitely. I think the main trouble is due to lack of vitamin A.

Sri R. SURYANARAYANA RAO: Q.—The only way by which you can avoid deficiency in vitamin A is by adding greens and vegetables?

A.—If money can be found it may be done.

Q.—Do you advocate the administration of calcium lactate if the cost is not prohibitive?

A.—I cannot speak from a chemical point of view. Chemically I am extremely doubtful whether calcium lactate is absorbed to any appreciable extent.

Dr. R. ADISESHAN: Q.—You say that germinated green grams might be used as a substitute for pulses and vegetable. Do you supply that in the Bellary jail?

A.—I am not aware of this as I have no connexion with the Central jail.

Q.—Some years ago in the Madras Penitentiary it was tried and I want to know whether it is continued even now and with what result?

A.—I do not know.

Sri KALLUR SUBBA RAO: Yes, I know in 1932 it was tried when I was a prisoner then and it was really good and useful.

The CHAIRMAN: Would you advocate it now?

Mr. KALLUR SUBBA RAO: Yes.

part of Anantapur and the whole of Cuddapah will not, however, be benefited by this project. In these places, therefore, the remedy lies in the construction of a series of wells, tanks and spring channels wherever possible. In years of scanty rainfall, however, tanks would be of little use and there will be shortage of water in wells and spring channels.

2. (a) (i) *Irrigation—Major.*—In the irrigation projects of Kistna, Godavari and Cauvery, which provide for irrigation through a system of canals and distributaries, the normal development of cropping has been of wet crops like paddy, sugarcane, plantain and similar crops.

The areas along the Tungabhadra and irrigated from ancient anicuts across the river were examined in some detail during the progress of the soil survey by the Agricultural Department. The areas under canal irrigation along the right bank of the river are estimated at about 20,000 acres (not including areas under the Kurnool-Cuddapah canal). Similar areas under irrigation are found on the Hyderabad side (left bank of the river) near Gangavati opposite to Kampli, but no estimate is available of the actual area.

The crops grown on these areas are mainly paddy and sugarcane and to a small extent, plantains, betelvine and turmeric, coconut and fruit trees. These areas have been under continuous irrigation for a very long period and continue to be productive. In spite of the heavy irrigation being applied for a long period of years, there has been no complaint about soil deterioration. The people use efficient methods of cultivation and soil recuperation and nothing but prosperity can be seen all around in marked contrast to the adjoining dry areas.

Irrigation from spring channels is also practised to a limited extent. Spring channels are of two kinds, those that take their source in river beds and those that start from river banks. In the case of the latter their water is usually sweet and the soils irrigated by them, even if they are lightly charged with harmful salts, can be prevented from deterioration by careful management. The other channels are somewhat different. When rivers are in floods, the river-bed portions of the channels are either completely or partially wiped off and the river water gets into them. If this water happens to be charged with harmful salts as in the case of the Hagari and Pennar rivers, in addition to the soils being already alkaline the soils become gradually deteriorated unless very good care is taken of them. The water of the Tungabhadra is fortunately of good quality with very low salt content free from sodium salts and in view of the fact no bad effects have so far been produced in black soils irrigated from this river in the Hospet taluk it may be assumed that other black soils of the Ceded districts can also stand irrigation from the same river.

The Kurnool-Cuddapah canal was excavated between the years 1860-1871, starting at Sunkesala anicut and ending in the Cuddapah district. The total length of the canal is 191 miles. The original project "was intended to consist of a main irrigating and navigable canal." (Account of the Kurnool district: Benson 1889.) The company that built it went into liquidation and Government purchased the canal and took over the works in 1882 paying £3,018,758 to the firm (equivalent to Rs. 4,50,00,000 approximately). The high capital cost is probably the cause of its failure.

The command of this canal is estimated at about 124,000 acres of which about 70,000 to 80,000 acres are irrigated annually for a first crop and another 8,000 to 10,000 acres for a second crop with a net revenue of about Rs. 1,50,000 annually.

The canal passes through various types of soil ranging from black soil in its upper reaches near Kurnool town to a distance of 50 miles (by canal) to red loams. Wet cultivation is practised along the canal, notably near the river at Kurnool and again round about Nandyal, both areas of black soils. No evidence can be seen of alkalinity in the wet area there.

The exact reason why wet cultivation has not been taken up on an extensive scale is not known. The cultivator of the black soil areas of these districts is, as a rule, averse to wet cultivation. If rainfall is normal he would always prefer dry cultivation and if in addition he is given the option of using or not using water he would not be anxious to change his methods of cultivation. His partiality to black soil and dry cultivation is proverbial and he would not go in for paddy cultivation unless he is forced to do so.

The Tungabhadra project as it is now designed has definitely for its scope the irrigation of dry crops. [Vide G.O. No. 2952, P.W.D. (Irrigation), dated 22nd December 1936, page 14, paragraph (5), Proceedings of the Irrigation Development Board, dated 21st August 1936.] This policy is likely to be changed in the light of the results to be obtained from the experiments recently started at the Agricultural Research Station, Siruguppa, Bellary district, and the cultivation of other crops be permitted. When the project comes into being, therefore, there will be no question of optional irrigation as has been the policy in the Kurnool-Cuddapah canal command. The ryots will be compelled to pay for water.

If the project materialises, it is possible to prevent famine in the commanded area shown below by reason of the availability of water, thus ensuring the raising of crops irrespective of climatic conditions :—

	ACS.
Bellary district	784,000
Anantapur district (Gooty taluk)	128,200
Kurnool district (Kurnool and Pattikonda taluks)	160,300
Total ...	1,072,500

The whole of Cuddapah district and the greater part of Anantapur district are likely to be excluded from the project. The construction of a series of tanks, wells and spring channels in these areas, as already suggested, is the only solution and that too for mitigating famine.

2. (a) (ii) At present the scope is purely protective, i.e., to protect the crops from failure, within the present cropping scheme. It does not provide for other crops except paddy in places where for want of proper drainage any other crop cannot be grown successfully. It is suggested that subject to the availability of water and suitability of soil conditions, no restriction should be placed on the cultivation of any crop except paddy and sugarcane which should be limited to certain particular areas where conditions are particularly favourable for them. Irrigation presupposes intensive cultivation at maximum benefit to the cultivator and no advantage can be gained by compelling him to grow only the crops he is now raising under rainfed condition if he can grow better crops with a little more water.

This suggestion for a change in the policy underlying the project is a plea for encouraging the development of a poverty-stricken country. A policy of having a protective scheme, providing for cultivation of crops in the existing cropping scheme will lead to amelioration of the chronic famine, the tract suffers from, but it is suggested that development of the country by permitting the cultivator to grow any crop he likes subject to necessary conditions, will lead to real prosperity. The following extract is taken from the Report on the Soil Survey of the Tungabhadra Project (page 40 loc cit) :—

“ A scheme providing for protection alone is an absolute necessity in the area, now condemned by nature to be one subject to chronic scarcity if not actual famine conditions. Such a scheme is justifiable on all grounds. To provide water, which is the limiting factor, is an absolute necessity and a boon being conferred on the country.

The now starving population will be assured of crops, year after year, instead of depending on the precarious rainfall. Their position in the economic sphere will thus be secured.

The question however arises, is this all that a project of such magnitude is to achieve? Should not the project also aim at the development of the country? There would appear to be ample scope for the development of a tract, with soils capable of supporting crops, but with a lack of rain and it is possible by choice of site to provide for the cultivation of crops requiring more than the light irrigation of a dry scheme. Crops like sugarcane, rice, plantains and turmeric, all of which will bring in higher returns per unit of land they require than the crops now being grown. During the agricultural enquiry, it was found that the ryot population was keen on being given irrigation for growing such crops.

The suggestion is therefore put forward that a suitable modification be made in the policy underlying the project to provide for the growing of money crops as well, in small areas at the beginning as an experimental measure and thereafter to consider the expansion of these areas if the results are encouraging.

Such a scheme it is strongly felt after experiences in the field and laboratory studies, will be attended with no risk of soil deterioration and will lead to the development of the country from all points of view, bring about an improvement in the economic condition of the people which will in its turn have favourable effects on their well-being.”

2. (a) (iii) Beyond improving the existing tanks in the project command, as sources to be fed by the Tungabhadra distributaries, I have no suggestions to make. I understand, however, that one Sri Srirama Ayyar (Executive Engineer, recently retired from Kurnool), had prepared a scheme for impounding water from the Kurnool-Cuddapah canal, near its 80th mile or so, in a big reservoir, for irrigation as well as for developing hydro-electric power.

2. (b) *Minor irrigation and wells.*—(i) *Reasons for decrease.*—It is a fact that the number of these sources and the area irrigated by them are decreasing. The indiscriminate devastation of trees in forests, the uncontrolled grazing in forests without any system of rotation and the cultivation of foreshore of tanks and hill slopes have led to soil erosion and silting up of tanks. The partial silting up of tanks is natural in an area with a high ratio of run-off water to that absorbed by the soil which is heavy clay with a compact structure.

2. (b) (ii) *Measures to prevent deterioration of the minor irrigation sources.*—The proper maintenance of the tanks is of primary importance. Ploughing up of tank-beds and of foreshore of tanks should be stopped. In the catchment area, tree growth must be encouraged. When there is a heavy rainfall, much of the soil in the cultivated fields, if they happen to be undulating is washed away along with rain water, resulting in soil erosion. If the slope of these lands is in the direction of a tank the soil carried away by the rain water ultimately finds its way into it. The final result is shallow soils with poor capacity for crops and silting up the tank. This can be avoided to a great extent by levelling the fields as far as possible and bunding them. Cultivation of crops on slopes of hills should also be discouraged and tree growth encouraged instead.

2. (b) (iii) *Failure of minor irrigation sources if the monsoon fails.*—Minor irrigation sources depend on the rainfall received in their catchments and the supply received will be naturally dependent on the total effective rainfall received, and the run-off flows down the catchment. In years of deficient rainfall, the tanks would receive short supplies of water and the areas irrigated will naturally suffer in proportion. An improvement in the sources of minor irrigation (tanks) would help in the mitigation of famine in the local areas they serve. There seems to be little scope for an increase of such sources which are conditioned by the total rainfall received. Economic distribution of water from tanks and digging wells under the ayacut to supplement tank water might go to some extent to prevent the failure of crops.

2. (b) (iv) *Increase in the number of wells.*—In the black soil areas, the water table is, as a rule, very deep ranging from 40 to 70 feet and often very much more. Digging wells in these areas is, therefore, an expensive process; the only wells of any use from the point of volume and quality of water are those dug in the neighbourhood of rivers and vankas (water sources). The water from wells in the black soil areas is generally highly charged with salts and is unsuited for irrigation and the boring of wells in these areas is not likely to improve the situation unless the boring is very deep which may extend to 500 feet and more. In the red soil areas the water table is generally higher and the water also is of fair quality; extensive well-boring operations may be advisable here.

The quality of water obtained from bore-wells depends to a large extent on the type of underground strata and it may be possible to forecast the type of water expected by examining the rocks met with below. It may be stated in general that the granites and gneisses containing soda-lime feldspars may be expected to give water charged with sodium salts, while those containing potash feldspar will give good water. A case in point may be cited from a bore-hole in Cuddapah district where fairly good water has been obtained in deep black soil as the rock below is of the Cuddapah-Kurnool limestone series.

In general it may be stated that extensive boring operations may not be fruitful in obtaining good water in the black soil areas of the Bellary district but that in the red soil areas of Anantapur and other districts such operation may be advisable to get supplies of water for irrigation.

2. (c) *Contour bund forming.*—The method of conserving moisture by contour bunding is a useful device to make the most of the rain that is received, by holding it up in the banded compartments and in preventing excessive loss of the fine particles of soil by erosion. I invite attention to the answer to this question by Sri C. Vijayaraghavan, Superintendent, Dry Farming Station, Bellary (vide his letter R.O.C. No. 378/38, dated the 25th June 1938), which is fairly exhaustive on the subject. Bunds arrest the flow of rain water and thus the soil is made to absorb more rain water which will be available for plants. The bunds need not be more than 5 inches to 7 inches in height and can be formed at a low cost by an implement called "bund former" designed by the Agricultural department. Nearly 10 to 12 acres can be covered in a day by a pair of cattle. While this device augments moisture content of the soil in years of rainfall, it will not be of much assistance when the rains fail *totally* at sowing time or during the critical period of crop growth. In times of *deficient* rainfall, however, the general adoption of bund-forming will raise crop yields.

There is no reason to believe that extensive bunding up of the tract will materially diminish the supply of water to the minor irrigation sources, as there still remain large

areas of uncultivated lands in and near hill slopes which usually form the catchments of most large tanks. Bunding will lessen the amount of silted water carried by streams into the tanks. Silting up of tanks can thus be prevented to a certain extent.

2. (d) *Dry farming methods*.—The essence of dry farming consists in the economic use of the available rainfall. Bunding increases to a certain extent, the absorption and retention of rain water and prevents the loss of valuable surface soil and the organic matter which it contains. I commend the report of Sri C. Vijayaraghavan, Superintendent, Dry Farming Station, Bellary, with reference to this question.

The ryots are in the habit of drilling or sowing crops along the length of a field irrespective of the slope of the land. If drilling is done across the slope, the surface run off is prevented to a certain extent by the standing crop.

The presence of organic matter or humus enriches the soil with the consequent result of better yields. The application of any kind of compost (rotten organic matter) loosens clayey or stiff soils and binds loose soils. The black soils of the Ceded districts are slow in permeability which can be increased by the application of compost, but due to lack of raw organic matter, such as leaf the amount of organic manure available is by no means sufficient for the lands under cultivation. The output of this manure can be increased by composting in every town the night soil and municipal rubbish as is done now in Proddatur and Hospet. This will also improve the sanitation of the town besides fetching better returns to the municipality.

A small experiment has been recently started at Nandyal to study the effect of filling the soil cracks with groundnut husk. The results are encouraging but unfortunately, groundnut husk has got an economic value, in that it is being used as fuel for steam engines to run decorticators, oil mills, etc. If electricity is available to work the engines, much of the groundnut husk can be used for the above purpose, i.e., for filling up of cracks in black cotton soils. The addition of groundnut shells has been found out to add to the moisture holding capacity of the soils.

I strongly recommend that a good number of bund-formers may be purchased out of famine fund and kept in villages in the custody of village munsifs or panchayat boards. These will have to be lent to the ryots free of charge till the importance of this implement is fully realized in villages. If demonstration maistris can be employed for each firka in a taluk, which is the necessary minimum staff required to push through our agricultural activities, the bund-formers can be entrusted to the departmental man, i.e., the maistri.

2. (e) *Afforestation—Trees recommended for propagation*.—Afforestation is essential.

As regards topes, all uncultivated wastes or porambokes may be grown with trees. High winds cause loss of soil by wind erosion. The velocity of the wind and the consequent loss of fine soil can be lessened by planting trees as wind brakes.

Tree-planting belts in the black soil areas, where the water table is low and the water not suited for tree growth, should be limited to places adjacent to water courses. For deep rooted vegetation in such localities, the following trees are recommended :—

Azadirachta indica (English) The margosa or nim tree.

Acacia arabica (English) Babul tree.

Zizyphus jujuba (English) Indian jujuba or Chinese date.

Prosopis spicigera (Telugu) Chani.

Prosopis juliflora.

Glyciedia maculata.

Euphorbia tiruculli (English) The milk hedge tree.

In the red soils of the Anantapur district, the planting of *Pongamia glabara* and also *Tamarindus indica* is recommended.

2. (f) (i) *Large-scale industry*.—Two or three cotton mills can be conveniently opened in the Ceded districts. Practically the whole of Northern and Western cotton from the Ceded districts is exported. It could be consumed locally if cotton mills are put up. There is enough money locally available in the district.

2. (f) (ii) *Cottage industries*.—The Kurubhas in Bellary district have already taken to handspinning of wool and cumbly making. This industry may be given an impetus by giving better finish to the cumblys and by the formation of co-operative societies for the purchasing of raw materials and marketing the finished products.

Sufficient propaganda by the All-India Spinners' Association can be done for the introduction and expansion of hand spinning of cotton as cotton is available in plenty. Unfortunately this cottage industry is gradually dying out in the Ceded districts instead of spreading perhaps due to the fact that the yarn or cloth made from hand-spun yarn is not easily marketable locally on account of the cheapness of foreign (Japanese) yarn or clothes got from outside.

Better use of palmyra tree (other than for toddy) for brush and jaggery making may be made. There is a big aloe plantation near Penukonda and for want of export demand for aloe fibre, it has been much neglected. It is worth while trying to create demand for this fibre and extend aloe plantations for which there is a large area available in the Anantapur district.

It is also worth prospecting for manganese in Kurnool district where it is said to be available.

2. (g) *Use of 'sparked water'*.—I have no practical knowledge of the 'electro culture.' Whether 'sparked water,' even assuming that it stimulates or energises the crop growth, can increase or sustain the moisture contents of the soil at different periods—and this is what is required in this tract—is problematical. The Cotton Specialist has recently returned after a visit to the United Provinces to study the conditions obtaining there by adopting this method and his detailed report and suggestions for experiment in this province is awaited.

SECTION V.

Possibility of providing famine relief works of appreciable benefit.

The sinking of deep wells on tank beds and constructions of ponds to provide water for men and cattle may be provided for. Large scale anti-soil erosion works would be of benefit to the community if Government engage famine labour for these purposes.

General.—I have no practical knowledge of famine works, etc., and have not therefore attempted to answer the other questions.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—In your written evidence you say "the soil survey of the proposed command recently conducted by the Government Agricultural Chemist has shown that there is no reason to suppose that the black soils are likely to react unfavourably to irrigation." Do you mean dry or wet irrigation?

A.—Any kind of irrigation.

Q.—Do you think that the points reached by the Agricultural Chemist are definitely conclusive?

A.—I should like to verify them, but from the theoretical point of view they are correct.

Q.—Even for wet cultivation you think the black-cotton soil will not deteriorate?

A.—I do not think so and there is no evidence to that effect.

Q.—In regard to the portions of Cuddapah and Anantapur districts which will not be benefited by this Tungabhadra project, you think the remedy lies in the construction of a series of wells, tanks and spring channels. You also say that in years of scanty rainfall, however, tanks would be of little use and there will be shortage of water in wells and spring channels. In spite of this, do you think it is worth keeping them in good order?

A.—In the case of spring and river channels the scarcity for water is less; the quantity of water available in them depends upon the amount of digging done by the cultivators. But, it is a different matter in regard to wells, because they depend largely on the deep sub-soil water and whether it will be a paying proposition or not, it is for investigation.

Q.—You are in favour of the idea that a certain quantity of rainfall water should be conserved?

A.—Yes.

Q.—But the question of the cost or return to the state need not always be a criterion in taking up of such measures in view of unfavourable seasons?

A.—I agree, but at the same time I do not see any reason why we should not also aim at the returns as well.

Q.—Supposing there are two kinds of spring channels, one from the river bed and the other from the river bank. You know the channels dug from the river-beds involve great deal of labour and when freshes come these are wiped out and made again. Don't you think that in the case of these river-bed channels the ryot should be shown some concession in view of the fact that he has to keep them in good order?

A.—He bears a disproportionately heavy burden. In addition to water-rate the digging of channel involves one man's labour per day per acre throughout the season except when the river is in floods.

Q.—You think he needs some consideration?
A.—Yes, I do feel that the water-rate is too high, if the cost of digging also is taken into account.

Q.—You have some lands in this district?

A.—Yes.

Q.—You make a distinction in the nature of the water in the channels dug in the river-beds and that on the river-bank. It is interesting. You say the river-bed channels contain some salt which may be harmful to the land in course of time. Do you advocate the river-bed or river-bank channels?

A.—That depends upon the nature of water. If one can be done with as much convenience as the other, I would prefer spring channels from the river-bank, but in the river-bed you have the advantage of water from the river itself.

Q.—Do you think that in the lands under the Kurnool-Cuddapah canal, there is no likelihood of any wet cultivation?

A.—You have the example at Nandyal where wet cultivation is practised on black soil without deleterious effect.

Q.—You say that the ryot in the Ceded districts is averse to wet cultivation? Why? Is it because that the foodcrop in this area is not paddy, or is it because of the labour involved and the capital invested?

A.—I think it is more of psychology than economics. Reddis and Kammas prefer dry cultivation to paddy cultivation. As a rule you find that wherever there is black-soil the Reddis and Kammas are present there and take only to dry cultivation because it is paying to them. It is the same case with Reddis in Tinnevely, Ramnad, Madura and Coimbatore districts also.

The CHAIRMAN: Q.—What about the wet cultivation in Kanekal?

A.—Yes, but wherever they get cheap water the tendency is to go in for wet cultivation. If greater labour is involved in wet cultivation, they would go in for garden cultivation and not for paddy cultivation.

Q.—Major portion of the land under spring channels is cultivated for paddy?

A.—Yes.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Under the Kurnool-Cuddapah canal cheapness does not come in as between Kurnool and Cuddapah?

A.—It is the same.

Q.—Then why is it that it is more extensively grown in Cuddapah than in Kurnool? In Cuddapah don't you have black-soil at all?

A.—In Cuddapah there are mixed soils.

Sri R. SURYANARAYANA RAO: Q.—What is the result of the experiments conducted at Siruguppa?

Do you think it is necessary to change the nature of cultivation or the nature of the crops to be produced under the Tungabhadra will give different results?

A.—It is a difficult question to answer for this reason; the existing crops are specially suited to particular soil conditions. The crops grown under rain-fed conditions may not respond satisfactorily under irrigated conditions; and for that purpose we have to carry on tests and find out the suitable types of crop.

Q.—Do you think that a rainfed crop may not yield the same results if irrigated?

A.—It might give the same yield but that is not what we want under irrigation.

Q.—So, you consider that till the results of the experiments conducted at Siruguppa are available, the present policy should not be changed?

A.—Certainly not.

Q.—In view of this desire, you want that the Agricultural Research Station at Siruguppa should be a permanent station attached to the Tungabhadra project?

A.—I think so.

Q.—Are you in favour of rotation of crops by legislation or by propaganda made as a result of your experiments?

A.—I am afraid that with my present knowledge of irrigated crops under the Tungabhadra project, I cannot tell you the kind of rotation required. Legislation is the last resort. I should like to try propaganda first.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Have you not heard of extensive irrigated crops in Coimbatore?

A.—I know but in Coimbatore conditions are different from those in Bellary district.

Q.—Can you not draw any analogy from that and are the soils so very materially different in both places?

A.—What applies to one place cannot be applied to another (case) on the same analogy.

Q.—But the methods of cultivation will be the same and with that as your help can you not draw even by analogy? In Coimbatore district, black-cotton soils are not irrigated, only lighter soils are irrigated and that too well irrigation?

A.—In black-soil, there is as a rule only dry cultivation.

Q.—What about the soil selected in Lower Bhavani?

A.—There it is all very light soil.

Q.—At Koogalur?

A.—There also soil is very light.

Q.—What about soil in Gobichettipalayam?

A.—I do not know.

Q.—So, there is not much of experience, anywhere about wet irrigation on black-soil?

A.—No, except in the Ceded districts.

Q.—In the Ceded districts, have they got wet irrigation under wells?

A.—Yes, there is but in the black-cotton soil tracts, there is no water as a rule in the wells; even supposing there is water it is not suitable for irrigation.

Q.—Under the Godavari they do?

A.—Here also you have the example of Kanekal. The soil is heavy black-soil and the wet cultivation has been going on for a number of years, but the only difficulty is that, if the soil is allowed to become dry, then it is very difficult to grow rain-fed crops and you cannot keep the physical condition of the soil in proper state. If you grow only irrigated crops there is no fear, but you cannot alternate dry with irrigated crops, because soil becomes like brick after drying.

Q.—Do all black-cotton soils behave like that?

A.—Not necessarily; the deterioration in the texture of soil is due to the saline nature of water.

Q.—Even without much of irrigation they are growing groundnut and at the end if they do not irrigate it they find it difficult to pull it out?

A.—Yes, you have got examples of that even in Siruguppa where you have wet cultivation like sugarcane, plantain, paddy and you do not see any evil effects.

Sri R. SURYANARAYANA RAO: Q.—You think it depends on the soil?

A.—It depends on the water.

Q.—Do you consider that the Tungabhadra water has not got bad effects?

A.—Not much.

Q.—Would you suggest wet irrigation or dry irrigation, or would you leave it to the ryot?

A.—I would rather like garden cultivation as far as possible and for this purpose you require less quantity of water than for paddy crop.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Labour for even ordinary cultivation is very problematic in this area?

A.—But in regard to wet cultivation it is worse; wet cultivation has to be done mostly by human labour, garden cultivation can be done even by cattle.

Sri R. SURYANARAYANA RAO: Q.—You would advocate garden or wet cultivation?

A.—Any cultivation, but certain lands would be suited only for wet cultivation and in such places you have to go in only for wet cultivation.

Q.—In preparing the scheme for Tungabhadra would you advocate wet or dry cultivation?

A.—The Irrigation Department should be able to say how much of the area is fit for paddy cultivation and how much for garden cultivation.

Q.—You would favour compulsory levy of water-rate for the Tungabhadra area in order that the scheme may be beneficial?

A.—Yes.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Are you sure that the demand for it is there owing to the poor rainfall?

A.—The psychology of the black-soil ryots is somewhat different from that of other ryots. He prefers doing cultivation but will accept water for irrigation.

Q.—He is faced with failures so very often and rainfall was very ill-distributed and the chances are he would go in for it if water is available and if only there is little chance of levying it, we can easily introduce compulsion there?

A.—I am quite in favour of compulsion. I do not see why you should leave it to the option of the cultivator.

Sri R. SURYANARAYANA RAO: Q.—You refer to the note of a retired Executive Engineer. Do you think there is scope for developing hydro-electric power in that Kurnool-Cuddapah canal in addition to irrigating wet crops?

A.—I do not see why it cannot be widened if that is possible.

Q.—You know that every capital outlay that has been incurred in respect of the Kurnool-Cuddapah canal has not been very paying. Would you advocate that if these improvements are made, you can have compulsory levy in respect of the Kurnool-Cuddapah canal?

A.—I do not see why you should make an exception in the case of the Kurnool-Cuddapah canal.

Q.—Are you aware that there is already a compulsory levy by way of wet assessment under the Kurnool-Cuddapah canal and a portion of the ayacut has already been classified as wet and they are being made to pay wet assessment?

A.—I believe so.

Q.—Would you like to make a distinction or would you like to convert the whole into a compulsory levy for dry and even in the case of wet ayacut?

A.—I do not want to make any distinction.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Have you any direct experience of assessment under the Kurnool-Cuddapah canal?

A.—No.

Q.—It was brought to my notice that there are several cases of surreptitious assessment there?

A.—May be so. I have also heard to that effect.

Sri R. SURYANARAYANA RAO: Q.—The difficulty seems to be there is limited supply and so the ryots do not advantage of the water and restrict their

cultivation to lands in the ayacut. At present nobody has power to compel them to cultivate any portion of the ayacut. Would you like to give power to the Collector?

A.—Provided there is no scope for sinking wells; if there is possibility of sinking wells, I think tank water can be very well supplemented. Under spring channels in good years they cultivate paddy and in the second season they decide as to which particular crop or which particular area they should cultivate consistent with the quantity of water available.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—You have no objection to give discretion to the Collector?

A.—No.

Q.—In regard to ploughing up the tank-beds in the catchment area. You are against tank-bed cultivation unless the tank has been abandoned?

A.—Yes.

Q.—If the tank is otherwise water-tight?

A.—I have no objection.

Sri R. SURYANARAYANA RAO: Q.—Would you advocate a kind of soil survey with a view to find out the underground water resources?

A.—I am afraid that is a very big question, i.e., a geological survey. I have not considered that problem.

Q.—That will give a data to proceed; in such a case would you advocate it?

A.—Certainly.

Q.—Will you say that the holdings should be divided in a particular way. Mr. Vijayaraghavan was telling us that most of the divisions of land take place not in the same way one would like?

A.—It will have to be done more by education and propaganda.

Q.—You are in favour of Government purchasing a large number of bund formers and placing them at the disposal of the panchayats till the ryots get used to it?

A.—That is what I have done this year. I have purchased a large number of them at the expense of the Government and placed them at the disposal of cultivators.

Q.—Being a native of the district you are interested in all irrigation projects tending to promote the economic condition of the people?

A.—Certainly, and more as the Director of Agriculture.

Q.—You are keen on the Tungabhadra project because that will help a great part of the famine-stricken area?

A.—That is the only salvation for the Ceded districts.

Q.—If there are any obstacles, you would not mind trying your best to surmount them rather than allow the project to be abandoned. In this connexion you have the question of linguistic provinces. If the Bellary district is divided into two parts, then the head works will be in one province and the distributory channels and the land to be irrigated will be in another province. Don't you think it will be a curious thing?

A.—Certainly it will be a difficult situation. I think it is more for the Irrigation Department as to how they are going to manage the anicut and whether they are going to have separate channels for the two areas. But, unconditionally I would prefer the project and I do not care for the linguistic provinces.

Q.—Is it because that it will require a large outlay of capital and the difficulty about the allocation of the capital cost and maintenance charges and above all a small Kanarese province will not have the necessary assets to bear its portion of the cost?

A.—I think the recent speech made by the Hon. Mr. Lathe of Bombay should serve as an eye-opener to the people of Ceded districts. He does not plead for a separate Kanarese province in view of the financial question. I think the Ceded districts should have the support of the Circars as well as the Tamil districts. I do not see why it should forego the help of the Tamil districts when they have not refused their help and also create unnecessary difficulties by forming a separate Kanarese province.

Examined by Sri H. SITARAMA RAO: Q.—You say in your written answer "Crops in the Ceded districts are almost entirely dependent on rainfall and are bound to fail if the precipitation is insufficient or unevenly distributed." If the precipitation is insufficient or unevenly distributed, could that be prevented by afforestation?

A.—Where will you have afforestation?

Q.—By rearing forests in those tracts where they once existed? Would that afforestation prevent uneven distribution of rainfall or precipitation being insufficient?

A.—I am not sure.

Q.—You say, "Loss of rain water by surface run off may be curtailed by means of bunding, by the addition of humus and other dry farming methods." What is this humus?

A.—It means rotten organic matter; it may be leaf or animal plant refuse.

Q.—You say, "two or three cotton mills can be conveniently opened in the Ceded districts. Practically the whole of Northern and Western cotton from the Ceded districts is exported; it could be consumed locally if cotton mills are put up. There is enough money locally available in the district." What will be the maximum count that can be spun out of this cotton?

A.—Hagari 1 cotton can spin up to 30 counts, ordinarily the southern and the westerns can spin up to 25 counts.

Q.—So may I take it that there will be no necessity for importing foreign cotton?

A.—If you want better cotton you will have cambodia cotton from Coimbatore tract. But if cultivators are encouraged to grow H-1, you can conveniently spin counts up to 30.

Q.—Is that count largely used by handloom weavers?

A.—I am not sure.

Q.—Is it your experience that the handloom weavers do not use finer counts than that?

A.—I have not got much experience in that line.

Q.—If these mills are to be opened, could you suggest possible places of location, considering the quantity of cotton available and other facilities?

A.—One can be established easily in the neighbourhood of the banks at Hagari, where there is plenty of water available, as water-supply is one of the prime factors or at Adoni; a second one can be established at Tadpatri; and a third at Nandyal.

Q.—Do you think there will be sufficient capital forthcoming from these districts to start mills, or would you suggest that the State should come in with a substantial portion of the share capital?

A.—I think the State should come forward with help.

Q.—What amount would you recommend?

A.—About half the amount.

Q.—In whom would you vest the management?

A.—I would suggest that Government should have one or more representatives on the directorate; there need not be complete State control.

Q.—You have come across a lot of thangedu bark?

A.—Yes.

Q.—Can it be cultivated on porambokes for use in tanning purposes?

A.—There are other trees and chemicals which can be used for tanning purposes and so I do not think the growing of thangedu is a paying proposition. So far the Agricultural Department have not tried.

Sri R. SURYANARAYANA RAO: Q.—Would you advocate cultivation of thangedu as a large quantity of it is brought from Mysore Province?

A.—It was once brought but I don't know whether it is being done now. Perhaps in tracts where other crops cannot be cultivated this can be grown. And also near Penukonda they have got an extensive plantation of aloe, which for want of financial aid is suffering.

Q.—So, you say State-aid is necessary?

A.—I think so

Examined by Sri K. KOTI REDDI: Q.—May I take it that as Director of Agriculture you advocate the use of other sources of development of irrigational facilities in the district?

A.—Yes.

Q.—You have suggested that in tank-beds wells may be dug to supplement sources of supply?

A.—Yes.

Q.—As a matter of fact it is your experience that where wells could not be dug by ryots you advocate State undertaking it?

A.—Yes.

Q.—You have also suggested that old tanks may be repaired and the construction of new ones may be taken up so that in times of good rainfall, all the moisture can be conserved?

A.—Yes.

Q.—With regard to the Tungabhadra project you have no doubt with regard to the adaptability of the black-cotton soil to wet cultivation if necessary?

A.—I have no doubt.

Q.—You are also for placing no restriction on dry cultivation?

A.—With regard to paddy cultivation and sugarcane cultivation there must be restriction. With regard to other crops to be cultivated by irrigation there should be no restriction. Because sugarcane requires water all the year round. I do not know if the Irrigation Department can give water throughout the year, and should they be able to do so, then there will be no difficulty.

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—Yes, the whole difficulty is with regard to the supply of water throughout the year?

A.—If the water is available I have no objection at all. Even in black-soils there are patches suitable for wet cultivation only and the yield per acre of paddy is three or four times the yield you have of cholam. So though paddy consumes a large amount of water, the yield is certainly three or four times greater than the yield of other crops. One acre of land cultivated with paddy yields about 1,000 Madras measures; but if you sow that land with cholam the yield will be about 300 measures. All this depends upon the soil and the cultivator. In my own village, the cultivators are practically experts; probably no one can beat them in cultivation and the yield is 50 per cent more than that in the surrounding villages. A good cultivator produces 480 Madras measures per acre which is unheard of in other areas.

Q.—Where labour conditions allow, and where the soil condition is very suitable, you don't mean to put obstacles in red-soil areas in the way of wet cultivation?

A.—If it is a small area, I don't object; but if the area is large, I don't see why dry crops should not be grown. Perhaps you may know all the wealth of Coimbatore is due to the cultivation of cambodia cotton; and similarly why not cultivate dry crops in these areas. In passing I may also mention this. If you look into the Census Report of 1910, you will find a small passage, which shows the extent to which the Reddis of Ceded districts are attached to black-soils and dry cultivation. It is said that once upon a time there was an invitation for a Reddi from Heaven. The Reddi inquired what all things there were in Heaven, but on hearing there was no black-cotton soil there, he politely refused the invitation. But that represents the love of the Reddis to the black-cotton soil and they emigrate, if they do at all, only for the sake of black-soil. I think he is the best authority on black-cotton soil.

Q.—But cannot the ryot be trusted to make the best use of the water in cultivation?

A.—I have already stated that.

Mr. ABDUL RAWOOF: Is not Tungabhadra project designed for dry cultivation?

Mr. CHAIRMAN: Yes.

Sri K. KOTI REDDI: Perhaps you know Government refuse to undertake new schemes if they do not get a return of 3 per cent interest on the capital invested. In such cases, suppose the project is to be carried out, surely it will yield a return greater than before. And this additional yield is new wealth to the country. So don't you think on this score such

unremunerative schemes—I say, unremunerative from the Government point of view—should be pushed through?

Diwan Bahadur N. SWAMINATHA AYYAR: Q.—But are you not asking this concession at the expense of other parts of the province?

A.—As the Director of Agriculture I would advocate any scheme which would result in a higher yield consistent with the capital invested.

Q.—Are you for adopting compulsion even in the initial stage, that is, not even giving the ryot the option of taking or not taking water at the very commencement of the project; as you may know, this was done in the Nellore district and in the Cuddapah-Kurnool canal project?

A.—I am in favour of compulsion even in the initial stage.

Q.—Could you suggest any method by which the fodder resources in these famine areas can be improved?

A.—Restrict the area under cotton and groundnut, so that cholam can be grown a larger area. In Rajampet taluk vagai trees supply fodder for the cattle.

Q.—Supposing you insist on such plantation?

A.—So far as I know, the Revenue Department have been collecting data with regard to that question. They asked me for a list of trees which can be used as fodder in times of famine; I think the Revenue Department is quite alive to this problem. The leaves of some of the trees can be used as famine fodder, if they are not good fodder. Some time back I tried prickly-pear as famine fodder. Cattle took to it easily but the difficulty was to remove spines. Nowadays we do not come across prickly-pear at all.

Q.—With regard to the improvement of the economic position of the ryot, do you suggest afforestation on the ryot's land should be encouraged, that is, on waste lands?

A.—Yes.

Q.—In Anantapur district you have got deep gravelly soil; why not induce the ryots to grow some of these trees?

A.—Provided trees grow, this can be done; I do not know what trees can be grown there, as everything depends on the soil and the moisture. Provided you create a demand for fibre, in Penukonda you can grow aloe. Cashewnut requires sandy soil and fair amount of rainfall so it cannot flourish there; margosa trees do not come up, as underneath earth there is a big rocky soil. Only babul trees can grow.

Q.—So you suggest experiments can be carried out?

A.—Certainly.

Q.—You also suggest growing of trees for the prevention of erosion of soil?

A.—I would recommend them as avenue trees.

Q.—Would you make it compulsory on each ryot?

A.—No. Babul trees send their roots very far off on the surface and interfere with crops. They can be grown on waste lands. Kanuga trees would be useful to break the wind. For poor gravelly soil babul tree alone is good.

Q.—Would you, as the head of the Department of Agriculture agree with me, if I suggest that the Agricultural Department will be in much better position to give a correct idea of the crop outturn which will be necessary to judge whether famine has occurred or not, which is now prepared by the Revenue Department?

A.—We cannot do that with our present staff; we can give only the condition of the crop to a certain extent.

Q.—When the rains fail, you have to judge what the yield is; whether it is two annas crop, or three annas crop or eight annas crop?

A.—I think we will be in a better position to say that; but I don't know whether the present staff is enough; as such work means our staff has to go from village to village.

Q.—You know ordinarily black-cotton soil is more suitable for dry cultivation. I suppose it is also your experience that under certain conditions black-cotton soil does not require very much water; for if there is too much water, the crop will fail. Under the Cuddapah-Kurnool canal that was the experience.

So to avoid that, do you suggest shower irrigation, by which you can have just the water necessary so that water is not wasted?

A.—May I know where this practice is in vogue?

Q.—In America, in England and in California. Will not that be a solution for the black-cotton soil?

A.—If you say it as an ideal, it is all right; but from the practical point of view I don't accept it under our present economic condition. I don't say it is impossible, but from the economic point of view, I cannot advocate it.

Q.—With regard to large-scale industries you have suggested the starting of spinning mills. Cannot we start the manufacture of paints from barytes?

A.—I had this in mind when I sent my written reply; but I fear there is no great demand for it.

Q.—I now come to the bund-forming instrument. In order to bring home to the ryot the knowledge gained by the Agricultural Department, I think there is a feeling that enough has not been done. Do you require more staff in the form of maistris?

A.—I have sent up to Government a proposal to give a maistri for each firka, and the matter is still under the consideration of the Government. If they accept my proposal there will be no difficulty.

Examined by Diwan Bahadur N. SWAMINATHA AYYAR: Q.—We want to know roughly what crops are likely to be favoured by the ryots to grow in their fields, so as to enable us to fix the irrigation demand? Can you suggest something?

A.—I would leave it to the future. If you specify the period of supply of water, the ryot will adjust himself.

Examined by Mr. L. B. GREEN: Q.—In your written answer you point out that water from wells in black-cotton soil area is generally unsuitable for irrigation and you proceed to suggest that to improve the situation deep boring extending to a depth of 500 feet and more should be done. Are you aware of any place where such a thing has been done?

A.—There is one in Cuddapah.

Q.—No, I mean in Bellary and Anantapur?

A.—I suggested a few minutes back if a geological survey is going to be undertaken this question need not be taken up now.

Q.—Do you think it is reasonable for the State to take up that task and bear the cost too?

A.—Yes.

Q.—Supposing the ryot is unable to take water for irrigation purposes. Do you think it will be economical to the ryot to pump water from out of these wells?

A.—I am afraid I have not much experience of this. When I made the suggestion I had the well at Cuddapah in view. If you have cheap electricity it can possibly be done; kavalai or engine will be costly.

Q.—Perhaps a few experiments will show the possibility of its use?

A.—Yes.

Q.—Do you know the present area under sugarcane cultivation in Hospet?

A.—About 7,000 acres; the present factory is capable of consuming about 2,000 acres; and therefore the remaining area has to be utilized in producing jaggery.

Q.—We have already sufficient sugar production?

A.—But you are not producing any thing more than what this Presidency requires.

Q.—You suggest in another part of your written answer that jaggery making from palmyra should be extended. Then we will be in a very difficult position in regard to sugar?

A.—So far as palmyra jaggery is concerned, I do not think there will be any market for it; and so the only thing possible is to convert it into sugar.

Q.—As regards cumbli weaving industry, you suggest the forming of co-operative societies?

A.—Yes.

Q.—We have already started two societies and we are perfectly willing to start more; but the difficulty is in regard to the supply of wool. Lack of progress in the cumbli weaving industry is due to the lack of adequate pasturing facilities. Can you suggest any scheme in this behalf?

A.—There are a number of waste lands available, and at present grazing is done very indiscriminately.

If indiscriminate grazing is restricted and if you encourage grazing by compartment system, probably grazing facilities would greatly improve. Under the present system there is no possibility. Much depends on how you are going to arrange grazing.

Q.—With regard to paper-making can you get the necessary raw material in these parts?

A.—There is the botha grass.

Q.—Is it available in large quantities?

A.—It is available on the hills.

Examined by Mr. DOWLEY (Chairman): Q.—With your expert knowledge of the Ceded districts and the black-cotton soil would you now advise the Government to go ahead with the Tungabhadra project before you finish the experiment at Siruguppa and are you satisfied that the scheme will be successful?

A.—So far as I know of the conditions here and so far as I have studied from the soil survey, I have no hesitation in recommending it.

Q.—In addition to Tungabhadra project, other smaller projects are suggested in areas outside the area that will be affected by the main Tungabhadra project. If these projects are carried out would you restrict irrigation on these smaller projects, to say, dry crops and garden crops that you suggest on the Tungabhadra. You won't suggest paddy?

A.—I would give preference to the dry and garden crops.

Q.—In your written evidence you have stated "If this water happens to be charged with harmful salts as in the case of the Hagari and Pennar rivers, in addition to the soils being already alkaline, the soils become gradually deteriorated unless very good care is taken of them." Is it your experience that water in Hagari is not suitable for agricultural purposes?

A.—The water may be suitable for the present but it is harmful and in course of time the soil becomes alkaline. The cultivator will have to be very careful in raising good crops with such water.

Q.—If the canal water is stored up in reservoirs will it be good for agricultural purposes?

A.—It will be the same whether it is stored or applied direct.

Q.—Do you suggest that for administrative purposes the whole of the Tungabhadra area must be in one Government?

A.—Yes. It is better.

Q.—In your written evidence you have said that some suggestion has been made by one Engineer regarding hydro-electric power from Kurnool-Cuddapah canal. Do you know anything about that?

A.—I am afraid I have not seen that and hence I cannot say anything about that.

Sri KALLUR SUBBA RAO: Q.—You have stated that ploughing up of tank-beds, cultivation, etc., should be stopped. But some tank-beds are given on patta in Anantapur district?

A.—That means there is no more water in it, and when there is no water they are good for cultivation. If the sub-soil is impervious no harm is done if crops are raised when the lands go dry. If it is pervious it allows the water to sink and thus wasted.

Q.—In some taluks, i.e., Madakasira, Penukonda and Hindupur, there are good springs in the ayacut. Do you think it is preferable to allow people to have springs in tank-beds and allow them to cultivate?

A.—I think it can be done if proper arrangements are made.

Q.—You mentioned that groundnut husk can be used for filling up of cracks in black-cotton soils. Do you think this can be used as manure?

A.—It serves as an agent to conserve moisture and ultimately it decays and becomes manure.

Mr. ANJUL RAWOOF: Q.—Till it decays is there no deleterious effect on the soil?

A.—No.

Sri KALLUR SUBBA RAO: Q.—With reference to your evidence regarding hand-spinning, do you mean that in the agricultural area where there is no work for a number of days hand-spinning may be encouraged by Government and treated as a subsidiary occupation?

A.—There can be no objection to the suggestion. Hand-spinning is an age-long occupation in the Ceded districts.

ABDUL RAWOOF SAHIB Bahadur: Q.—You are aware that the Ceded districts are being subject to frequent and recurring famine. In view of this, would you urge the Tungabhadra project being taken up even though it is not productive but is only protective?

A.—I would rather like to see it made productive if it can be done.

Q.—How is bunding going to be of any use in the Ceded districts where the rainfall is scanty?

A.—The bunding is meant to preserve the scanty rainfall in the soil, instead of allowing it to run off. Bunding also prevents the fine soil from passing down which serves as a manure.

Q.—You say that the high capital cost of the Kurnool-Cuddapah canal is probably the cause of its failure. I think this analogy cannot be applied to the Tungabhadra project?

A.—No. The Kurnool-Cuddapah canal was mainly designed as a navigation canal and also for irrigation. So, that analogy cannot be applied to Tungabhadra project as it is protective.

Q.—As you have stated, we have got large areas under irrigation from the Tungabhadra water both in the Nizam's State and Siruguppa and other places, is the experience gained more than enough to start this project?

A.—Yes. That experience is enough. I have already stated so.

The examination of Sri M. BHIMASENA RAO, President, Bellary Andhra District Congress Committee, Adoni, was then taken up.

Written evidence.

SECTION 1.

1. I beg to suggest the following measures for the prevention or mitigation of famine especially in Ceded districts and they are all practicable and there is nothing impossible for a really popular Government:—

- (a) Prohibition of all intoxicating liquors and drugs immediately in the Ceded districts.
- (b) Reduction of land revenue by clean 50 per cent on the cultivated dry and wet areas of these districts.
- (c) The collection of land revenue in money is highly detrimental. The ryot shall be given the option of paying the land revenue either in money or contribute a fixed share of the yield in kind. To obtain the necessary funds for paying the land revenue in coin the ryot is obliged to shoulder the loss consequent on sale at low price in an already overstocked market and often is forced to borrow. This method of payment leads to great hardship on the peasants and to his chronic indebtedness to the usurer. There is no minimum of subsistence allowed for, and very often the tax falls below the efficiency lines and becomes cumulative in its poverty production. The whole of peasant indebtedness originally came from the necessity imposed of finding coin to pay the land tax.
- (d) Prohibition of exports of all grains, cereals and pulses and fodder from these districts should be enforced. Even a protecting tax in a part of a country exporting raw materials and importing manufactured goods on a large scale is one of the constructive ways of meeting famine. Though it may effect land revenue fall in cultivation but lakhs of poor people who go hardly with square meal will have more food-grains available than at present.
- (e) Reduction of railway freight on food-grains and fodder by 50 per cent imported into these districts.
- (f) Free grazing of cattle and removal of dead wood for cooking and other purposes from the Government and panchayat forest areas must be allowed to the village ryot. The leaves of the trees for manure purposes from the forest area are supplied free.
- (g) The burning of dung cakes on a huge scale for cooking purposes, instead of the same being put into the land, must be stopped. This can be done only if the ryot freely gets the jungle wood for cooking purposes.
- (h) Free manufacture of salt and saltpetre in these districts and sale of the same without any sort of restriction regarding quantity manufactured, place of sale, price or any duty. In the year 1873 this district alone had 3,553 salt beds and manufactured local maunds 208,230. Salt can be manufactured in all these districts employing thousands of *Uppar* families.
- (i) Multiple co-operative societies doing both the credit and non-credit work on a Swiss model must be established in all these districts with central sales and purchase depots in the nearest market places with good railway communications and good business houses. The facilities must be so complete that the daily produce of a ryot's milk or a weekly produce of butter must be delivered into the local co-operative society and the credits in the account secured.
- (j) Village road communications and transport facilities must be complete. All the villages are to be connected with roads and all vankas and vagus are to be bridged.

- (k) The unholy combines or pools by capitalists of their pressing and ginning factories in all these districts fixing a rate much higher than necessary and thus depriving the ryot of the cost of his produce by about Rs. 10 per Bombay candy must be ruthlessly put down. Taking the interests of both the ryot and the capitalist into consideration it is desirable that the pressing rate per bale of 400 lb. and the ginning rate per naga of local 12 maunds of 1,008 tolas lint per maund be fixed at Rs. 3 (three rupees) and Rs. 4 (rupees four only) respectively.
- (l) A drastic reduction in the sowings of cotton and groundnuts in these districts and a corresponding increase in the sowings of food-grains and pulses are to be done by an Act, paying special heed to the rotation of crops yearly. The continuous raising of groundnut crop year after year in these black-soil areas has terribly taken away the creative faculty from the land so much so that neither cotton nor cholam plant sprouts now when sown.
- (m) Cattle slaughter must be reduced. The licence fees are to be raised and only professional butchers must be granted licences. Prevention of milch cattle from being slaughtered is absolutely necessary.

Irrigation, major.

2. (a) (i) In connexion with the Tungabhadra Project, I had submitted a memorandum in the middle of December 1937 to the Hon'ble Mr. Yakub Hasan, Minister for Public Works, with a copy to the Hon'ble Mr. T. Prakasam, Minister for Revenue, and the Collector of Bellary. A copy of the same is herein enclosed for your perusal. The results of the Tungabhadra Project, if its water is taken through the taluks of Bellary, Alur and Kurnool and the ryots were left to grow what crops they liked, similar results of Cuddapah-Kurnool Canal Project would follow if not worse. I had the fortune of following the Hon'ble Mr. Yakub Hasan in his Bellary district tour in connexion with the proposed Tungabhadra Project, and I was able to get the first-hand knowledge of the different aspects of the scheme. When we visited the experimental farm at Siruguppa, Mr. Ayyar, the Soil Expert, explained in a lucid form the activities of the department and the experiments so far done regarding the soil and definitely affirmed that the black-cotton soil of these districts is quite fit for thick irrigation, because unlike the black-cotton soil under Nira Valley Project in Bombay Presidency the subsoil hard surface of black-cotton soil under Tungabhadra is of granite origin and does not produce alkalinity. I entirely differ from this view as the facts and the opinion of the ryots are otherwise. Generally by nature gigantic schemes like *Sukkur Barrage*, *Sutlej Irrigation Project*, *Mettur Project*, and *Nizam Sagar Project* costing crores of rupees can help only a very small percentage of agricultural holdings. It is impossible to conceive of irrigation dams in every village, but every village in this part of India has thousands of acres of agricultural land which surely need some relief. Similarly the proposed project of Tungabhadra touches only a fraction of cultivable land in these districts, and most of the land under this project is pure black-cotton soil which is unfit for thick irrigation due to its alkaline nature. The scheme proposes to irrigate 51 per cent black soil in Adoni taluk, 70 per cent in Alur and 61 per cent in Bellary. Almost the whole area of black-cotton subsoil is of granite origin with plenty of salt in it. The subsoil granite is of three kinds, white, white and red mixed and green, the latter two kinds preponderating. The water got from the first kind is fit for drinking and irrigation and the latter two kinds always give very brackish and bitter water. The very fact that all the wells dug in the black soil was invariably given only brackish water and salt on a colossal scale can be manufactured in the vankas and vagus of black-cotton soil, is proof positive that this soil when comes under thick irrigation produces alkalinity, which kills the producibility once for all. Subsequently the land will be unfit to raise again dry crops like cotton and white cholam. To verify the fact it is necessary to know the process how earth salt in these areas is produced. The salt matter from the sub-soil granite comes up to the surface of the land gradually like a spring from an artesian well as is found at Pondicherry. Of course the water there comes up always but salt matter comes up here periodically in the rainy season. The process begins when the rains start and stops when they cease. The greater the rainfall in a year the greater is the accumulation of salt matter on the surface of the land. Before rains begin the surface of the land in vankas and vagus will be hard and when the rains cease in December the same surface will be very nice and smooth indicating the presence of salt earth. One will also find white patches scattered everywhere. It is from this sort of earth that salt is manufactured in our parts. It is clear that the subsoil of a vanka or vagu where salt earth is procured is the same as the subsoil of the surrounding black-cotton areas, which are to be brought under thick irrigation. Running of flood water year after year in the vankas where salt earth is accumulated is identical with irrigating the

surrounding black cotton soil area with the waters of the Tungabhadra. When alkalinity is produced in the canal surface of the vankas naturally the result shall not be different in the irrigated black cotton soil areas. Generally in good black cotton soil fields when there is a rainfall of about four inches alkalinity is formed and one can easily see the white patches formed on the surface. The salt contents of our sub-soil is much greater than any other soil under other projects. Government is already confronted now with the poor nature of the soil under Mettur Project and has to face the *Chowdu* problem that has arisen unexpectedly after six years of irrigation. They are trying to introduce systems of judicious manuring and improved methods of drainage. In *Chowdu* the salt-petre content is very small and it is found only on the surface. In our black cotton areas the salt proportion is much more and in consequence plants will not thrive. The net result is that the people living in pure black cotton villages do not irrigate their lands as they are not paying to them but in years of deficient rainfall they will use the water once or twice for their ordinary dry crops, of course paying the excess rent charged over their usual one. In the black cotton tracts the option of irrigating their land must be entirely left to themselves without any restriction. If it is paying, they do irrigate, if not, they do not. They know it is not paying and they do not want to irrigate. In all red loamy, red, and mixed soil areas of all taluks and villages wherever they are, people flock and shall be most anxious to cultivate, as they are the most suitable soil for thick irrigation. Such small areas of red and mixed soil will be found even in black soil villages. The suitable red and mixed tracts can be very well acquired by the Government and sold or given away to maximum people in small and convenient lots. If this project materializes it will not prevent or mitigate the famine in all parts now liable to famine unless the project is also exploited to the maximum extent in reviving all the cottage industries and sinking extensively wherever possible bore wells for irrigation purposes.

(ii) As regards the suggestion to make the project more useful than it can be as at present designed, I beg to state that electricity can be generated through hydro-electric schemes and cheap power supplied to these districts, so that all the cottage industries can be revived and worked by power, deep bore wells for irrigation purposes can be sunk and worked by electricity and the power can also be utilized for domestic consumption and large scale industries, if at all they are undertaken. If the scheme for generating electricity is not immediately followed and utilized agriculturally and industrially the Tungabhadra project will be a failure. All the local cottage industries must be revived and the driving power in future must be not hand but cheap power. The revival and running of all cottage industries by cheap power in future will certainly solve the knotty problem of capitalism and communism. It will avoid the mammoth factorization and its evils and will also keep intact individual initiative, creation and finally expression of personality. It will keep the industrialist in his home and it will increase his daily wage, as his daily output will be greater giving him more of purchasing and resisting power.

The project must also provide full scope for inter-navigation. The canals must be dug sufficiently wide and convenient for the purpose. This will give a great stimulus for the revival of country craft and absorbs many unemployed. Lot of money on railway freight will be saved. Generally the freight on railway is ten times greater than a country boat. If speed is necessary in the transport steam boats can be introduced.

(iii) With regard to the suggestion for other major and protective works which are practicable from an engineering point of view, I beg to state that any irrigation project must be a combined system of storage and direct irrigation, if it is not, most of the villages in the famine areas will be deprived of the benefit of the project. It has been the established policy of the past rulers to sink wells and construct tanks and dig channels for irrigation purposes. There were thousands of tanks constructed before. Many of them are no more and some are in disuse now. A survey of the old tanks in these districts must be made and found out which village had a tank which was actually irrigating the land in days gone by. If there had been irrigation under a tank in olden times, means, the soil under it is fit for irrigation. No further soil experiment is necessary. All these tanks must be reconstructed and Tungabhadra water is stored in them for irrigation purposes. New tanks in all convenient centres must be constructed and water stored in them. A special survey for this purpose is also necessary. In case a net work of old and new tanks constructed, rural water-supply problem also is solved.

Minor irrigation and wells.

2. (b) It is a fact that the number of the sources of minor irrigation channels and wells and the area irrigated by them are decreasing. This subject can be treated under two headings: Minor irrigation channels fed by rivers like Chikka Hagari, Pedda Hagari and Pennar and wells.

Channels fed by above rivers.—Most of the channels in our district under minor irrigation are fed by non-perennial rivers like Chinna and Pedda Hagari and Pennar. Most of these channels directly irrigate the land in many villages and some are diverted into tanks like *Kanakal* in Rayadrug taluk and Yallanur tank in Tadpatri taluk of Anantapur district. Except during floods these rivers generally are dry. The full supply of water to the tanks through channels and direct irrigation of land by other channels depend entirely upon the quantitative and intensive nature of the floods in the rivers and the amount of moisture retained in the rivers, respectively, which in turn depend upon the amount of rainfall at the source and its adjoining area right through the course of the rivers. During the last decade the average rainfall has decreased and in the same ratio the supply of water is also decreased causing a fall in the irrigated land.

Wells.—(i) The fall in the average rainfall is the chief cause for the decrease in the area irrigated by the aid of wells. So far I know there are 1,000 wells in the Rayadrug firka of Rayadrug taluk and 500 wells in Kosigi firka of Adoni taluk irrigating few acres of land under each well. The level of the water has gone down in every well due to deficient rainfall this year and the ryot gets comparatively less water with more labour. I find mostly all the irrigating wells in the red soil area of the district.

(ii) Before I suggest measures to effectively prevent deterioration of these sources and preventing the silting up of the minor irrigation works, it is in fitness of things that I describe the present condition of the *Kanakal* tank in Rayadrug taluk. *Kanakal* is a major village and has a tank named *Chikkanna Wadier* tank fed by Hagari river by a channel. Two thousand acres are under the tank. The nature of the soil through which the channel passes into the tank and the irrigated land under the tank is *Gummy Black Soil*, of course, it is not our pure black cotton soil of Alur or Bellary. Two crops require six months water in the tank. Formerly they were getting full supply of water sufficient for two crops. Now the tank is silted up probably due to the wash in of gummy black earth by the waters of the channel all these decades and it cannot hold more than three months' water, which is just sufficient for one single crop. The waters in this tank used to irrigate the land in twenty villages within a radius of five miles. Now the story is different. People of the locality made representations to me to have the silt in the tank removed during the famine works, so that the tank may hold more water than what it is now. I do not think it is possible and wise to do so, because due to accumulation of silt in the tank the height of the tank *underwar* is raised from its original level and in exactly the same proportion the level of the outside irrigated land is simultaneously raised. Under these circumstances if the silt under the tank is removed, which is impossible, the irrigated land outside shall be on a higher level than the level inside and water does not flow. The only alternative so far as I see is to raise the bund of the entire tank right through by about say three to six feet as the case may be with mud and stone so that the tank may catch and retain another three months' water which is necessary for a second crop.

This tank till four years back was a *kudimaramath* tank managed by the village panchayat. To ensure a regular supply of water to the tank it is absolutely necessary that the channel must be kept in very good condition and the opportunity of diverting the floods is fully availed of, else they cannot think of water. All these things can be done only if there is a good man power well organized in the village. This village with a big population has satisfied these conditions yet the management has been taken away from the panchayat and put into the hands of Public Works Department. Public Works Department can certainly demand money but not the willing requisite man power in a moment's notice to do the urgent works and they invariably miss to take full advantage of the floods in the river. So the water diverted is less and the irrigation of the land also is proportionately less. It is curious to note that where there is man power to manage channels and divert floods the management is changed to Public Works Department and where there is absolutely no man power or organization worth the name and people poor, the management of the channels, etc., is still left in the hands of so-called panchayats with the result that all the channels suffer the same fate.

During floods every year the channels will be blocked up. To avoid the same at the junction of the channel where it gets up to the land a masonry wall of 10 feet length should be constructed with an opening in the centre which can be closed by a iron door and a pukka constructed sluice be made on one side of the canal inside, so that the extra water may be drained away here only, without causing any silting of the canal in its course further on. Big sand banks of an unusual height have been formed on either side of the channels which must be immediately removed down below.

(iii) I do not agree with the statement that the minor irrigation sources and wells will be of no use in seasons of distress when there is a failure of monsoon. Of course

total ayacut under the channel or under the well cannot be irrigated but at least a portion of the same can be surely brought under cultivation if not with full crop but at least with 8 annas crop. The rainfall in Rayadrug taluk is much less than normal, still the land under well irrigation this year yielded 8 to 10 annas in the rupee. One single crop freely raised under the Kanakul tank if not two crops, only 300 acres are not irrigated this year for insufficient water-supply under Bhupathisamudram channel and 580 acres are irrigated out of 700 acres under *Rangachedu* channel. If all the channels and their courses are kept clean every year, the accumulated sand heaps on either side of the channel are removed, masonry culverts are constructed at the mouths with side sluices, immediate help is given to the channel village people to divert the floods in time, new tanks constructed and the channels brought into the tank, it will certainly bring in more area under irrigation, mitigate famine, if does not prevent it entirely.

(iv) The increase in the number of wells especially in red and red loamy and mixed soils is absolutely necessary and will certainly improve the situation enormously. Sinking of deep bore wells extensively in all red and mixed soil area is the one of the chief remedies to combat famine. Generally the cost of boring, maintaining well and the expenses involved in raising water to the land level will worry our poor and debt-ridden ryot, but when the water pump is worked by cheap power instead of costly hand power, animal power, fuel, coal or oil he will feel a sigh of relief.

It is perfectly true that in black cotton soil areas the subsoil water is usually brackish, non-suitable for drinking, and certainly deleterious to crops. There is nothing to be gained by increasing the number of wells so far irrigation is concerned but they may be useful for the drinking purposes of cattle when they are at work in the fields.

Contour bund forming.

(c) I strongly recommend the suggestion that bunding up of the lands in the black soil areas will help to retain the moisture and enable the crops to withstand drought. The Indian agriculturist knows better about his lands and immediately follows any suggestion to improve the output. There may be practical difficulties as the most of the tiller's land has already passed into the absentee landlord's hands in the towns or a sowcar ryot in the village. The genuine interest of most of the ryots in the land is little.

As a matter of fact there is absolutely no minor or major irrigation either through channels or by wells in the black cotton soil areas and in consequence the question of diminishing supply of water of minor irrigation sources does not arise. In black cotton areas due to the difficulty for drinking water *vakranies* are constructed. They are reservoirs to store rain water drained from the surrounding high level fields. It is quite probable that these *vakranies* will suffer water-supply if the bunds are formed. This is insignificant when compared to the advantage the ryot gets by bunding.

Dry farming.

(d) I do not know exactly any particular method of dry farming but generally the field work consists in finding the effects of deep and shallow cultivation on the absorption of rain water, on the effect of surface cultivation after showers of rain, on the inter-culture of crops, the value of bunds in conserving rain water, the effects of varying the seed rate and farm yard manure, and different reaction of soil moisture and crop yield. I am sure even an average Indian ryot will easily appreciate the good that comes out of adoption of such methods. This dry farming method must be greatly popularized among the agriculturists.

Afforestation.

(e) Since the Ceded districts possess all the climatic conditions, trees from mulberry to margosa can be planted with great advantage. To begin with it is absolutely necessary to have a forest survey and know by first hand the nature and the probable area that can be brought under the afforestation scheme. The success of the scheme entirely depends to what extent the plantations brought under do supply fodder, fuel and ordinary timber for house-building and preparing agricultural implements. This must be the chief objective in view. In black cotton areas topes of tamarind, margosa, and plantations of aloe can be raised. In vankas, vagus and poramboke lands thangadi can be freely cultivated. In red soil areas *Ippi*, *Kanuga* and *Naradi* and other country fruit-bearing trees can be planted with success. In hills and hillocks with more gravel than hard stone *Kakka* tree which is used by a village cottage tanner can be planted and they are grown generally now in mountainous part. All the above are fed by rain. In big forests like Nallama and Yerrmalla plantation under bamboo must be increased. If Tungabhadra project materializes fruit growing especially citrus group in red soils and mulberry planting in cooler climates must be undertaken. Indigo can be cultivated in black soil.

Large scale industries.

(f) (i) The only large scale industry possible in these districts is cotton textile mills and they can be installed and worked very successfully even by the State. These districts produce on an average 130,000 bales of cotton of 400 lb. net. The cotton grown in Bellary district is called *Westerns* and the cotton grown in Kurnool and Cuddapah districts is called *Northern*s. New types of farm cotton seed are introduced by the Agricultural department in both the areas. Now most of the raw cotton produced here is consumed by Bangalore, Mysore, Binny Mills at Bangalore and Madras. Recently Ahmadabad Mills are taking away a decent quantity. Firms also export to Continent. Farm cotton gives 22 warp and 30 weft and gives a pull from 75 to 90. Generally the cloth consumed by the masses here is made of these counts only. Till recently Western Farm cotton used to have a very good demand in Bombay market and it was fetching a premium of Rs. 25 to Rs. 60 over Broach. Now the cotton grown in Sindh under *Sukkur* project is enormous and the quality is certainly better than our Western Farm cotton and cheaper arriving exactly in Bombay when there used to be good demand for our style, so much so all the Indian mills for the last few years are freely buying Sindh style entirely neglecting our farm cotton. It looks now, as if the future prospects of our farm cotton is very gloomy, unless there is a sure outlet and price for our cotton. The establishment of many textile mills in as many convenient centres as possible in these districts is the only way to save the agriculturist who produces cotton. Not only he finds a ready market for his cotton but saves a lot of money, which he has to pay otherwise for pressing and other incidental charges. All the ingredients for successful establishments of textile mills are here, namely, raw material, cheap labour, big consuming markets for yarn and cloth, railway communication and cheap fuel if worked by electricity. Hindupur, Guntakal, Bellary, Adoni and Tungabhadra are some of the towns where these mills can be constructed. All have railway communications with each other. Hindupur has a better climate than all with cheap labour. The mill can be worked here by cheap power borrowed by the Mysore Government. Bellary and Guntakal rank next, provided good water-supply is available. Then come Adoni and Tungabhadra; in the former raw materials is at hand and in the latter water is more plentiful with warm climate. All the cloth and yarn manufactured in these mills will be consumed in our districts only and need not be exported abroad except Raichur district which is nearer and a good consuming centre.

The establishment of textile mills in this district has also its blacker side, as they take away the only sources of subsidiary employment, such hand spinning and hand weaving from millions of our rural folk, which are best suited to our part of the country taking the custom, leisure and the quality of raw material available into consideration. In spite of the importation of the evils of machinery into our midst the unemployment problem will not be solved but on the other hand it will increase it permanently, since a man working and managing 182 spindles in a spinning mill throws out 1,456 spinners at the charka of employment and a man who manages two looms in a weaving mill throws out the work of 16 hand weavers.

Cottage industries.

(ii) Revival of cottage industry of cotton hand spinning is a matter of urgent necessity and it can be easily adopted into village homes as it is the only industry which is economically feasible. Its potentialities are very great from every known point of view. It kills capitalism and avoids socialism and distributes the money of the country evenly among its various sections of people. The cotton hand spinning industry is the main spring in an industrial power-house and just when the main switch is on thousand lights in an electric concern are lighted in the town so also many other important cottage industries like hand weaving, ginning, carding, dyeing, printing, washing, blacksmithy, carpentry come into existence giving food for thousands of artisan and labour classes. It is the only practical proposition. Villager produces cotton, wants seed for his cattle, village labourer removes the seed from the lint, Pinjari cards into slivers, weaver ready to weave and above all rural folk require cloth and have nine months' in the year leisure to spin his yarn. The necessary investment is very little. Even a poor man's hut will easily lodge his charka. No foreign degree is necessary to repair his spindle and keep the charka in working order. It can be worked even during night with more ease. Man, woman or child of any nationality can sit at it and spin yarn during leisure hours without caste restriction or mass congregation. Still if this industry cannot be universalized sure as a gun no other industry we can think of. Revival of hand spinning industry is the only solution to entirely prevent famine in these districts for ever.

Hand ginning.—While the womenfolk work at charka for spinning the men labourers can gin kappas. i.e., remove seed from lint from a hand machine and earn 2 to 3 annas

per day's work of 8 hours. This will employ thousands of labourers for few months in a year in the villages.

Hand weaving.—Handloom weavers are in a very bad plight now. If every house in the village spins there is any amount of sure supply of yarn to feed all the looms in the country. Thousands of weavers who have no work now will go back to the villages and settle down there. Most of this artisan and artistic classes are turned into quill-drivers and ordinary labourers.

Kambli weaving.—This industry is dying now. Almost every village has few looms. Spinning and weaving are done by the inmates of the same house unlike cotton. There are more looms in the red soil area villages than black soil, as the latter affords better facilities for grazing sheep. This must be immediately revived. Now the looms are idle as the price of raw wool has gone up by 50 per cent. Prohibition of export of raw wool from these districts, better grazing facilities for sheep and advances at lower rate interest are to be provided for and the industry must run through co-operative societies.

Cottage tanning.—This industry can be easily revived employing again hundreds of Harijan classes in the villages. These people must be exempted from the municipal licence fees and facilities to secure tangadi and kakka bark free must be provided. The co-operative society can undertake to run this industry.

Oil seeds crushing.—All kinds of oil seeds such as groundnut, gingelly, castor, kusuma, gurallu, kanuga, ippi and margosa are grown here. They all can be crushed in the village by country *ghana* and oils exported. The cakes can be used for the lands. Every village must have its own country *ghana* centred round the co-operative society.

Jaggery manufacture.—Jaggery can be manufactured from sweet toddy on a large scale and there shall be good demand for the same from the masses. If trees are not tapped the trees grow to their full height. The leaves and the wood will be useful for building purposes of poor people. Mat industry on a much larger scale than now can be worked.

Bangle industry.—In every taluk of these districts bangles were manufactured. Most of the villages are named after it such as Gajulapalli, Gajulakonda, Gajulakuppa and the like. Formerly the industrialist used to prepare the glass block locally and manufacture bangles. Now the glass block are imported from Japan and Central India. Encouragement from the Government to revive this industry is urgent.

Forest industries.—Several forest industries can be easily developed in big forest like Nallama and Yerramalla.

Paper industry.—Planting of aloe and increase in the cultivation of bamboos can be undertaken. Coir can be manufactured out of aloe and with the worn-out ropes paper can be manufactured. Paper can be manufactured from bamboo pulp.

Match and pencil industries.—Trees whose raw material can be used for the manufacture of matches and pencils can be planted in all the forest areas and factories started for the manufacture of the same.

Wood distillation, manufacture of dyes and oils and collection of wild seeds and flowers which are going to waste in the forest areas can be undertaken with great advantage.

Mineral industries.—Slate making, iron smelting and other mining industries wherever there is possibility can be given encouragement.

(g) The theory of 'sparked water' treated with electricity having immense potentiality looks convincing. If what all is said and written about it is true, it is worth popularizing.

SECTION II.

Purposes of famine operations and principles of famine relief.

This policy is as old as Eve and dead as Queen Anne. The State is there for the people and not the people for the State. One can think of a people without a State but not a State without a people. Evolution and civilization have brought about an institution like a State, to serve the interests of the people. Though the State occupies a secondary place we shall say they are one and their interests are identical. If the interests of both are really identical, the important component part shall not suffer. What is famine? It is nothing but absence of food-grains to eat for thousands of people in a particular part of the country and in a particular time. In face of a network of railways in the country, sufficiently good road communication and a host of buses running to every nook and corner the people in a famine area cannot import grain to eat and fodder for their cattle. The truth is they have no money to buy because they are unemployed. They have no purchasing power and in consequence their resisting power is also gone. It is no wonder under

such circumstances a scarcity or famine claims a heavy mortality and brings on untold misery and suffering. The State is responsible for the altered situation in the country and as such the State is justified in spending any amount to give them normal comfort and insure them against all sorts of suffering. As a matter of fact the State need not go in for greater financial commitments at all and need not spend even a pie, if the disease is treated rightly. If all the people are given employment and their purchasing power is improved, famine will be a thing of the past, which can be only done by the revival of all cottage industries, inauguration of irrigation projects, prohibition of imported goods whose equivalents can be manufactured here, tariff, exchange and railway freight manipulations and the like.

Chapter II of the Code.

Though the local officials, not only here but everywhere, apprehend the approach of scarcity due to failure of rains, they do not report to the higher authorities in time. The Famine Code allows but very rarely it is done. During the current famine I clearly saw in the minds of all revenue officials, karnam upwards, a sort of fear that if the real signs of coming scarcity or famine are reported, they will be taken to task, because the Government will be entangled in financial commitments, land revenue remissions, grant of tak-kavi loans, etc. The Government must assure the subordinate officials that nothing of the sort will happen and on the other hand their work will be appreciated. Generally the revenue officials make a mistake in crop estimates and they must know more of the botanical side of the agriculture. They will be able to assess the crop yields correctly, if they have in mind the quantity of rainfall during the previous year and the amount of rainfall in the current year during early and latter seasons, whether the rains were timely and even, the height of the plants in a given particular time when compared to normal seasons, to what depths the root of a plant goes into, whether there is sub-soil moisture to feed the plant, the quantity of rainfall necessary for different soils. Generally the officials are satisfied if the plants are green, however stunted the growth of the plant may be and however complete the want of moisture be and wait for some atmospheric miracle to happen. They need not wait till the dying plant is actually dead and removed from the fields. If these things are carefully studied as a research after truth, free from outside encumbrances, a lot of unwanted distress may be averted.

Chapter III.

5. (a) No opening of test work is necessary preliminary to the grant of relief if the official on the spot realizes the presence of distress due to famine conditions.

Chapter V.

6. The famine relief works are conducted and managed by dual Governments—the Collector on one side and the Executive Engineer responsible to somebody else on the other side. The services of the Executive Engineer may be easily dispensed with. The Collector can easily manage the whole affair if the charge officers, work agents, etc., are all made responsible to the Collector. It will be economical and there shall be more co-ordination among the members of the working staff. Much of the present friction between these departments will be eliminated. Work agents will always be men fully qualified and they can be safely depended for the execution of pretty little plans and constructions in the famine camps. When all the necessary materials for putting up sheds are ready, the qualified work agent can easily check the materials and start the work without waiting for the Executive Engineer who comes to the spot after fifteen days only to check these materials.

Chapter VI.

Section 75 (b).—Though the codes provide during the history of famine for a century the assistance to weavers was given only once or twice. This must be given freely not only to weavers of cloth, but to also spinners of yarn and weavers of cumbles and cottage tanners.

Section (iii) (8) (a).—The wages of the workers must be considerably increased. The basis is to be based on the scale of wages paid to these people either in the factories or in kind they get in the field for their labour during in and off agricultural season. In factories, for eight hours' work, the man gets 6 annas and woman gets 4 annas per day. Generally the wages paid in the rural parts are low. During the season agriculturist employer pays for seven hours' work 4 seers grain and a woman 3 seers, and a boy 2 seers per day and in off season, 3, 2 and 1 seers, respectively. A fatherly Government cannot pay less. The wages must be increased to 3, 2½ and 2 annas for man, woman and boy, respectively, per day.

(b) Whether the worker is accustomed to eating vegetable or not in normal times they are to be given with plenty of green and vegetables including onions.

(c) Co-operative societies stores are to be opened in all the famine centres managed by the famine staff, when only the worker shall be sure of his weight and price and quality. All liquor and drug shops are to be entirely closed within a radius of five miles. The wages can be paid in form of kind, i.e., the necessaries of life from the stores instead of in coin.

Section 13.—It is my earnest desire that the section 166 (d) is applied with some modifications for every village in the famine areas. A group of 100 or 200 workmen are made to do the following constructive work in each village taking the services of village officials and other honorary workers into account:—

- | | |
|--|---------------------------------------|
| (1) Construction of village wells and tanks. | (5) Bunding the fields. |
| (2) Repairs of old wells and tanks. | (6) Removal of nattu from the fields. |
| (3) Making or raising of embankments. | (7) Laying down village road. |
| (4) Clearing fields of stones and stumps. | (8) Improvements in sanitation. |
| | (9) Spinning yarn. |

Oral evidence.

Examined by Mr. L. B. GREEN: Q.—You have suggested that cotton-spinning mills should be started in the Ceded districts. Can you tell me whether capital will be forthcoming locally or whether it is necessary for the Government to contribute a large portion?

A.—You can raise a considerable quantity locally and also Bombay and other cities will certainly give good contribution. We can give guarantee for this. Government also can contribute.

Q.—In what proportion should the Government contribute?

A.—Any little proportion from the Government is enough.

Q.—Just sufficient to inspire confidence?

A.—Exactly.

Q.—If cotton-spinning mills were started at Bellary, Tungabhadra, etc., do you think ample labour will be available or will there be scarcity of labour during the agricultural season?

A.—There will not be any dearth of labour. I don't think there will be any difficulty to find labour either here or in Hindupur.

Q.—Where do you get labour? Is it from the towns or villages?

A.—People who are living in the surrounding villages will be absorbed.

Q.—Do you suggest that spinning mills alone should be started or combined spinning and weaving mills?

A.—You can start both spinning and weaving mills. But we lose more in spinning. Spinning mills are more harmful than weaving because they take away the livelihood of thousands of people. If it is in a large scale, it is better to start both.

Q.—You think spinning mills will be the best way to save the handloom weavers?

A.—Yes. Spinning will be better in the beginning. Weaving mills will be a great hardship from handloom weaver's point of view.

Q.—Have you any knowledge of cumbly weaving industry?

A.—That industry is ceasing as the price of wool has gone up by 50 per cent.

Q.—Do you think that the deterioration of the cumbly industry is due to want of grazing facilities for sheep and is it very necessary to improve grazing facilities?

A.—Yes, it is absolutely necessary.

Q.—We have started two co-operative societies for cumbly weavers, in the Bellary district. I think they have not done useful work?

A.—I was told it is not working properly on account of scarcity of wool and its high price. If Government can offer facilities in the way of securing pasture lands for sheep it will work.

Q.—So do you think that more societies could be started?

A.—If all the facilities are given more societies can be started.

Q.—Can you tell me anything about the cottage tanning industry?

A.—It has greatly deteriorated.

Q.—What are the reasons for the deterioration?

A.—Because the people who were engaged in this industry have not got the necessary facilities. There are two kinds of tanning, rough tanning which is confined to cow and buffalo hides and fine tanning which is confined to hides of goat, sheep, etc. These people were mostly engaged in rough tanning which they did in their homes with the help of tangedu and kakka bark which they used to obtain from the forests. The rough tanned leather had been largely used for baskets for baling and other domestic purposes. Fine tanned leather was being exported to foreign countries. Now these people are not allowed to do the work of tanning in their homes either in villages or towns and they are asked to pay a licence fee and also compelled to do it at a particular place or places. They could not also get the bark. Country-tanned leather is now being imported from outside. If this industry be revived the demand is always there and it will also give work to many people.

Q.—What prevents them from getting bark?

A.—The contract of collecting bark is given to Lubbais who want a high price for the stuff and do not allow others to take bark anywhere.

Q.—What are your suggestions for reviving this industry?

A.—Co-operative societies may be started for instance in Adoni. There are 100 Harijans there who know the process of tanning. They must be given raw hides and facilities for tanning. They must also be supplied with tangedu and kakka bark free and allowed to do the work in their homes and exempted from payment of licence fee which comes to Rs. 25 in certain municipalities.

Q.—Would you think it is necessary to introduce any improvement in the methods of tanning?

A.—I don't think much improvement is necessary.

Q.—Where does the jaggery which is consumed in these districts come from?

A.—Probably it comes from Mysore State. Hospet is also one centre producing largely jaggery.

Q.—Do you know whether the Ceded districts are wholly importing jaggery from outside?

A.—Yes. If facilities are given there may be scope for manufacturing jaggery in these districts.

Q.—With regard to bangle industry are there many workers engaged in this industry in villages?

A.—Yes, there are two villages near Adoni where bangles are manufactured.

Q.—Regarding paper industry you may be aware that Government have recently sent ten students for training in handmade paper. Do you know whether there are any raw materials suitable for handmade paper in these areas?

A.—Aloa, which is the best raw material, is available and it can also be grown locally. Paper can also be manufactured from bamboo pulp which is available and also from waste paper, cotton plant, palmyra, old gunny, rags, munj grass and plantain.

Q.—You refer to minerals. We know that there are many minerals in the Ceded districts but we do not know what sort they are. Do you think that any geological survey of the minerals in the Ceded districts can be carried out with a view to gain actual knowledge of their utility, etc.?

A.—There is much scope for investigation and intensive investigation can be carried out.

Q.—You don't advocate digging of bore-wells in black-cotton soils?

A.—I don't think it is worth while conducting experiments in black-cotton soils.

Examined by Sri R. SURYANARAYANA RAO: Q.—In your written evidence you have stated that free grazing should be allowed. Do you like free grazing to be allowed in all reserved forests?

A.—Yes.

Q.—If compartmental grazing is allowed one portion of the forest will grow, but if free grazing is allowed, it will be one of the causes for the denudation of forests. Don't you like to modify your answer?

A.—Yes.

Q.—You have said that collection of land revenue in money is highly detrimental. You believe in the collection of land-tax in kind rather than in cash?

A.—Yes.

Q.—Because you have given this as one of the measures that are likely to improve the economic condition of these tracts, what measures do you suggest for the disposal of the extra grain?

A.—They could be disposed of through co-operative societies.

Q.—Would you give wages and salary also in kind instead of in cash. Take a village for instance. Now you get Rs. 100 in cash and make payments. There are also certain payments to be made to the Provincial Government. If you get it in kind would you transfer grain to the Provincial Government's share? At some stage you would have to convert it into cash. Would you agree?

A.—Yes. Let the Government do it.

The CHAIRMAN (F. M. DOWLEY, Esq.): Q.—Would you pay village servants in kind?

A.—You can pay them in grain. There are only two village officials and few menials.

Sri R. SURYANARAYANA RAO: Q.—Your main contention is that the ryot is asked to pay land revenue just at a time when he is not able to dispose of his produce favourably and he has to sell at a low rate?

A.—That is the idea behind it. If he is asked to pay in kind, he may do so and he will have some quantity left which he can profitably dispose of instead of selling it at a time when the prices are at their lowest.

Q.—I am interested in your suggestion under 1 (i). Have you any idea as to what a multiple co-operative society is?

A.—It is a society which caters to all the needs of the village.

Q.—Have you read the by-laws of co-operative societies and do they not contain all that is required? They are all included but nobody takes advantage of them to the extent required to promote the economic interests in such measures. There is also a clause under which everything relating to ryots can be brought under co-operative society?

A.—The movement is a failure now as Government does not treat it as its own.

Q.—Regarding your suggestion under 1 (k) do you want to abolish the ginning and pressing factories?

A.—All the factory owners have formed into a combination and are charging Rs. 5 per bale of 400 lb. for pressing whereas the actual charge will come to only Rs. 1-12-0 to Rs. 2 at the utmost.

Q.—Who is paying these charges? The people who buy cotton?

A.—Supposing I buy cotton at Adoni. I pay at the rate of Rs. 5 per bale for pressing. I calculate this Rs. 5 in my pro forma as pressing charge and I pay to the ryots the balance after deducting the pressing charge. Ultimately it is the ryot who has to suffer because if this rate had been reduced to Rs. 3 the ryot will get Rs. 2 more for his cotton. Similarly for ginning.

Q.—So you suggest that the State should control the rates for pressing and ginning?

A.—Yes, the rates should be reduced to Rs. 3.

ABDUL RAWOOF SAHIB Bahadur: Q.—The rate for cotton is fixed by Bombay people. You are acting for some firm here. You purchase at a particular rate which is fixed in Bombay and which includes pressing and ginning charges also. The local rate does not count at all. Is it not so?

A.—It does so indirectly because if the rate for ginning or pressing is Rs. 3, the ryot gets Rs. 2 extra whereas if the rate is Rs. 5, the ryot loses to the extent of Rs. 2 per bale.

Sri R. SURYANARAYANA RAO: Q.—In your written evidence you suggest a drastic reduction in the sowings of cotton and groundnut in these districts. Do you want to restrict also cotton which is a commercial crop?

A.—I want to restrict only groundnut cultivation which causes deterioration of the soil and takes away the creative faculty from the land, and not cotton.

Q.—Would you like legislation to be brought in, if possible, for rotation of crops?

A.—Yes.

Q.—You have studied the Tungabhadra project in all its aspects?

A.—Yes.

Q.—You know the black-soil areas. You also know that there was a soil survey which has conclusively proved that irrigation is not injurious in black-cotton soil?

A.—It is very injurious.

Q.—If it is dry irrigation you would advocate it?

A.—It may be tried.

Q.—Do you think that the effects will be as deleterious as when there is wet irrigation?

A.—No.

Q.—Supposing it is a dry irrigation scheme and in order to make the scheme pay it may be necessary to levy a compulsory water-rate on all the lands to be irrigated by the scheme. Would you advocate that or would you make taking of water optional?

A.—If it is dry irrigation, I think we can make it compulsory. There may be some opposition but that we can overcome.

Q.—You think by legislation we can do so?

A.—Yes.

Q.—In your evidence you have mentioned about Yellanur tank. From the revenue point of view it is a failure. Did you find out if it was due to salinity of soil of the ayacut under the tank?

A.—I have only mentioned it in some other connexion. These channels can also be taken into the tanks and water stored there and subsequently used for irrigation, as in the case of the Kanekal tank.

Q.—So you have no idea why the Yellanur tank was not a success?

A.—I don't know.

Q.—In section II you have enunciated the purposes of famine operations and principles of famine relief. You think that the duty of the State does not end merely in saving a man who is starving and that the State should keep him in such normal comforts as will enable him to go back to work after the famine has ceased to exist. From that point of view you want a change in the policy laid down in the Famine Code?

A.—Yes. It is absolutely necessary.

Q.—You have made a lot of complaints about the local officials in the matter of assessing famine conditions. Even supposing that all the complaints you have stated are true to whom do you wish to entrust this task?

A.—This task should be entrusted to the revenue people only. I only meant that the outlook must be changed, for the reasons given in my memorandum. The crops must grow to a certain height by a certain time, then only we will have proper yield. The revenue officials do not take this fact into consideration but if they only see that the crops are green they think that there is no sign of famine.

Q.—As regards the rules are they all right?

A.—They are all right. But the revenue people must be given good training.

Q.—In your written reply you stated in Chapter V that the Public Works Department should be dispensed with. What led you to come to that conclusion?

A.—Nothing. I think these higher officials need not be bothered. The Revenue department is enough to manage.

Examined by Sri R. SUBYANARAYANA RAO: Q.—Do you think the work must be in charge of the Collector assisted by the Senior Public Works Department officer under whom these work agents may work? Do you think the post of Executive Engineer is unnecessary?

A.—Yes.

Q.—You think the Collector with his Personal Assistant can co-ordinate the work of the different charges better?

A.—Yes.

Q.—Do you suggest that whenever famine is declared, along with the opening of relief works, relief for artisans also, such as weavers, should be taken up?

A.—Yes.

Q.—Is there considerable delay in opening relief works for weavers?

A.—I may say that ever since 1802 there has been famine in these parts, but only on two occasions weaving work was undertaken.

Q.—Do you agree that the condition of the weavers is rendered worse on account of the failure of seasons, though in ordinary days their condition is equally bad?

A.—Yes.

Q.—So, as soon as work is provided for ordinary labourers, relief for weavers should also be provided simultaneously?

A.—Yes.

Q.—You are satisfied that the principles on which relief is given are all right?

A.—Yes, but I suggest one thing. It involves a lot of expenditure and so it is difficult to give relief to weavers. But, if you introduce spinning, you can get rid of weaving, because there will be plenty of yarn at hand ready.

Q.—Do you think that spinning can provide work for so many looms?

A.—Yes.

Q.—Do you know that even the All-India Spinners' Association find it difficult to provide for this?

A.—My idea is that even in normal times it can be organized so that at all times including the famine period, it can feed a number of people.

Q.—Again, you suggest the opening of co-operative stores in all famine centres. Do you know there is a grain shop attached to each centre where grain is sold to people according to the rates fixed by the Collector. But, if co-operative societies are to be formed, there must be membership, share capital and there must be a fairly large number of permanent people; and membership must be confined to a compact area. Don't you think it is impossible to organize co-operative stores for these works and that the arrangements now made are fairly adequate?

A.—I know that the things sold in these grain shops are bad in quality. I, therefore, suggest that some moving co-operative societies or some such sort may be provided.

Q.—In this famine, the Adoni Weavers' Co-operative Society got a contract for the supply of yarn. Similarly, if there is a co-operative society very near the workspot, you would like every society to undertake the sale of grain?

A.—Yes.

Q.—You are for the closing of all liquor shops within a certain radius of the workspot or in all the villages declared famine-stricken?

A.—All the villages.

Q.—As regards section 166-D of the Code, you would like these works to be undertaken in places of the kind you have seen?

A.—Yes, preference being given to these works.

Q.—Your idea is that these works may form part of the normal programme of famine works?

A.—Yes.

Examined by Sri K. KOTI RAO: Q.—Do you feel any difficulty in regard to railway freight on fodder imported into these districts. You know that Government usually meet some portion of the freight charges from the Famine Fund?

A.—These are not intended, merely as famine measures.

Q.—As a permanent measure you recommend that the Local Government should negotiate with the railway authorities to reduce the rates for imported fodder?

A.—Yes.

Q.—You say that a large quantity of manure is being burnt. Do you think it could be prevented by legislation?

A.—But you must give them a substitute by allowing them the free use of junglewood for cooking purposes.

Q.—You are also for the free manufacture of salt?

A.—Yes, it is absolutely necessary.

Q.—What is the difficulty experienced at present?

A.—If a person manufactures salt in a particular village, he can sell it only within that village. In days gone by, there was no restriction whatsoever.

Q.—You consider it would provide labour?

A.—Yes, for thousands.

Q.—In 1 (j) of your evidence, you say that village road communications and transport facilities must be complete; all the villages have to be connected with roads and all vankas and vagus are to be bridged. At present the road works undertaken are long roads and not small ones from village to village. You would like to impress on the necessity of taking up small roads as a famine measure and in that connexion all vankas and vagus have to be bridged?

A.—Yes. It will also indirectly put money into the pockets of the villagers. It will also provide work for the village masons.

Q.—In regard to groundnut cultivation, you would impose restrictions, I believe that in the black-cotton soil area, there is not much of groundnut cultivation?

A.—Now, it has terribly increased and now if they grow cholam or ragi it does not yield much. Originally groundnut was a money crop and after some years of groundnut cultivation the ryot would find that the land has deteriorated and he may abandon groundnut cultivation.

Q.—You would leave it to the ryot to find out whether it is paying or not and if it does not pay he would himself give it up?

A.—But he hankers after money, but if you take statistics it will be found that the land gets deteriorated if groundnut is cultivated for a number of years.

Q.—Would you leave it to the ryot to find out whether the cultivation of cotton or cholam is paying or introduce compulsory legislation to stick to groundnut?

A.—My view is, for groundnut, legislation is necessary.

Q.—With regard to the Tungabhadra project, you say "In all red, loamy red and mixed soil areas, people flock and shall be most anxious to cultivate as they are the most suitable soils for thick irrigation." You advise that water can be given for wet cultivation wherever they are ready and available?

A.—Yes. Only dry cultivation I would restrict.

Q.—You would also couple electric development with the project?

A.—From the productive point of view, you must undertake it. Even if it is protective, this scheme is absolutely necessary. Even for large scale industries it may be useful.

Q.—But the experience of the Kurnool-Cuddapah canal is the other way?

A.—Therefore I suggest that it should be combined. The question may be investigated.

Q.—You are keen on the development of wells and other minor irrigation channels?

A.—Yes, in red-soil areas which are on a higher level than the places where the canal passes they are deprived of the advantage. Rayadrag is in a higher

level and it has red soil; and it is deprived of irrigation. But if electricity is brought to it, bore-wells can be dug with advantage.

ABDUL RAWOOF SAHIB Bahadur: Q.—Have you any idea at what depth water will be available in Rayadrag?

A.—I have visited that firka and even at present they are able to get 8 to 10 annas crop. That is something. But if electricity is brought in, we have a number of wells and if power is supplied cheap, each ryot can easily cultivate two, three or four acres.

Q.—You also agree that in certain areas, wells, with potable water is possible even in black-cotton soil?

A.—Yes. I have myself dug two wells both in black-cotton areas. In one of them I have good water and in the other not.

The **CHAIRMAN:** Q.—How far apart are they?

A.—About three miles.

Sri K. KOTI REDDI: Q.—Coming to indigo, you know it existed for a large number of years. You believe indigo cultivation can be improved under the Tungabhadra scheme?

A.—Yes.

Q.—Do you think that fruit cultivation also can be taken up on the red soils?

A.—Yes.

Q.—Coming to cottage industries, do you believe that in the black-cotton area, cotton spinning can be developed and that conditions are favourable?

A.—Yes.

Q.—You think that during non-famine times spinning can be taken up as a by-industry but as a form of famine relief you think spinning can be organized?

A.—Yes.

Q.—Do you expect any difficulty in organizing labour for spinning during famine?

A.—No.

Q.—What about marketing the finished product?

A.—We have to sell them through societies. Government has to undertake it.

Q.—In what way can Government do that, because they have also to get over the difficulty of competition with mill yarn?

A.—That is of course a big question. After all investment in spinning as a famine measure will be nothing; the price of cloth will of course be higher and ultimately we may lose, but when famine ceases there will be a loss of a few thousand rupees.

Q.—In any case, famine labour is costly?

A.—Yes.

Q.—In other words, you mean that Government by means of a subsidy must organize spinning as a famine measure and the difference between the market price and the price you have to pay for labour can be met from famine funds?

A.—Yes. That will also be cheaper and it will give an impetus to spinning during non-famine times also. I think spinning by charka should be organized at the earliest opportunity.

Q.—Do you expect any non-official help also in organizing spinning of yarn?

A.—Yes. The Government need not bother about organizing spinning at all, because they can entrust it to the All-India Spinners' Association who are ready to take it up.

Q.—How long do you think it will take for women or others before they can spin some sort of yarn?

A.—I think at least 15 days and with some little experience they may learn to spin better.

Q.—You are in favour of increasing wages?

A.—Yes. People in villages give the lowest wage imaginable. At least that wage should be given.

Examined by Sri KALLUR SUBBA RAO: Q.—Is the famine wage greater than the wage that an ordinary ryot is given in the village. Would you in spite of that advocate an increase?

A.—No.

Sri K. KOTI REDDI: Q.—Wages as they are at present, make provision for only food in order to

keep them in ordinary comfort. There is no provision for clothing or oil for bath. Do you think that some provision should be made for these necessities?

A.—Yes.

Q.—How would you suggest that? Is it by means of a general increase in wages?

A.—In the beginning Government were feeding all the people and even gave clothes; it went on for forty or fifty years and it was only after that the present system was introduced.

ABDUL RAWOOF SAHIB Bahadur: Q.—Will you please tell me where we could get that reference?

A.—Yes; it is in the District Gazetteer.

Sri K. KOTI REDDI: Q.—Do you think that women with young babies should be made to work in camps?

A.—No, they should be given some allowance during the period.

Q.—At present even after three weeks they have to come and work. Will you suggest any method by which provision could be made for giving them some allowance?

A.—The period can be extended and they may be paid wages.

Q.—Can you think of any other idea?

A.—Spinning, and without it no real benefit can be got.

Q.—There is a distinction made between rest day allowance and wage and do you suggest that the same system should be continued or during the rest day also they should get the ordinary wages?

A.—They can be given the same wages.

Q.—Are you aware that agricultural labourers work only in the mornings up to 12 and do not do any work in the afternoon? Would you therefore agree that in summer months the rest hours between 12 and 2 should be increased by one hour more; or do you think it is quite enough?

A.—It can be increased.

Q.—At present there is not a large number of Vakaranis and even those that are in existence are only half full. There is a demand for more water in famine times both for men and cattle. Don't you think it will serve a great need if they are increased in number?

A.—May be, but when there is a continuous drought, they cannot be of much use.

The **CHAIRMAN:** Q.—I take it that even in spite of what you have written in your written evidence, you are now in favour of the modified scheme of the Tungabhadra project?

A.—Yes, if my other suggestions are carried out.

Sri KALLUR SUBBA RAO: Q.—You are giving evidence on behalf of the Andhra District Congress Committee?

A.—No, in my personal capacity.

Q.—In regard to the reduction of land revenue, from the answers you have made to certain questions, it seems you suggest a reduction of 50 per cent for all crops?

A.—Yes.

Q.—For food crops alone or even for commercial crops?

A.—For all crops with some exceptions.

Q.—You want that commercial crops should be controlled?

A.—Only groundnut.

Q.—Is it your idea that forest panchayats are working very well?

A.—No.

Q.—So, are you for their abolition?

A.—No, they must be reconstituted and worked properly.

Q.—Do you mean to suggest that Government are not taking interest or the panchayats are not taking interest?

A.—Whatever it may be, they are not serving the needs of the people. They abuse their powers and are responsible for denuding the forest.

Q.—Have you any objection to handing them over to the Forest department?

A.—If the Government can take them over they will be managed better through their Forest department. In that case I have no objection.

Q.—You said something about salt. Is there no provision in the Gandhi-Irwin agreement about the manufacture and sale of salt?

A.—Of course they are preparing it now, but it is no use.

Q.—You want that no restriction should be placed?

A.—Yes. At present the people are not allowed to take it on bandis and as such it is not helpful to the poor people. I want that freedom must be given to the manufacture of salt without any sort of restriction.

Q.—I suppose you have studied the land problem of the Tungabhadra area. Is it going to help the landless labourer in any way if you do not control economic holdings?

A.—No. As it is the advantages will go only to a few people. I know in several places about 75 per cent of the lands have already gone to sowcars. In one place Malaguvalli, 95 per cent have gone to few people; and there the extent is 16,000 acres and the kist amount to Rs. 24,000. So, whatever advantages are offered to the people, they will only go to the pockets of the capitalists.

Sri R. SURYANARAYANA RAO: Q.—Would you therefore suggest Government acquiring all the extra lands beyond a certain limit which as Mr. Subba Rao has put down at 100 acres per head, and the balance being parcelled out into economic holdings and sold to landless labourers?

A.—Yes.

Q.—Supposing the landless labourer has no money to make an immediate payment would you allow him to pay the purchase money in instalments so that he may ultimately become the owner of the lands?

A.—Government must not go in for black-soil area, but can buy red-soil areas and mixed soils under the scheme, make them into plots, sell them in public auction and give them to people. It will also be a profitable concern and people also will go in for irrigation.

The CHAIRMAN: Q.—What about black-soil?

A.—You must leave it to the ryot.

ABDUL RAWOOF SAHIB Bahadur: Q.—You suggest land being sold in public auction. Will it not again go into the hands of the capitalists?

A.—But you must first give preference to people who have no lands. It does not matter if land is sold or given free. He must be allowed to pay in instalments with small interest.

Q.—You won't consider such a measure revolutionary?

A.—No. It should be done in the interests of the people.

The CHAIRMAN: Q.—Would it not cause a rebellion in Bellary?

A.—No rebellion, because the masses will be benefited.

Q.—Do you consider the question of linguistic provinces will affect the finances of the project?

A.—First we must not think of any province. We must first look to improving the economic condition of the Karnatakas or Andhras or Oriyas so that the people of all areas should first be looked into.

Q.—If the province is divided now, do you think it will affect the project?

A.—I do not think, because if the Government are going to commit themselves to it, they can inherit it to the coming Government and both the Government made responsible.

Q.—Is it admissible that the whole of the commanded area should be in one province?

A.—The whole of the cultivable area must be under one unit.

Q.—Diarchy will again come to play, because the headworks will be in Karnataka and the channels in the other area, as it is bound to be?

A.—If need be, you can encroach, because it is not a question of language here, but it is all a question of food to the people. Language is only secondary. I would suggest all the Kanarese area being taken into the area commanded by the project and made one unit.

Q.—Even if they are against it, you would take them into the area by coercion?

A.—Yes.

Sri R. SURYANARAYANA RAO: Q.—You do realize the difficulties of having Bellary divided into two parts?

A.—Yes.

Q.—You know in Pennar and Hagari rivers it would be possible to irrigate large acres of land if some oil-engines are installed. Don't you think it would be advisable to take up such schemes?

A.—Yes, but the holdings must be in the hands of several people and not in one man. I think it can be done on a co-operative basis.

Sri K. SUBBA RAO: Q.—As a matter of fact there are a number of tanks in disuse now. You advocate the restoration of the Tank Restoration Scheme?

A.—Yes. If you want more lands to come under irrigation first a survey of these tanks should be undertaken. So far as I know every third village has got a tank; you may institute an investigation and see whether there was irrigation in former days and if it is found there had been irrigation no soil survey is necessary, you can straightaway revive these tanks and fill them with water.

The CHAIRMAN: Q.—Would you advocate the continuation of the Tank Restoration Scheme?

A.—Yes. Unless the scheme is combined with the project, it will be a failure. It must be a storage and irrigation scheme combined and there are facilities for it in this district.

Sri K. SUBBA RAO: Q.—You say that the Kanakal tank was till four years back a kudimaramat tank. Is it your experience that kudimaramat is working very well in village panchayats?

A.—If they are not working well, they must be made to work properly.

Q.—So, wherever kudimaramat is not working well, you will enforce compulsory labour there?

A.—For instance I may tell you that Kanakal is a big village where a lot of land can be irrigated. The management of that tank was taken away from the panchayat and given to the Public Works Department and they are now controlling the whole thing and it means the people have to be at the mercy of the Public Works Department. Wherever there is the necessary man power and willingness on the part of the village people to divert the water from the river in times of flood, in such places you should not take away the power from them.

Q.—Do you know why it was taken away from them? I may tell you it was taken away from the people because there was faction in the village.

A.—May be.

ABDUL RAWOOF SAHIB Bahadur: Q.—You know there was faction in the village.

A.—Yes.

Q.—You also know it was taken away at the instance of the people there?

A.—Yes, on account of faction.

Q.—So, wherever necessary, you think Government should take it up? And if people do not come forward for voluntary kudimaramat work, you must compulsorily enforce it?

A.—Yes.

Sri R. SURYANARAYANA RAO: Q.—Supposing I am a pattadar and am not in a position to myself go or send somebody to do the work under kudimaramat. Now they collect money. I want to know whether you can collect it in kind?

A.—Yes.

Sri K. SUBBA RAO: Q.—You say that cheap power can be borrowed from the Mysore Government. Is it your idea that electric power can be got from the Mysore Government if negotiations are carried on with that Government?

A.—If a mill is installed at Hindupur, I think you can get electricity from the Mysore Government.

Q.—Is it because that Hindupur has recently been taken from this Government by the Madras Government that there will be no difficulty in getting it and if it is got it would be useful?

A.—Yes.

ABDUL RAWOOF SAHIB Bahadur: Q.—You refer to the introduction of prohibition immediately in the Ceded districts and at the same time you advocate

the reduction of land revenue by clean 50 per cent. Do you understand the financial implication of such a proposal?

A.—Yes.

Q.—You would advocate both at the same time?

A.—Yes, there is no harm in that. Of course it is a bold step no doubt.

Q.—From the financial point of view, what do you think it will mean?

A.—The money that we may lose as a result of prohibition is not going away from this area. For instance every year Adoni people are losing five lakhs and if that money is put into the pockets of the people, their purchasing power would increase.

Sri R. SURYANARAYANA RAO: Q.—Have you thought over the alternative sources of revenue?

A.—Yes.

Sri K. KOTI REDDI: Q.—Do you propose taxation on small landowners?

A.—No.

ABDUL RAWOOF SAHIB Bahadur: Q.—In your answer, you refer to some co-operative societies. Do you think the ryots have suffered for want of marketing facilities?

A.—Yes.

Q.—Therefore would you suggest the formation of marketing boards by which the raw material of the ryots could be sold?

A.—My idea of co-operative societies is of both credit and non-credit kind, whereby small loans, bigger loans, loans on crops and other banking facilities can be got.

Q.—With your knowledge of the villages, can you say whether there are facilities for having cattle-breeding farms in the district?

A.—Yes.

The CHAIRMAN: Q.—You say, "if the scheme for generating electricity is not immediately followed up; the Tungabhadra project will be a failure." Why?

A.—Yes, from a productive point of view.

Q.—On what do you base this statement?

A.—Because you say this scheme is only for dry farming.

Q.—Reading through your written reply I am inclined to think that you are for more industrialization with the introduction of machinery?

A.—No.

Q.—But throughout you advocate the use of electricity?

A.—I mean introduction of electricity for small scale industries to increase the earning capacity.

ABDUL RAWOOF SAHIB Bahadur: Q.—I suppose you admit the Tungabhadra project is an imminent necessity?

A.—Yes.

Q.—May I ask you, if it comes to a question of choice between the project and the formation of the province, would you rather have the project first?

A.—Certainly.

Q.—You know wet cultivation has been going on for the last 200 years on the banks of the Tungabhadra?

A.—Yes; it is not black-cotton soil there; but it is mixed soil. You should not be carried away by what soil experts say. We don't know how this soil experiment is done.

Q.—We know how they do it.

A.—In black-cotton soil, it is all saline soil, salt comes up to surface in the months of September to December. So what is the use of cultivating such lands?

Examined by Sri K. KOTI REDDI: Q.—You say handspinning can be done in famine camps?

A.—Yes.

Q.—You know there are a number of people in famine camps who can be engaged in this work?

A.—Yes.

Q.—Do you think all the yarn produced in the famine camp can be utilized?

A.—Yes. Perhaps in the beginning it is only a few people who will take it up.

Q.—But you say, all the yarn spun by the 50,000 people a day can be consumed by the people?

A.—Yes, gradually it can be done.

Q.—And also the cloth spun out of this yarn, do you think it can be sold?

A.—Perhaps in the beginning there will be a little loss, but ultimately there will be gain. Government also should make efforts to find a market for them.

The Committee rose for the day.

10th September 1938.

The Committee reassembled at 10-30 a.m. in the Collector's Court Hall, Bellary, with Mr. F. M. DOWLEY in the Chair.

The following members were present:—

Dr. R. ADISESHAN.

Sri K. KOTI REDDI.

„ H. SITARAMA REDDI.

„ R. SURYANARAYANA RAO.

ABDUL RAWOOF SAHIB Bahadur.

Sri KALLUR SUBBA RAO.

The Secretary to the Committee, Mr. D. I. R. MUIB, was also present.

The examination of Sri K. Alagiri Rao, Subdivisional Officer, Famine Subdivision, Anantapur, was taken up.

Written evidence.

SECTION I.

Measures for the prevention or mitigation of famine.

1 and 2. Development of irrigation projects and industries may tend to mitigate famine in the Ceded districts.

2. (a) (i) *Irrigation—Major.*—I have some knowledge of irrigation under canals such as Rushikulya canal in Ganjam district, Delta canals in West Godavari district, Nagavelli channel in Vizagapatam district and river channels in Trichinopoly district.

If the Tungabhadra project materializes and if Tungabhadra water were taken through the famine-affected tracts in Bellary, Alur and Kurnool taluks, the results will be the same as what we have experienced in the case of Kurnool-Cuddapah canal, where the ryots are not willing to take water for irrigation ordinarily, as they find that the yield from a dry crop in normal years is sufficient for their requirements. But in years of drought, they will take water from the canal to save their dry crops. The wet cultivation involves heavy initial expenditure and the ryots are poor. Hence they prefer dry cultivation to wet crop.

If the project materializes, it will mitigate famine.

(ii) I have no suggestions to offer.

(iii) The following irrigation projects are suggested:—

(1) Velgode project in Kurnool district.

(2) Pennar-Kumudavati project in Anantapur district.

(b) *Minor irrigation and wells.*—(i) I have no reason to believe that the number of these sources and the area irrigated by them are decreasing. In years of deficient rainfall, there will be difficulty to give a last wetting to the crop, when the wells in the ayacuts of tanks serve a very useful purpose to save the standing crop.

(ii) Periodical repairs to tanks and supply channels, the masonry works connected therewith will prevent deterioration of these sources. But the supply depends upon seasonal rainfall.

Silting of tank-beds cannot be prevented. This silting up will be only gradual. If the storage capacity of the tanks is considerably affected thereby, it has to be increased after some years by carrying out suitable improvements to the tank—such as raising the weir and the tank-bund.

(iii) I agree. But the existence of these sources will be useful as they tend to retain moisture of lands and improve sub-soil springs.

(iv) The wells are used only as supplemental sources of supply for paddy lands under tanks and channels and their increase in number is certainly advantageous to the ryot, as he will be sure to have his crop. To encourage sinking of wells, agricultural loans should be given to the ryots at a very low percentage of interest and no higher rate of assessment should be levied on the land which is benefited by the sinking of such wells.

In black-cotton areas, the sub-soil water is brackish and not useful either for drinking purposes or for crop. In such areas, where only dry crop is being raised, no material advantage is gained by increasing the number of wells.

(c) The bunding up of lands in the black-cotton areas will help to retain moisture and enable the crop to withstand drought. As these bunds are made up of loose soil, they will not stand any heavy rainfall but will breach, and all the rainwater in the catchment will ultimately find its way into the tank, on such occasions. So, I do not think that this bunding up will materially diminish supply to tanks.

(d) I have no suggestion to make.

(e) I have no knowledge of forestry. But I am inclined to think that planting of trees and increasing the area under forests and topes will tend to arrest clouds and aid rainfall. The trees and thick shrubs will prevent sudden flow of rainwater and cause soakage into earth and increase spring flow.

(f) *Alternative or subsidiary sources of employment.*—(i) The following large industries in the Ceded districts are suggested:—

(1) Paper manufacture.

(2) Sugar manufacture.

(3) Match manufacture.

(4) Cotton mills.

(5) Mining.

But I have no detailed suggestions to make.

(ii) Cottage industries suggested are—

(1) Spinning and weaving.

(2) Silk industry.

(3) Carpet and cumbly manufacture.

(g) I have no experience in the use of "sparkled water."

SECTION II.

Purposes of famine operations and principles of famine relief.

3. The principles laid down in the introduction and section 127 of the Code are quite agreeable and do not warrant any modifications.

4. I have no suggestions to offer.

5. (a) Test works are necessary preliminary to the grant of relief. But these works should not be prolonged for more than two weeks, lest the interested big ryots should gain time to induce coolies to attend and show there is famine.

(b) I do not consider that sections 49 and 50 require any modifications.

6. Chapters IV and VI require no modifications.

7. There is considerable difficulty in classifying class III children. For all outward appearance, the boys or girls look stunted on growth and famished but really they are aged more than 12 and do good work also. Again experience shows that children aged 10 and above are capable of doing work without any undue strain and do not like to go to the kitchen. The mothers in their anxiety to get wages, get them registered by showing children above 12 years and then resubstituting them. Inasmuch as they are able to turn out better work, class III, paragraph 97 may be modified as "children between the ages 10 and 14 years who are able to work" in place of "ages 12 and 14" noted therein. In section 116 of the Code, the following modifications may also be carried out:—

Class V (a)—"between ages 10 and 14 who are able to work" against 12 and 14 noted therein.

Class V (b)—"over 5 years and under 10 years of age" against "over 5 years and under 12 years of age" noted therein.

8. (a) The cost of cooked food, if rations are purchased as per revised table given in section 128 (a) of the Code, exceeds always the cost of grain equivalent permissible. This excess is due to the following reasons:—

(i) Under V (c), the total quantity of grain intended to cover the cost of other items is 7.75 tolas against 5 tolas being the difference between grain equivalent and the grain item.

(ii) Under V (d), the total intended to cover the cost of other items is 5.25 tolas against 3.75 tolas, being the difference between grain equivalent and grain item.

Attendance of children under classes V (c) and V (d) is great and contributes to this excess. Hence, it is necessary to increase the grain equivalents for these two classes from 30 and 20 tolas to 35 and 25 tolas respectively.

The daily indent to be placed on the grain dealer should be illustrated by means of an example, to have uniform procedure in all camps.

(b) The allowance for vegetables given in the revised scale under section 128 (a) of the Code seems to be quite sufficient and it is normally possible to obtain vegetables on this scale, during the hot weather, when the famine works are in operation.

I do not think that the type of individual who resorts to famine works is accustomed to get this quantity of vegetables at that season in normal years.

(c) We prohibit the sale of intoxicating drinks, articles of luxury and the like within the area of famine works and encourage formation of grain shops and selling of grain at the rates prevailing in the nearest market. All necessaries for workers are thus made available at the work spot. In addition to this, the grain merchant is induced to cart provisions to the place where the coolies are working and sell the same along the line. These are the only inducements we can give.

(d) Chapter IX.—No modifications are suggested.

SECTION IV.

Size and nature of task in famine works.

9. The task work system explained in the Chapter VII and Appendix D of the Code works out well in practice. In metal breaking and collection, almost all the gangs are able to earn full wages, but in the earthwork they find it difficult to earn, owing to preponderance of women over men. Hence in the case of earthwork, a reduction in full task from 75 per cent to 70 per cent of the task in ordinary times is suggested.

SECTION V.

The possibility of providing famine relief by works of more appreciable benefit to the community than stone breaking, etc.

10. Please vide my replies to the questions under section I of the questionnaire, and I have nothing more to add.

SECTION VI.

Expansion of the ordinary programme as a normal preliminary to the period of test and observation.

11. I have no remarks to offer on the sections 33-A and 212 of the Code.

SECTION VII.

Reduction of expenditure on famine establishment.

12. So long as the famine operations are to be carried out strictly in accordance with the instructions contained in the Famine Code, it is not possible to reduce the expenditure on famine establishment. In the interest of efficient administration and efficient control over untrained famine coolies and good organization, such expenditure is unavoidable. Expenditure on providing shelter to workers may be reduced.

13. In connexion with modifications in other chapters of the Code, the following suggestions are made:—

- (1) The Charge Officers deputed for famine work are generally recruited from the ranks of Deputy Tahsildar, and they lack in practical knowledge in execution of works and Public Works Department Accounts and find it difficult to have control over the executive staff. The Charge Officers and Work Agents often differ in many respects. Hence, it is desirable if a senior supervisor who has to look for a bright future is appointed as a Charge Officer and the subdivision as a whole manned entirely by the Public Works Department subject to the control of the Collector.
- (2) If for administrative reasons, the above procedure is not feasible, it is suggested that the Revenue officers of the districts other than the district where famine is declared are posted as Charge Officers to promote efficiency and discipline in the famine camps in preference to local officers, who are regular revenue subordinates and do not wish to incur the displeasure of the Collector and Revenue Divisional Officer under whom they are going to serve again.
- (3) The head clerks of taluk offices should on no account be appointed as Charge Officers, as they are badly wanting in executive experience and unable to control big camps.
- (4) Immediately after the subdivision is formed, the Accountant-General should be asked to post trained accounts clerks for each subdivision as contemplated in paragraph 252 of the Code. Otherwise the subdivision work will suffer.
- (5) The present system of posting raw clerks having no previous experience in accounts and office work throws too much strain on the Subdivisional Officer who has got executive work to attend to.
- (6) The Subdivisional Officer should be given a responsible permanent head clerk, who can be relied upon to attend to the accounts work himself and leave the Subdivisional Officer time to attend to the organization and efficient running of camps. The pay of clerks should be suitably increased in view of the heavy office work and undue strain.
- (7) The services of travelling auditors are most essential at the beginning of the famine operations and it is absolutely necessary that a travelling auditor is made available at the opening of the first charge to instruct the Charge Officer in the method of keeping his accounts. The Charge Officers who are generally Sub-Magistrates have very little knowledge of general accounts and none of the Public Works Department accounts with the result that at the beginning the accounts are in chaos. This combined with the fact that the Subdivisional Officer has only raw clerks, makes it impossible to deal with the accounts quickly and properly.
- (8) Though the Charge Officer is a regular Revenue Subordinate during a famine, he is the direct subordinate of the Executive Engineer and the Subdivisional Officer. Paragraphs 65 and 67 clearly lay down the manner of issuing orders

- to them and if this is done, I am confident that petty annoyance and unnecessary friction will be avoided. In practice these instructions are not being strictly followed. Special emphasis may be laid on this, to avoid unpleasantness and promote discipline smooth working in camps.
- (9) Raw men appointed as kitchen superintendents are not able to manage the kitchen work and prepare kitchen accounts properly nor do they understand the instructions contained in the Code. It is quite essential to appoint kitchen superintendents from the rank of permanent clerks who will be more anxious to have a bright future. Otherwise there is room for confusion and fraud. Their pay should be attractive.
 - (10) The subordinates selected for famine duty should be given at least one month's notice, made to read the Famine Code and come prepared to start the works without any difficulty. A note to this effect may be made in the Code.
 - (11) The famine wages to workers are just sufficient to cover the cost of their absolute requirements. A slight increase in their wages by 1 pice is recommended to enable them to buy fuel, betel leaves, etc., without which they cannot afford to remain.
 - (12) Children of 10 years and above may be admitted as class III workers, as they are capable of doing good work without undue strain.
 - (13) The scale of rations given in the table in section 128 (a) of the Code, may be amended in respect of children V (c) and V (d) as pointed out before. The method of preparing indent for rations as per this table should be illustrated by an example.
 - (14) From a study of sections 124 and 135 of the Code, it is understood that the workers should be present on the last day previous to rest day and any other two days during the week, to make up three days' period and entitle them to rest day allowance. If the view is correct, it may be made clear in the Code.
 - (15) It seems to me that this three days' attendance need not be enforced in the case of dependents fed at the kitchen, as I have every reason to believe that the allowance may or may not reach the right person, and there will be room for fraud. To overcome this, it is desirable that those who attend the kitchen on the last day may be relieved by cash doles for the rest day, and payment made by the Charge Officers.
 - (16) I am of opinion that *only unpaid wages of workers* should be kept in "anamath register" and disbursed subsequently on the lines indicated in the Code and *not rest day allowance to workers and cash doles to kitchen dependents* to receive which they should be present on the day previous to rest day. This point may be made clear.
 - (17) D-IV statement should be signed or initialed by the work agent in token of his having given correct entries and assisted the maistris in calculating the wages due to each gang. There is no column for the purpose in the D-IV statement, which may be provided now.
 - (18) New born babies may be treated as babies in arms and given cash dole of 1 pice each along with other allowances due to the mother.
 - (19) In D-III Forms, women are shown under classes I and II. As a woman of class II can never be equal to a class I worker even though employed on digging in which case her task is two-thirds the task of class I, the classifications may be changed into classes II and III and necessary corrections may be issued.
 - (20) A book of forms given in the Code with examples worked out, will be a valuable guide, to all connected with famine works, which may be prepared and supplied.

Oral evidence.

Examined by Sri R. SURYANARAYANA RAO: Q.—You were Subdivisional Officer in Famine subdivision even in the last famine of 1935?

A.—Yes.

Q.—So you have experience of two famines—one in Bellary and the other in Anantapur—almost in the same famine zone?

A.—Yes.

Q.—In paragraph 2 you refer to the Tungabhadra project. Would you leave to the ryot the option of taking water from the project as was

done in the case of the Cuddapah-Kurnool canal, or would you compel him to take the water?

A.—I will leave it to the ryot to take the water or not.

Q.—Do you realize the consequence of it? Under the Cuddapah-Kurnool canal the return to the Government is very little. The Tungabhadra project costs 18 crores; and if you leave the option to the ryot to take water, he will not use the water, and so water charges can be levied only when he uses the water; so to make the Government realize the

money they invest, don't you think compulsion should be resorted to?

A.—You can put moral force and tell them to take the project water. I do not know whether they will willingly come forward and take to wet cultivation. For dry cultivation you can put compulsion.

Q.—You talk of Velgode project in Kurnool district. Is it ready for execution?

A.—No; but it was investigated.

Q.—Do you think there are any other projects ripe for execution?

A.—None.

Q.—Had you occasion to study the Pennar-Kumudavati project?

A.—No.

Q.—Then why do you recommend it?

A.—Because it is in the area which is subject to famine.

Q.—So in general you recommend any project which will improve the staying power of the ryots?

A.—Yes.

Q.—As regards wells, you suggest that encouragement should be given to the ryots by giving loans for sinking wells. But you know, the ryots, owing to a series of unfavourable seasons have no sufficient security to offer to enable them to secure agricultural loans. So would you, in those cases, suggest that Government should dig wells at their own cost?

A.—I am talking of well excavation in lands under wet cultivation.

Q.—Are you in favour of Government sinking wells and charging interest?

A.—That is not possible.

Q.—In regard to black-cotton soil, you say the water is brackish. Do you think deep boring can be recommended?

A.—It is difficult to have deep borings. It is also uneconomical to do so.

Q.—Please turn to section II of your written answer. You agree with the policy and principles laid down in the introduction to and section 127 of the Code?

A.—Yes.

Q.—You don't think even the circumstances in the Ceded districts warrant any modification?

A.—So far as I am personally aware I don't think they require any modification.

Q.—Do you agree that the provisions of the Code are so framed as to give the ryot things just enough to maintain himself from starvation?

A.—The Code has been so written as to enable the ryot to keep body and soul together.

Q.—Don't you think that the moment the famine is over, the ryot should be left all the comforts which he was accustomed to before famine set in?

A.—Yes.

Q.—Don't you think he should be given the normal diet in order to enable him to pursue his avocation?

A.—Yes. He can be given normal diet.

Q.—Do you think test works are absolutely necessary?

A.—Yes.

Q.—Will not expansion of ordinary work do?

A.—I have no knowledge of it.

Q.—Under section II, item 7 of your written answer, you say, that class III should be so modified as to include children between the ages of ten and fourteen, instead of twelve and fourteen. That means, children of ten years and above should be classified under class III as workers. Do you think a child of ten years is fit to do the work of an adult?

A.—I have actually seen them doing the work; and I have seen elderly men asking them to do the work, and themselves sitting idle.

Q.—Do you think it is admissible for a child of ten years to do the work of a man?

A.—They come from the peasant class, and they are accustomed to graze cattle and sheep and they are accustomed to do hard work.

Q.—Then there was a suggestion to abolish class III altogether. Do you agree to the proposal?

A.—No. Children are always children; and if they are not able to do the work set for them, they can be transferred to the class of dependents.

Q.—What work do you allot to class III?

A.—Carrying things. It is given in the tables.

Q.—Then am I to take it that the children are employed only as carriers?

A.—Yes. They are doing their work very well without any discomfort.

Q.—Then you have suggested an increase in the grain equivalents for classes V (c) and V (d) from 30 and 20 tolas to 35 and 25 tolas respectively; and thus an increase of five tolas. You were Subdivisional Officer in the last famine of 1935, and you are also Subdivisional Officer in this famine. Did you at any time find out what this grain equivalent is, even when such variations are occurring?

A.—No.

Q.—You know well that this grain equivalent is not sufficient to purchase other items. How did you arrive at this increase of five tolas which you now suggest, unless you know on what the grain equivalent method is based?

A.—On what method I can't say.

Q.—But you have suggested an increase of five tolas.

A.—On the basis of the table given in the Code. I worked out from the figures given in the Code.

Q.—When did you find out that this increase is necessary?

A.—I cannot remember the date; I was able to say "after working in this famine."

Q.—But you know the increase was ordered only recently?

A.—Yes; only after my recommendation. We never knew there was such a mistake, and we could not easily discover it.

Q.—You get the kitchen statement regularly; you have got the charge officers; you are an inspecting officer. What is the duty of the inspecting officer? Is it only to find fault with the increase?

A.—No. He is to see that the cost of the cooked food does not exceed cost of the grain equivalent.

Q.—It comes to the same thing. When such a thing as this occurs should it not be reported to the Collector?

A.—It was pointed out to the Collector and the Executive Engineer.

Dr. R. ADISESHAN: Q.—You make the suggestion only with regard to classes V (c) and V (d). Do you mean to say in the other classes, you are able to maintain the ratio with regard to other items?

A.—There is always a difference between grain equivalent and grain item and the total of other items. This I thought as a little margin left out to cover fluctuations in the market rates. By and by I was able to discover the mistake under classes V (c) and V (d) only two months back.

Q.—But what applies to classes V (c) and V (d) must apply to the other classes as well?

A.—There is some increase in the other classes. Originally we took it was all right. Until we worked out the Code as per the revised table we never discovered the mistake.

Q.—Then you say under item 8 (c): "we prohibit the sale of intoxicating drinks." Where did you prohibit it?

A.—In Anantapur district, in Tondapadu famine camp. People who were paid wages went to drink. So we made representations to the Hon'ble Minister and also to the Famine Commissioner, and subsequently it has been given effect to.

Q.—You represented to the Hon'ble Minister only in the month of February, and it was announced only in the month of August. But you say, "we". Are you for closing toddy shops in the famine affected areas?

A.—Yes.

ABDUL RAWOOF SAHIB Bahadur: Q.—What do you mean by "area"?

A.—I mean famine zone.

Q.—Do you advocate total abolition of toddy shops; or do you mean only that toddy shops should not be near famine camps?

A.—I advocate total abolition of toddy shops; I mean not only the wages but also the allowances should not be utilized for drinking.

Q.—In section IV, you say, the task for earth work is somewhat hard, and you suggest a reduction from 75 per cent to 70 per cent. Did you bring this to the notice of the authorities?

A.—I did not say they did not get the full wages on this account.

Q.—Anyhow when you find it is difficult for workmen to earn the full wages, did you not think it worthwhile to bring the difficulty of the task to the notice of the Collector or Executive Engineer?

A.—I did not.

Q.—You say, "in metal breaking and collection, almost all the gangs are able to earn full wages, but in the earth work they find it difficult to earn, owing to preponderance of women over men." Is it not possible to arrange gangs in such a way so that even if the women preponderate the task need not necessarily be too heavy?

A.—In such a case, the lead has to be increased, as the work for women is only "carrying."

Q.—So you suggest a reduction in the task to 70 per cent?

A.—Yes.

Q.—In section VII you make a suggestion to do away with the Revenue Department in the conduct of famine-relief operations?

A.—Yes.

Q.—So indirectly you say, even the Collector and the Revenue Subdivisional Officer need not have anything to do with it?

A.—I don't say that.

Q.—You know under the Code, the work agent is the subordinate of the charge officer and both of them are subordinate to the Subdivisional Officer. What is the difficulty in carrying out the orders when you have got the Collector at the top and all the Public Works Department officers are temporarily under the Collector?

A.—Though under the Code the charge officers are directly subordinate to the Subdivisional Officer, in practice, the rule is more honoured in its breach than in its observance. Because whenever orders are given they are not carried out. The Code does not contemplate any correspondence except through the Subdivisional Officer. We have no powers even to suspend workmen. So, dual control is not preferable.

Q.—You don't mind some department being given the whole control?

A.—I suggest in the interests of efficiency and economy the whole thing may be given to Public Works Department. Because it is all technical work that has to be done.

Q.—Do you imply that the Collector too should have no control over the famine camps?

A.—Yes. Because the Collector is purely an administrative officer.

Q.—So also the charge officer?

A.—The charge officer is not able to render accounts properly.

Q.—Do you think that draughtsmen recruited from the Engineering College will be able to do this work?

A.—Yes, they have got technical knowledge. The whole accounts are based on the Public Works Department Code. From my experience of famine camps in 1935 and 1938 I say they are able to render accounts properly.

Mr. F. M. DOWLSY: Q.—Will you prefer the Revenue department to take charge of the whole thing?

A.—Yes, that can be done.

Q.—Or will you prefer the Public Works Department to take complete control?

A.—Not necessarily.

Q.—In your written answer, item 9, you say kitchen superintendents should be appointed from the rank of permanent clerks. Do you suggest an increase in the salary?

A.—I think their pay must be fixed between 40 to 50 rupees, as otherwise the post will not be attractive.

Q.—Then again under item 11, you increase the wage by one pice. Would you allow that to form part of the Code wage or "wage plus one pice"?

A.—I would put it as wage plus one pice. Because it should be given only to workers.

Q.—You felt some difficulty in the preparation of indents. You want an illustration to be given for each rule.

A.—Yes, because nobody is able to understand it.

Q.—With regard to rest-day allowance you know there are various interpretations to the rule. In 1935 the then Famine Commissioner interpreted it as to mean any worker who is present for three days—any three days—during a week was entitled to rest-day allowance. This year there have been various interpretations. It is construed as three days consecutively before the rest-day or any three days including the day previous to the rest-day. Don't you think the interpretation followed in 1935 caused least inconvenience?

A.—As per Code any three days attendance would entitle a worker to rest-day allowance. Then probably there was a circular to the effect that there should be three consecutive days' attendance. Subsequently the matter was referred to the Famine Commissioner who said any three days attendance in the week would do. Section 135 says that the rest-day allowance shall be paid on the day previous to the rest-day, i.e., Saturday. When you fix a day for the payment of money, you naturally expect all persons who are need of it to turn up. On the same analogy when you fix a day for the payment of rest-day allowance, you would naturally expect all persons who are in need of it to turn up on that day. So you should necessarily insist on attendance on that day. So my view is that the worker should be present on the day previous to the rest-day and any other two days in the week to enable him to get the rest-day allowance.

ABDUL RAWOOF SAHIB Bahadur: The principle is alright; but the analogy is not all right.

Sri R. SURYANABAYANA RAO: Q.—You know the D-4 statement has to be prepared on the basis of the morning attendance; and suppose a worker is absent in the afternoon he will be shown as "present" in the rest-day allowance register, but absent in the daily wages register. Is it not?

A.—No such difficulty was felt in 1935.

Q.—Is there any such practical difficulty?

A.—If you insist on the attendance in the morning and in the afternoon there is difficulty; but the man coming in the morning will be coming in the evening also.

Q.—Would you suggest the rest-day allowance being given in the evening?

A.—Yes. Wages may be paid in the morning and rest-day allowance may be paid in the evening.

Q.—But there will be distribution twice. It is difficult.

A.—There is no difficulty at all; it is only marking.

Q.—The Executive Engineer wants to include the day previous to the rest-day in the three days attendance for entitling a man to rest-day allowance.

A.—Then the difficulty pointed out can be overcome by taking the morning attendance only.

Q.—Then you have suggested that the three days' attendance need not be enforced in the case of dependents fed at the kitchen, vide paragraph 15 of your written answer. Is it anywhere laid down that section 135 applies to dependents? The governing paragraph does not apply to the dependents?

A.—But it is on this basis the travelling auditor has found objection. So I would like the whole thing is clarified. I would like to take away this rule as regards dependents.

Q.—Yesterday Major Sewell complained that there is difficulty in taking food from kitchen to dining sheds, as by that time the food becomes "stone cold," to use Major Sewell's own words. So he suggested the opening of more kitchens?

A.—We can have more sub-dining sheds, but not kitchens.

Q.—Then with regard to the distance of three miles to be traversed by the mother each time she has to take the child for feeding, don't you think it is real hardship for them, simply because you want to enforce efficiency and economy by that

system? And also, in the meanwhile the gang at work suffers and the maistri is punished?

A.—I allow a coolie to take all the children to the kitchen and feed them and take them back.

Q.—But do you think a child will accompany anybody except its mother?

A.—If it is so, then there will have to be a number of kitchens and fraud will increase.

Q.—How can fraud be increased when it is there already?

A.—Because there will be increase in the number of cooks, the number of merchants supplying articles, the number of suppliers of other things—all these will consume more money, and there will be scope for fraud. I suggested that for young children the food might be given to the mother, but the Collector objected to it.

Q.—So you are against having more kitchens but you have no objection to have more dining sheds and making some arrangements so that food may not become stone-cold?

A.—Yes.

Q.—In paragraph 18 of your written answer you say, "New born babies may be treated as babies in arms and given cash dole of one pice each along with other allowances due to the mother." Does not the mother get something more in addition to the allowance?

A.—The Code is silent on the point.

Q.—As soon as a baby is born the mother becomes one with a baby in arms, and she has to walk when she becomes fit for work a distance of three to five miles a day to the work spot. In that state of health, don't you think some distance allowance in the shape of reduction in task should be given to her?

A.—In giving work we take into consideration the distance from which the workman come; in fact we make it a point to give them work nearer their home; and sometimes when they come late we give them some latitude.

Q.—It is not a question of time; it is a question of walking certain distance; and consequent on that, the workman is unable to finish the task?

A.—We can't help it.

Q.—Do you agree to change the hours of closing work?

A.—Perhaps the work may be stopped half an hour earlier provided they finish the work.

Q.—Do you wish the task should be reduced on that account?

A.—No.

Q.—Do you agree to the reduction of the mid-day meal interval?

A.—In April and May the interval may be from 12 to 2-30.

Q.—In the last famine, there was no difficulty in regard to the pregnant woman?

A.—No.

Q.—Does pregnant woman get all the facilities?

A.—I would classify pregnant women into three categories. A pregnant woman comes for work, and she is governed by section 132. After some time she is allowed to go home for three weeks.

Q.—Yes; I am not concerned with the other two categories. In such a case suppose she does not deliver within three weeks; in that advanced state of pregnancy she is unable to walk even; would you say that on the production of the doctor's certificate alone she is entitled to her allowance; or would you say it is sufficient if there is the certificate of a village officer?

A.—In such cases we give discretion to the charge officer.

Q.—But you know another interpretation has been given in Anantapur?

A.—Yes; but the Code is not properly worded. For further extension of time we depend upon the doctor; but when she has not delivered within three weeks we enquire from others, and we do not insist on the production of doctor's certificate.

Q.—Suppose a woman in advanced pregnancy is entered in the village gratuitous relief list? Do you think such a woman should not get maternity allowance?

A.—But it is a privilege earned by a worker?

Q.—Are you aware that in the new interpretation given in Anantapur, the worker is deprived of the maternity allowance?

A.—For three weeks, her name is on the charge list. If she does not deliver within that period, then her name is entered in the village gratuitous relief list.

Q.—But a woman in the village gratuitous relief list is not entitled to maternity relief?

A.—But you are not aware of the Collector's order. There is a recent order that when a pregnant woman comes to work she must be sent home as an infirm person. Perhaps what was adopted in the famine of 1935 may be done; and in this connexion, I will refer to B.P. No. 3289/35, dated 14th May 1935. The instructions contained in that order may obviate all difficulties.

Q.—It seems there is a lot of restacking of metal going on without rhyme or reason. Is it to provide work?

A.—Yes. Supposing there is no quarry by the side of the road, then we have to carry the metal.

Q.—I am told the metal is being arranged in one foot height, then sometime hence it is being arranged in two feet breadth?

A.—When there is no quarry by the side of the road we have to carry metal wherever we go; and sometimes we have to collect metal in one place as a dumping ground; and this accounts for the metal being collected in different measurements. In all such cases we are giving work to the carriers, and this involves no hard work.

Q.—So in order to provide work you do it?

A.—After all the question of famine work is not economical.

Examined by Sri H. SITARAMA REDDI: Q.—In your written answer you suggest paper manufacture as one of the large industries that can be undertaken in the Ceded districts. Do you know whether any raw material is available here that can be utilized for paper manufacture?

A.—Bamboos are available in plenty in the Nal-malalai border. What I know casually I put.

Q.—Among cottage industries, you mention silk industry. Where do you find it; I mean sericulture, not weaving?

A.—In Dharmavaram. I am told so.

Q.—In section VII you say "Expenditure on providing shelter to workers may be reduced." Have you provided much shelter to the workers?

A.—I mean sheds generally, and not sheds to workers.

Examined by Sri K. KOTI REDDI: Q.—You just a few minutes back said that famine work is un-economic. Have you any suggestion to make, with your experience in the last famine and this, so that famine relief work may be made more remunerative say by village road formation and other kinds of village work?

A.—Perhaps inter-village communications may be formed. Beyond that, I have no suggestions to make.

Q.—Suppose instead of starting famine relief organizations, you find work for the people in various places in works carried out by the Public Works Department and district boards and pay them wages according to the prevailing rates—how do you think it will work as a sort of unemployment relief?

A.—Provided we have got efficient control over funds and proper supervision it may work.

Q.—Do you think it will be more economical?

A.—Of course; as there are no sheds, kitchens, establishment, etc.

Q.—There are two types of people who come for work in famine camps: one class of people are ready to settle down in the work spot and work; and another class of people have got some attachments to their village by way of cattle, etc., and so they prefer to return back to their village after work every evening even though the distance they have to cover may be five or six miles. Don't you think two types of work can be devised for these people, one type for class one, and another type for class two. Don't you think works of great utility can be allotted to class one people, so that money spent, in the end, may be more economical?

A.—Now we are confining our work only to a radius of five miles. I have experience of such

work only. I fear the class one, you speak of, will become labour class. Famine work is intended only to people who do not wish to go out of their village, and this class of people is contemplated by class two, you speak of.

Q.—Even with regard to the class one people, they have to walk a distance of ten miles sometimes to reach the work spot, and this involves waste of energy; can't you give them work nearer home?

A.—We are undertaking construction of roads interconnecting villages, say twenty miles apart. We divide the work into small camps, and so at a stretch the whole work is completed. Famine relief work can be utilized only in this way.

Q.—We construct so many roads by spending large sums of money, and unless we are able to maintain them, the whole money will be wasted. So would you prefer village works to these?

A.—If there are village works they can be started, but actually in the famine programme, there is very little of such work.

Q.—Can't you undertake periodical repairing of tanks, repairing of supply channels, repairs to minor irrigation sources, like silt clearance?

A.—Silt clearance cannot be undertaken. For how to remove silt from over a such big area, as you have to deepen the whole area by 1½ feet. It involves a good amount of expenditure on irrigation work, masonry work, undervents, etc. It sometimes involves heightening of the tank bunds.

Sri KALLUR SUBBA RAO: Q.—So you say silt clearance is impossible?

A.—To my mind it is impossible.

Sri K. KOTI REDDI: Q.—It does not mean removing the silt from the whole area. I mean only silt clearance as far as possible, and to the extent it is done it will mean additional storage of water?

A.—There had been no occasion felt so far, for such a thing.

Q.—Don't you think that from the point of view of public utility and from the point of view of labourer, removing silt from tanks can be undertaken? And also the Famine Code says works of public utility can be undertaken.

A.—Yes, if it is possible.

Q.—You would encourage ryots to dig more wells and for that purpose you are for giving takkavi loans at low rates of interest?

A.—Yes.

Q.—Have you any experience of handspinning?

A.—No.

Q.—Do you think it can be organized as a village industry?

A.—Yes, it can be done.

Q.—You have suggested the increase of wages by one pice in order to cover the cost of certain necessities of life? What about clothing? Don't you know that most people want change of clothing?

A.—I think one piece is sufficient.

Q.—That can be done only if they are engaged at least for four months?

A.—Here I may mention one fact. There is a peon in our department who gets Rs. 12 per mensem; he has a family with four children, and with this amount he feeds all of them and provides clothing for all his children also.

The CHAIRMAN: Q.—Do you or do you not think that they should be provided with clothing?

A.—I think it is all included in the wage.

Q.—You say we need not pay for that?

A.—Separately they need not be paid.

Sri K. KOTI REDDI: Q.—So you say there is provision in the wage given for saving for clothing?

A.—I do not say that, but I think they can try to save.

Q.—You know the provision made is merely for keeping the body and soul together; and so the wage is only just enough to maintain oneself and nothing more; and if he does save for his clothing, it would be only at the expense of his body?

A.—Then in such a case separate provision can be made.

Q.—In some black-cotton soil areas workers do work only in the morning and return by 1½ noon and they do not go to the fields in the afternoon?

A.—I do not know that.

Q.—If I tell you that it is the practice would you like the rest period that is now allowed, i.e., between 12 and 2, being raised till 3 p.m.?

A.—As a matter of fact now they are returning to work after rest only at 2-30 and in order that they may not be found fault with they may be permitted till 2-30.

Q.—With any proposed reduction in their task?

A.—No. They will finish the work even in the morning itself.

Q.—You know the rest-day allowance is not the full wage. You know they don't eat less during the rest days; and don't you think they should be paid more even on those days?

A.—The question is whether a distinction should be made between a working day and a non-working day. But I have no objection to recommend the same wages.

Q.—With regard to legislation that is proposed under the Tungabhadra project you say that compulsion has to be introduced. I am suggesting that if the ryots are given the option, even at the beginning to say whether they utilize the water even at some future date or not, they will have to pay for it; or if they are not prepared to take water they ought not to be compelled to pay. What do you think about it?

A.—It should be left to the authorities to decide. Anyway there should be some uniform procedure adopted right through. If you want to compel them, do so or if you want to give them an option, you may give them.

Dr. ADISHESHAN: Q.—You say "No modifications are suggested." You know that Chapter IX deals with gratuitous relief. If the workers are taken ill, does the Code provide for allowances being paid to them?

A.—During the 1935 famine we obtained orders from the Board and we did pay for the labourers who fell ill. But in this famine it was objected to because there is no provision in the Code.

Q.—So, would you like that some provision should be made to that effect?

A.—Yes.

Q.—It was represented to me by a health inspector that in the case of people who were given anti-cholera inoculation or in the case of people who fell ill and also in cases of suspicious cholera, the medical officer refused to certify that allowance should be paid and that he wanted a reference to be made to the Tahsildar. That means it will take one week or ten and even fifteen days before wages were given to them. Don't you think the Code should contain a provision for the payment of allowance to those who have fallen ill or to whom vaccination is done or anti-cholera inoculation is done?

A.—In regard to vaccination there is provision in the Code and we can also include a provision for workers who take ill.

Sri H. SITARAMA REDDI: Q.—Under section VII, you say that expenditure on providing shelter to workers may be reduced? Don't you think that if this suggestion is acted upon, it would cause hardship to children and old people?

A.—The idea is to give shelter to people who go there and work and we are not giving shelter for people to stop there right through.

Q.—The whole place is one open space with practically no trees. There is no shelter of any kind and they have to work from 8 in the morning till the evening. In the case of workers there is two or two and half hours rest and they have to stay somewhere or other. Don't you think a shelter for them is necessary?

A.—We have got kitchen sheds and dining sheds which are big enough for them to take shelter. It is not possible to put up sheds for 5,000 people. For instance we will require a large number of that for the purpose, and even if we put them up, the wind will blow them off and the procedure

has to be repeated day after day, and it will mean enormous cost. Though we may view the question sympathetically, I am afraid it is not possible to provide such big shelters.

Q.—Is it a financial impracticability?

A.—Even otherwise. For instance they will be blown off by the wind and we may not really give any benefit to the people. I may also point out that wherever there are work-spots, we have a number of trees, but in places where there are no trees or other protection, exceptional treatment may be given.

Sri KALLUR SUBBA RAO: Q.—You are afraid that in normal years even under the Tungabhadra, people would not take water even for dry crops just as in the Kurnool-Cuddapah canal?

A.—It depends on the experience they have gained so far.

Q.—Do you think the same assessment should be continued or it should be raised so that some return may be expected?

A.—Some fixed rate of assessment may be levied on dry lands.

Q.—Do you know that in the Pennar area even this year there was famine?

A.—Yes, in one place.

Q.—Then do you encourage the digging of wells in the ayacut?

A.—Yes, but in other places I do not know how far it will serve the purpose.

Q.—Do you think that in the ayacut Government can acquire lands and dig wells and charge assessment for that area and get any return from that?

A.—That is not possible.

Q.—For instance a man has 10 acres of land and he takes takkavi loan and dig a well because it will benefit him because he can raise more crops. Would you charge a higher assessment for such an area?

A.—Assessment need not be levied upon lands benefited from such wells.

Q.—Is there any other method by which the assessment could be increased?

A.—No.

Q.—What is your personal knowledge about the number of school-going children that attend these camps?

A.—I cannot say that off-hand.

Q.—You say something about school-going children?

A.—All children who are capable of doing good work without undue strain may be classed under class III.

Q.—Is there provision in the Code for teaching them and would you recommend that?

A.—No. It may be recommended, because there will be less of disturbance from them to workers.

Q.—You recommend that the grain shops should sell the articles at the rates prevailing in the nearest market?

A.—Now we have only one dealer.

Q.—Is he not controlled by your rates?

A.—Yes, so far as the kitchen is concerned and we do not know whether he sells articles at the same rate outside.

Q.—You think it is better to induce competition?

A.—Yes.

Sri R. SURYANARAYANA RAO: Q.—Under the rules, I think he is completely under the control of the charge officer and that he is bound to sell according to the rates fixed by you?

A.—Yes, we have asked him to sell at the normal rates obtaining in the market, but we cannot be checking every item.

ABDUL RAWOOF SAHIB Bahadur: Q.—From your experience of famine camps, can you tell us whether any of the workers were purchasing grain from this grain shop?

A.—Yes.

Q.—They are intended for supplying to kitchens?

A.—Yes.

Q.—You know that the thattis required for famine camps in Anantapur district were purchased and supplied by contractors?

A.—Yes, we invite tenders, quoting certain rates and we take a comparative statement of the rates and enquire in the village what the market rates are and then settle the lowest rates.

Q.—In spite of tenders being called for, you enquire outside also?

A.—Yes, because we must know whether the rates are normal or not, and wherever we find the tenders abnormal we reject them.

Q.—Have you ever purchased like that?

A.—No, I have not purchased.

Q.—What about these baskets; are they purchased locally in the villages or are they supplied by contractors?

A.—In the beginning we started with contractors and subsequently local people came forward and there was competition and people were satisfied with anything that was paid. The baskets are now purchased locally by charge officers.

Q.—Do you find there is an appreciable difference in the rates quoted in tenders and purchased locally?

A.—Of course, there is some difference.

Q.—Any appreciable difference?

A.—I don't say that. With your permission, Mr. Chairman, I wish to place certain facts before the Committee as they have occurred to me after sending in my written memorandum.

1. In the Tondapadu camp recently there was a case of a girl attaining maturity; and according to custom with these people, she could not be allowed to work some ten days after maturity. She came before me and requested that some allowance might be given to her during the period. I could not grant it. I made a reference to the Executive Engineer; it was not favourably viewed because such things were not contemplated in the Code. I want that some provision should be made for such cases.

2. In regard to the question of *feeding dependents in the absence of workers* supposing in a family the husband, wife and three children come to a camp, the children are taken for feeding while the husband and wife are working. But, unfortunately either the husband or wife or both fall ill, are we to feed the dependents or not?

ABDUL RAWOOF SAHIB Bahadur: Q.—The difficulty you feel is that they cannot be called dependents?

A.—Strictly speaking we must give relief only to *dependents of workers* and if such workers are absent we are not justified in giving relief. Of course charge officers can use their discretion and that too only if he is convinced that it is a bona fide case. In other cases it is refused. Even in bona fide cases, they are not approved by the higher officers.

Sri R. SURYANARAYANA RAO: Q.—So you would like discretion to be given to charge officers?

A.—Yes, for a few days.

3. *Water-supply to camps.*—I find there has been agitation going on for the supply of water to camps and that the officers have pointed out there was inadequate supply. There must be some guiding principle on which it should be regulated. In 1935 experience has shown that the average supply per head could be fixed at $\frac{3}{4}$ to 1 gallon. At least on that basis provision should be made in the Code.

4. The complaint has been that there have been *too many transfers among charge officers and work agents.* This must be put a stop to. In 1935 there was one charge officer and one work agent right through; but this year there were too many transfers. This naturally leads to dislocation of work. This should be prevented.

5. *Skilled labour.*—According to Appendix D all blacksmiths and carpenters could come in only as 'special' men; and when they are asked to do a particular kind of skilled work they should not be

treated as 'special' labourers. The wording should be converted into "skilled labour, subject to famine conditions."

Sri R. SURYANARAYANA RAO: Q.—Would you like to bring in masons and Oddars who do the work of culverts, etc., under that category?

A.—Yes. Wages must be regulated in their case also.

6. *Payment of full wages to pregnant women; during rest days.*—They should be paid wages according to the class to which they belong. At present during the rest days they are paid only dependent's wages. My contention is, they are doing absolutely no work either before or after confinement and so they should be given the same wages.

The examination of Sri K. S. RAGHAVACHARLU, Government Pleader and Treasurer, Rayalaseema Famine Relief Central Committee, Anantapur, and of Sri M. NARAYANA RAO, M.L.C., Anantapur, was then taken up together.

Written evidence of Sri K. S. Raghavachariu, B.A., LL.B., Government Pleader and Treasurer, Rayalaseema Famine Relief Central Committee, Anantapur.

1. (i) *Irrigation—Major.*—Even when the project materializes, it cannot prevent or mitigate famine in all the parts now liable to famine, but certainly can prevent or mitigate only the areas served by the project and a portion of its neighbourhood.

(ii) I would suggest to make such modifications as would secure Tungabhadra waters to irrigate greater portions of Anantapur district, i.e., Anantapur, Dharmavaram and Kalyandrug areas as suggested in the report of the Ceded Districts Irrigation Committee published in G.O. No. 1973 I., dated 16th December 1926.

(iii) So far as Anantapur district is concerned the only useful, though not major project, can be only by way of bunding the Pinakini and its tributaries as well as the Hagiri, at suitable places, and divert the flood water into already existing tanks. There are no other possibilities in this district. The Pennar and its tributaries pass through almost all the taluks of this district. The Pennar is believed to be in floods for nearly ten days or 240 hours in a year, and it is a sin to let any drop of it flow outside the district when the parts through which it passes in the districts are constantly suffering from drought. Immediate sanction and construction of the Pennar-Kumudavati project in Hindupur taluk is necessary.

2. *Minor irrigation and wells.*—(i) It is a fact that the number of these sources and the area irrigated by them are decreasing. The reasons for the decrease are (a) breaches and non-repair, (b) silting up of the sources reducing their capacity, (c) the silting up of the feeder channels and non-attention to its clearance and (d) the granting on patta of the portions of the waterspread of these sources, encouraging damage to the bunds.

(ii) Encouraging non-cultivation of a stretch of land in the neighbourhood of the waterspread as well, encouragement of the growth of green-manure plants like pungam and thangedu.

(iii) I do not agree. The improvement and the increase in their number are helpful in preventing or mitigating famine by augmenting percolation in the wells underneath even in a famine year. The previous prosperous season would enable a capacity to withstand a famine season.

(iv) An increase in the number of wells will improve the situation, particularly in the red soil area. I particularly emphasize the following suggestions:—

Government might construct or encourage construction of a number of wells in each village in suitable areas. Where Government construct wells, land irrigable can be assigned charging a fixed sum per acre, with a condition that it would be resumed, if the source is not kept in repair or that the cost of repair would be recovered from the owners of the lands. Where no suitable Government land is available, it is even necessary to acquire suitable lands, construct wells, and assign the lands underneath as indicated above, taking care to see as far as possible that each agriculturist family has at least one or two acres of such irrigable land.

I strongly feel that this method would greatly relieve the situation as is clear from the fact that Kadiri taluk, wherein the institution of Dasabhandam wells exists is free from the frequent famine troubles.

I have no experience of any black-cotton area or the condition of wells or the effect of well-water on the soil or crop.

3. *Contour bund-forming.*—I recommend the suggestion. I do not think that the extensive bunding up of the tract will materially diminish the supply of the minor irrigation sources, for, after all, all the rain-water may not be absorbed.

4. *Dry-farming.*—I have no fresh suggestions to make but only hope that the results of the scientific experiments will be helpful.

5. *Afforestation*.—Suitable lands may be assigned revenue-free till the topes yield a return. Green-manure trees like pungam, vepa and pipol or ragi may be grown as well, fruit-trees like mango, tamarind, sapota, etc., fuel plants like casuarina and jali, later serving also as a fodder plant, may be grown.

6. *Alternative or subsidiary sources of employment*.—(i) I think large scale spinning industry is possible in the Ceded districts. Detailed suggestions are unnecessary as they could be had from any spinning mill.

I also suggest that some large scale industry connected with groundnut seeds, available in plenty in these districts, be organized. This might include, not only oil extraction for export but also allied industries, such as soap-making, biscuit-making and other manufactures connected with the groundnuts. This would provide an amount of occupation.

(ii) Spinning and weaving (khaddar) are the two time-honoured cottage industries in these parts. They require to be greatly helped. Improved methods may be introduced into woollen spinning and weaving also. In addition, I suggest starting and encouraging the industry of manufacturing jaggery out of date-palms largely available in this and in the neighbouring districts. This would not only provide employment, but would also avoid the date-palms becoming useless when prohibition is to be introduced into these parts. Date mat-making may be another cottage industry. In Penukonda and Hindupur taluks, sericulture may be thought of.

7. *Sparked water*.—I have no experience.

8. *Purpose and principles of famine relief*.—I agree with the statement of policy in section 127 of the Famine Code. I feel "the lowest amount sufficient to maintain" now prevailing is really very low and requires to be enhanced by at least 25 per cent. The greater financial commitments involved have to be met by savings out of establishment and supervision charges.

I have no suggestions to make on Chapter II. But on Chapter III, I would suggest that the opening of Test Works though a necessary preliminary, it must not be painfully protracted.

I am unable to make any suggestion regarding Chapters IV to VI.

Scale of wages.—No suggestions on (a) and (b). (c) I suggest wages to be distributed in kind.

The size and nature of the task in famine works.—The following works of benefit to the community than mere stone-breaking are to be undertaken:—

(i) *Irrigation works*.—(a) All the silted-up feeder channels can be cleared and breached works repaired, (b) new possible works, such as kuntas and wells be constructed, (c) village communications established by making gravel roads, (d) village-sites and the neighbourhood levelled and cleaned, (e) available wells silt cleared and deepened, and (f) contour-bund-forming in all cultivable patta lands.

Estimates and plans of all such things in each village in areas frequently famine-stricken will have to be made and kept ready to be taken up at the next famine. The estimates will have to be at the rates of wages permissible under the Famine Code and the works got executed mostly through the village panchayats. This might need some special establishment but that has to be maintained.

Further suggestions.—Grain stores have to be encouraged and established in almost every village containing quantities of food-stuffs sufficient for six months' consumption for the whole village. During famine times, needy people can be advanced grain to be returned next prosperous season. Growing of food-crops has to be encouraged in place of wholesale commercial crops like groundnut. This precaution is very essential.

Written evidence of Sri M. Narayana Rao, B.A., B.L., M.L.C., Pleader,
Anantapur.

SECTION I.

Measures for prevention or mitigation of famine.

1. My knowledge is confined practically to Anantapur district and I shall therefore deal only with the affairs of this district.

Whatever be the ameliorative measures that are adopted for alleviating distress after famine occurs it is absolutely necessary to concert measures to prevent famine from ever recurring in the Ceded districts. For that purpose I would suggest that this district affords ample facilities for improving the irrigation sources and if the irrigation schemes

are taken up on hand one after another as productive measures it will be possible to prevent famine from ever making its appearance. For that purpose I would divide the irrigation schemes under two heads—

(1) Major schemes.

(2) Minor schemes.

Major schemes.—There are about 300 major tanks in this district. The improvement of these tanks vests in Public Works Department. Most of these tanks were constructed during the days of Vizianagram kings and so far as I know no new tanks have been constructed under the British rule. So the question of constructing the major tanks in suitable areas, namely, in the Pennar and Chitravati and Hagiri basins, may suitably be explored.

Next in improvement I would submit the question of improving the irrigation sources of these tanks may be considered. Most of the tanks situate in Hindupur and Madakasira taluks draw their water from the Mysore area. These taluks border on the Mysore frontier. Enquiries reveal to us that many of the supply channels running from the Mysore area have been blocked or otherwise diverted by the Mysore authorities into their own taluks. This, I submit, is unauthorized and unwarranted. Under the terms of the treaty with Mysore we are entitled as a matter of right for restoration of these channels and the Government must be prepared to give its immediate attention to these tanks. For instance, I may cite the cases of Manepalli in Hindupur taluk and Agali in Madakasira taluk. The tanks of these two villages were receiving very good supplies and on account of diversion of supply channels in the Mysore area these tanks are practically dry throughout the year. The retaining capacity of these two tanks will be enough to irrigate two crops in normal years.

Next in order of importance I would submit that the Government do undertake an irrigation survey of the entire district; for instance the Pennar river passes through 7 out of the 9 taluks in the district. So also Chitravati and Hagari, though a bit less. The Pennar flows in full floods for 240 hours a year and all these flood waters run into waste. Without detriment to the Nellore district the flood waters may be conveniently collected in reservoirs in suitable areas and these waters be made available for irrigation purposes. This step, once undertaken, will go a long way in irrigating the entire district. For instance I may cite the case of Pennar-Kumudvati Project which is now promised to be undertaken as a protective measure. This scheme which if immediately undertaken will make 9,000 acres situate under six tanks irrigable throughout the year. This will improve the condition of ryots in Pagiri and Roddam firkas in Hindupur and Penukonda taluks, respectively. I may also cite another instance. There is an inscription near Goribidanur railway station of one Pratapa Bukkaraya, dated in 1389 A.D. It bears out that the waters of Pennar were divided at the place and channels were taken to supply 26 tanks in both Hindupur and Penukonda taluks. Traces of the channel for 5 miles from Goribidanur are still noticeable. If Government can be made to undertake the scheme in consultation with the Mysore Government, famine is bound to disappear in that part of the area. I may also cite other instances of waters of Chitravati and Kusavati being made available in a similar manner. Government ought not to be deterred from undertaking these schemes on the grounds of economy. When the fate of lakhs of people hangs in the balance, the Government should not hesitate from undertaking these schemes though unremunerative from financial point of view. Judging from this point of view the district may be surveyed and schemes undertaken and completed one after other within a definite period, and if need be, funds from out of the famine trust or from borrowing may be made available for these purposes.

Next in order of importance I would submit that a geological survey of this district be made with a view to explore the mining possibility and the mineral potentialities of this district. History tells us that the Vizianagar kings and later on Tippu Sultan of Mysore were exploiting the mineral resources by working out the gold mines and the diamond mines in this district. To this I may also add other minerals such as copper, iron, manganese and barytes, etc.

This step will certainly pave the way for the permanent industrialization of this district.

Minor irrigation works.—This department is now under the control of the District Collector, but things are not done systematically but undertaken as occasion arises. Even in this case a thorough investigation be made and possibilities for improvement of the minor irrigation sources be explored. The District Collector may be entrusted with this business and he be asked to submit the report from year to year. The supply sources for many of these minor irrigation tanks are in a deplorable condition. The District Collector may be asked to pay particular attention to the improvement of these supply channels.

2 (a) *Tungabhadra Project*.—If this project materializes it will certainly prevent famine in areas where this project will be worked out. Though in black cotton soil dry crops such as cholam and cotton are always raised, it does not necessarily follow that wet crops cannot be raised. I have experience of the Godavari and Kistna water being used for black cotton soil lands for the raising of wet crops and there are similar areas in this district where the soil is of a similar type. I believe the view of the experts regarding this matter supports me.

2. (b) *Minor irrigation and wells*.—It is true that whenever tanks get dry the wells situate in the ayacut area become also dry and the water springs feeding from become also dried up. This in my opinion is due to the fact—

(i) That water in the tank is exhausted to the last drop and the tank left dry for a number of years.

(ii) In famine years tank-bed area is allowed for cultivation and very often ryots sink wells unauthorisedly and use water for the purpose of their cultivation.

(iii) These two things drain away all the water running in the sub-soil strata. Therefore with a view to prevent this I would suggest that the water should not be allowed to be drawn away beyond a minimum depth and that both the cultivation under the tank-bed area and sinking wells therein should be prevented. This can be given effect to by raising the level of the sluice.

(iv) I agree that the number of wells available for irrigation purpose be increased, wherever possible and State aid be given liberally for that purpose. It is no doubt true that the water in wells sunk in black cotton soil area is brackish and not fit for irrigation purposes. But experience tells us that if the wells be further deepened there is a possibility of our striking good water congenial for the crops. This I have experienced in one or two cases.

2. (c) *Contour bund forming*.—Yes. I agree and whenever famine occurs free famine labour may be made available for this purpose. This scheme won't materially diminish the supplies to the minor irrigation sources as they are very few in such areas.

2. (d) *Dry-farming*.—The kind of dry-farming recommended in the calendar 1938 (page 29-31) is practically followed in almost all parts of Ceded districts except in what the department claims to be scientific. There is one suggestion which would try to make the ryot a little more independent of the monsoon than now and that is to encourage him to plough deeper with up-to-date ploughs. This advantage he is not able to avail himself of, on account of high cost. Facilities may be created to help the ryot in securing these advantages at a much cheaper rate. In this connexion I would like to add that the benefit accruing from the work of Agricultural department is not very much appreciated by the ryots. Agricultural farmers are few and far between and the ordinary ryot cannot afford to go to Hagari and Nandyal to appreciate the benefits of agricultural research. The department must be prepared to start demonstration farms in miniature in every taluk so that the ryot may be able to appreciate the benefit.

2. (e) *Afforestation*.—In former years the Government used to conserve certain forests in every village for the purpose of raising topes and the Government was encouraging this system by granting inams. For some reason or other this has been given up. These topes are fast disappearing. The question of raising topes and preserving suitable lands for that purpose may be conveniently considered as a practical measure. So far as the nature of the trees is concerned, the most useful and least expensive will be tamarind, vippa and margosa. Anyhow the Agricultural department may be consulted for the purpose of testing of soil.

2. (f) (i) & (ii) *Alternative or subsidiary sources of employment*—

(1) *Spinning and weaving*.—This district is largely suited for this.

(2) *Cumbly-making (woollen carpets) even under the present disorganized system now available*. This district is able to export cumbles worth Rs. 1,00,000 to Ceylon, etc. Recently a co-operative society has been started for this industry. The whole industry may be taken charge of by the Government and started as a State-aided industry and later on left in the hands of private management.

(3) *Bangle industry*.—This industry which was in a flourishing condition is now practically dying for want of good support. Crude bangles are now prepared and exported to Mysore State. With proper facilities and small aid, this industry can be revived and made more profitable. As fine silica is available glass industry may be tacked on to it as an adjunct.

Paper.—This district was producing its own paper some years ago. Even now the paper of crude type is prepared in Nyamaddala and round about villages of Dharmavaram taluk. This may be revived as cottage industry.

Sheep-farming.—This district provides ample facilities for sheep-farming. Even under the present conditions it forms a chief industry for a class of people known as Kurubas and can with advantages be taken up by others on a large scale. There is a good market for sheep in Bangalore.

Large scale industry.—The only industry I can think of is the textile industry and I think there is still room for a big factory being started at Guntakal.

3. *Section 2 of the Code.*—I have not much to differ from the principle laid down.

4. The only modification I would suggest to what is contained under this chapter is, that all the works that are undertaken under section 33-A should always be executed departmentally and not through contractors.

5. After preliminary arrangements are made as contemplated in Chapter II, there is no further necessity to start test works.

6. *Nil.*

7. *Nil.*

8. (a) The wages that are now given are very inadequate. The present wages do not sufficiently attract labour for the simple reason that the wages offered are not attractive. Even under famine conditions when no famine is declared officially the wages that prevail in the district are much higher than the famine-wages. For instance the minimum wages offered for adult is 3 annas for male, 2 annas for female and the present rate under codes does not exceed As. 1-9. Therefore the present wages may be increased to the same scale prevailing in the market.

8. (b) *Nil.*

8. (c) In view of prohibition being introduced in the near future this question may not arise.

8. (d) *Nil.*

9. *Nil.*

SECTION IV.

10. It is very desirable to supplement stone-breaking and road-making by some other works of utility as contemplated in question No. 1. But the question arises whether such works can be undertaken by purely unskilled labour. It is for that reason that utility-schemes may be prepared beforehand and sanctioned and the moment the famine makes its appearance the State itself may take up the execution of such work by the employment of both the skilled and unskilled labour, the unskilled labour being purely famine labour. The question of how the payment of skilled labour is to be met may be decided separately. The schemes if left so unfinished during famine-time may be continued and finished after the famine period is over.

11. These are necessary—vide answer to question No. 4. No alteration need be made.

12. In order to avoid the heavy overhead charges and the difficulty in organizing big relief works preference may be given as far as possible to the village works, contemplated in section 122 of the Code and such works may be ordinarily entrusted to village pan-chayats thus dispensing the necessity of paying the highly-paid officers.

13. In addition to the relief already existing, the question of imparting education to the children of the labourers attending the State kitchens, may also be considered, more so if the famine is to last for more than three months.

Oral evidence of Sri K. S. Raghavachari, B.A., LL.B., Government Pleader and Treasurer, Rayalaseema Famine Relief Central Committee, Anantapur, and Sri M. Narayana Rao, M.L.C., Anantapur.

Examined by Sri R. SURYANARAYANA RAO: Q.—Mr. Raghavachari, you say there are a large number of rivers and their tributaries in the Anantapur district and suggest, especially in view of the fact that the Pennar river is in floods for about ten days in the year, that reservoirs may be built from which water could be taken for purposes of irrigation?

A.—I am suggesting that the existing reservoirs, namely, tanks may be filled with the help of channels diverting flood water into them.

Q.—Have you heard from agricultural experts that the waters of the Pennar and Hagari contain certain salts which deteriorate the soil?

A.—I have not heard.

Q.—In regard to the Pennar-Kumudavati Project, you think if it is undertaken and completed, it would

ensure regular supply of water during all years and will also bring in more ayacut under its cultivation and even though it is not productive you would like it to be taken up as a protective work as it serves the famine zone?

A.—I think it is certainly going to be productive too and even though it is not productive, it may be taken up.

Q.—Is there any possibility of increasing the ayacut under it?

A.—It is proposed to include about 1,800 acres more under it and if a few more tanks are made to be filled up with flood-water by diversion, I am sure it can be increased.

Q.—At present if the tanks do not get filled up with water, the ayacuts under them get a remission

and if this project is completed there may be no need for remission at all. Moreover several hundreds of acres also may come under cultivation?

A.—Yes. The figures of remission calculated according to Government accounts showed that under these tanks the average annual remission for the last ten years was from 22,000 to 25,000 rupees.

Q.—You think that in these areas when there is failure of rain, there will still be sufficient rain in the areas from which the rivers flow, to fill up these tanks?

A.—It would be sufficient to fill up these tanks, as in the case of these tanks they have their own independent catchment area and this is an additional source. Even if there is no rain in our district, Penner will get water, and there was no year in which Penner was not in floods, at this spot.

Sri M. NARAYANA RAO: A.—If for instance in one year the tank is full, two crops can be grown. Supposing in a particular year the river is not in floods or there are floods only for 240 hours a year or it runs only for a few days, in that case we will be satisfied with only one crop. That will be much better than no crop at all.

Q.—Where it is not possible for the ryots themselves to construct wells, because they are not people with sufficient means, you would expect Government to dig wells and then charge water-rate?

Sri K. S. RAGHAVACHARLU: A.—Yes.

Q.—Would you allow the ryot to pay something more every year in addition to his assessment so that in course of time he becomes the owner of the well?

Sri K. S. RAGHAVACHARLU: A.—It will, of course, be more convenient.

Sri M. NARAYANA RAO: A.—He may also take better care of the well because there is the prospect of his becoming the owner some day.

Q.—Do you think (Mr. Raghavacharlu) that there is scope for weaving in your district?

A.—Yes. I think so.

Q.—Do you know that there are a number of handlooms in the district which are supplied by yarn from somewhere?

A.—Yes. In the famine camp at Uravakonda they get yarn from Sholapur. It could be made locally. It can be cheaper.

Q.—You say in paragraph 8 "I agree with the statement of policy in section 127 of the Famine Code. I feel 'the lowest amount sufficient to maintain' now prevailing is really very low and requires to be enhanced by at least 25 per cent." You know the object of State relief in modern times. It means that persons given relief must be kept in such a position that they should be enabled to work properly the moment they go back. You see that the statement of policy laid down would simply suffice to keep a man from starvation?

A.—As opposed to, as I read it, keeping him in comfort.

Q.—You agree that he must be kept in a normal state of comfort to which he was accustomed before the famine set in so that he may be in a position or he may be strong enough to continue his work in the village?

A.—My own idea is, 'in comfort' is a thing which may lead to extraordinary weight on the State purse.

Sri M. NARAYANA RAO: A.—I also agree with Mr. Raghavacharlu.

Q.—You are in favour of test work but that they should not be unnecessarily prolonged. Would you suggest a fortnight?

Sri K. S. RAGHAVACHARLU: A.—Even ten days would do.

Q.—You are for the encouragement of the growing of food crops instead of wholesale commercial crops like groundnut. Would you agree to State control over the rotation of crops?

A.—No objection.

ABDUL RAWOOF SAHIB Bahadur: Q.—Won't there be an uproar from the cultivators?

A.—In respect of everything conceived in public interest there may be uproar.

Sri R. SUBYANARAYANA RAO: Q.—In the case of all projects undertaken in the Ceded Districts would you advocate the levy of compulsory water-rate or a

higher rate of compulsory assessment whether the ryot makes use of the water or not?

Sri K. S. RAGHAVACHARLU: A.—I would suggest that in all places where a scheme is made to serve the irrigational facilities of lands that could be brought under it, there must be compulsion.

Q.—You don't mind the levying of compulsory water-rate?

Sri K. S. RAGHAVACHARLU: A.—It would be convenient to say that all the land under the project must be taxed.

Q.—(Mr. Narayana Rao)—would you also agree to rotation of crops being controlled?

A.—Yes.

Q.—Both of you are in favour of undertaking village improvements as an ordinary programme of famine works and that there may be circumstances under which such works as have been started may be necessary?

A.—Yes.

Q.—Would you suggest normal development of spinning in this area?

A.—Yes.

Q.—Do you expect any State help for that?

A.—It is necessary.

Sri M. NARAYANA RAO: A.—Especially in Guntakal, Tadpatri and Gooty taluks where cotton is grown in every house there is hand-spinning.

Q.—What about marketing?

A.—In fact want of marketing facilities has made many people give up this.

Q.—Will that solve the question of supply and demand?

A.—Yes.

Q.—What do you think will be the organization best fitted for this purpose?

A.—The State should subsidize for the purpose.

Sri M. NARAYANA RAO: A.—For the present the All-India Spinners' Association will do it.

Q.—If it is in the hands of the All-India Spinners' Association and if there is large production they will send it to other places. Do you think the State should lay down a condition in order to encourage hand-spinning in the Ceded Districts that either the All-India Spinners' Association or any other subsidized association should find sales only for the goods manufactured there?

Sri M. NARAYANA RAO: A.—I don't think it is possible.

Sri K. S. RAGHAVACHARLU: A.—The difficulty will be there will not be sufficient customers. So, large areas may be grouped where local things could be preferred.

Q.—What about the bangle industry and cumbli industry?

Sri K. S. RAGHAVACHARLU: A.—It would be most convenient if they could introduce some process by which wool can be made soft. Particularly in our district large future is open if it can be made soft.

Examined by Sri H. SITARAMA REDDI: Q.—In regard to spinning and weaving which locality can you suggest for the location of a spinning mill?

Sri K. S. RAGHAVACHARLU: A.—In the neighbourhood of Guntakal.

ABDUL RAWOOF SAHIB Bahadur: Q.—What do you think of Bellary?

A.—It is far away from our district.

Sri M. NARAYANA RAO: A.—Guntakal may be more central both for Bellary and Anantapur.

Q.—About cumbli making, do you know the number of looms weaving cumbli in your own district?

A.—I do not know.

Sri R. SUBYANARAYANA RAO: Q.—Is there scope for a co-operative society for that?

Sri M. NARAYANA RAO: A.—Yes in Balaguppa.

Q.—Are you receiving subsidy from Government?

Sri M. NARAYANA RAO: A.—The District Bank has lent.

Sri H. SITARAMA REDDI: Q.—You have suggested something about paper industry. Mr. Green is very keen about it and wants to know about the raw material for taking up paper manufacture?

Sri K. S. RAGHAVACHARLU: A.—I know they are only using worn out fibre of aloes.

Q.—Have you got large areas growing aloes in your district?

A.—In Penukonda there are about 1,500 acres and paper industry can be taken up there.

ABDUL RAWOOF SAHIB Bahadur: Q.—I think there was some fibre factory in your district?

Sri K. S. RAGHAVACHARLU: A.—Yes, there is one situated in the midst of an aloe farm.

Sri H. SITARAMA REDDI: Q.—In regard to sheep farming, there is a feeling that there is no adequate supply of wool?

A.—It may be encouraged because we have pasture lands.

Examined by Sri K. KOTI REDDI: Q.—Do you think there will be any difficulty in organizing hand-spinning as a sort of famine relief?

Sri K. S. RAGHAVACHARLU: A.—It will be better, of course. It will give occupation to people in spare time; and during famine times if State help is given it would get on.

Q.—Do you think that there would be any difficulty in making the women at any rate to learn hand-spinning?

A.—There will be no difficulty. It will take only a fortnight to learn.

Q.—You are in favour of restricting the acreage under groundnut cultivation?

A.—Certainly I am. The ryot feels that groundnut is paying much better than other crops and he takes to groundnut cultivation on a large scale. Besides, it is the convertibility that tempts him. Groundnut is no doubt a commercial crop and it is easily converted into cash soon after harvest. The result is that the ryot purchases things which he does not require or otherwise wastes the money and after some time he has nothing to eat. If he is restricted not to grow this kind of commercial crop he will have more food to eat at home in the shape of grain.

ABDUL RAWOOF SAHIB Bahadur: Q.—Cannot grain be converted into cash and wasted away?

A.—No. The grain could not be easily converted into cash as the price will be low at that time. In the other case he gets cash very easily and his creditors get at him.

Q.—Whether it is groundnut or grain, I don't think it is possible to escape from the clutches of the creditors?

A.—I don't deny that he can be reached in law, but in practice it is very easy for him to retain some amount of grain with him to be used for food.

Q.—You also know that groundnut harvest comes in at a time when it is handy for the ryot to sell it to pay Government kist. Do you wish to prohibit its cultivation?

A.—I don't think it need be prohibited but only restricted.

Q.—You won't like to give the option to the ryots to choose his crop?

A.—I think the policy requires some control.

Q.—You also know that supposing a ryot makes Rs. 10 on an acre of groundnut cultivation he makes the same Rs. 10 on an acre cultivated with any other food grain. So far as the ryot is concerned it is just the same thing. But so far as the landless labourer is concerned, the ryot who cultivates groundnut gives more work to the landless labourer because groundnut cultivation requires more labour than any other food-grain?

A.—Of course groundnut cultivation requires more labour as against the cultivation of cholam and other crops which require little work, but there is the advantage of fodder in them.

Q.—You say you are not for prohibition but for restriction?

A.—I am only for restriction and control. There are sandy areas which are not really useful for the cultivation of anything else except groundnut and in these areas groundnut cultivation may be freely allowed.

Q.—With regard to compulsory levy of water-rate under the Tungabhadra scheme, there are two positions. One is, supposing the commandable area in a particular village through which the channel passes is 2,000 acres, the ryots, if option is given to them, are not prepared to take water for the whole commandable area but will take water for only half the area

and they are quite satisfied with the present position of depending on rain alone for the remaining half. The other position is in certain parts where there is deficiency of rain the ryots may take water for the full area. The question is whether you are going to compel all the ryots under this commandable area or compel only such of those who are prepared to take water during the rainless years or years in which there is deficient rainfall?

A.—Your question is whether the ryot should have the option to take water in any particular year or whether he should be forced to take water permanently. I would say, that if at all he wishes to use the water, he must be made to use it permanently on payment or permanently not use it at all. I would also say that if the water can be taken usefully to other parts, this option may be given. Otherwise they should be compelled to take water.

Q.—You know that under the Tungabhadra scheme any amount of land is available for irrigation to which water will not be denied. It is not that there is dearth of land but that there is dearth of people who may want water. It is because there are certain areas which are near the Tungabhadra which may or may not take water?

A.—If the engineers could economically carry the water to distant places it would be possible to supply water to those areas.

Sri M. NARAYANA RAO: A.—If there are more lands where water can be used, the option may be given, but if it is impossible to do so, it is necessary to compel the ryots. Anyhow the whole scheme is done for the ryots' benefit.

Sri R. SURYANARAYANA RAO: Q.—May I ask one question with reference to the distribution of water. Supposing a tank does not get the full supply of water, there is sufficient supply to irrigate only a limited ayacut under the tank. If the ryots are asked to cultivate only, say, five acres, they do not come to an agreement. Would you give the power to the Collector to restrict cultivation in the ayacut, so otherwise the water will be wasted; that is, would you leave it to the Collector to say that this pattadar shall cultivate such and such an extent that pattadar shall cultivate such and such an extent so that the water is not wasted?

A.—That system works in part already. It is practically the Tahsildar that controls it. Though they may have no statutory power, yet custom has given them the power.

Sri K. KOTI REDDI: Q.—In famine relief works, would you like to suggest any alteration in the form of works to be undertaken?

A.—I have suggested village works and irrigation works may be preferred; gravelling of village roads may be undertaken. For each village an estimate may be prepared of works to be carried out even though when there are no signs of famine; and these may be communicated to the concerned village panchayat, so that when famine breaks out these schemes can be carried out.

The CHAIRMAN: Q.—Even now such schemes are prepared and kept ready in the Collector's office of every district.

A.—The Code also provides for it; but actually, I fear, nothing is done.

The CHAIRMAN: No, actually in every Collector's office you will find the programme arranged, so that the works may be taken when occasion demands.

Sri K. KOTI REDDI:—There is famine work programme; but sufficient importance is not attached to village improvement.

Sri R. SURYANARAYANA RAO: Q.—You had a famine work programme in Anantapur in 1935. How did it work then?

A.—It worked very satisfactorily. Of course, in one or two places it did not work satisfactorily.

Sri K. KOTI REDDI: Q.—With regard to the Tungabhadra project, you know, it does not benefit Anantapur, Dharmavaram and Kalyandrug taluks. You suggest the scheme should be modified as to benefit those taluks also. May I know on what lines you would like to modify the scheme?

A.—I am talking as a layman and not as an engineer. If it is possible, we can conveniently afford to take water. I would strongly plead that the scheme may be modified in this behalf.

Q.—Even if the soil is poor, would you like to take the water?

A.—Yes, even if it is poorer than black cotton soil.

Q.—You know very few trees grow in Dharmavaram and neighbouring taluks. Can you suggest how they can be increased?

A.—I have suggested rearing of green manure trees like pungam, vepa, pipal. At present raising of jal plants may be encouraged by granting lauds at favourable terms under cowle system, and after a few years they can be taxed.

Q.—But now what sort of inducement can you suggest to the ryots?

A.—Assessment may be reduced by one-fourth or one-half for the first ten years. In the early years there should be no assessment, as in that period the ryot cannot get anything from the tope. If babul trees are grown, they will afford him sheep-manure and pastures. In ancient times, every village had its own tope, they had not only a remunerative value, but also they served as grazing grounds. I think the old system can be revived.

Q.—Would you suggest that for each village?

A.—Yes, about 30 to 50 acres.

Q.—Would you favour the proposal for the supply of one sari to each woman and a pair of dhotis for each male worker in times of famine?

A.—Yes; the Code is silent on that; it provides only for food; I would suggest that whenever famine continues for a period beyond four months, clothing may be supplied to the people.

Q.—With regard to nursing mothers the period fixed for them before confinement is three weeks. Would you suggest any alteration in the period?

A.—It may be extended to one month.

Q.—I suppose you agree to the proposal that spinning may be arranged in the villages?

A.—Yes. It is perfectly possible and it is most necessary that village works may be arranged by village panchayats.

Q.—Do you think that Government help is necessary to run any industry?

A.—Yes.

Q.—In what form?

A.—If Government think it is a profitable concern and also if there is not sufficient private enterprise coming in, Government ought to take it up.

Q.—You are aware that there was a factory at Rayalacheruvu for the manufacture of barytes and paints?

A.—No. I know there was one at Tadpatri. Crushing, cleaning and powdering processes were done there and then it was taken to Bombay. I don't know how Rayalacheruvu factory failed.

Q.—You are in favour of increasing the rest day allowance of workers?

A.—Yes.

Q.—What about the rest period every day?

A.—I think in summer, the rest period should be between 12 to 2. If the task can be reduced by increasing the rest period I am for it.

Q. Sri NARAYANA RAO.—You have suggested about the treaty with Mysore State be enforced for improving the irrigation sources of tanks. Do you think Government can do something in the direction?

Sri NARAYANA RAO: A.—You have suggested about and must do everything possible. Much of the prosperity of the Anantapur district depends on the enforcement of the agreement. There is no other course at all.

Q.—You advocate silk manufacture, as a cottage industry?

A.—Yes.

Q.—You know Government examine all projects from the point of view whether they will be productive or not, i.e., whether the State will get a return of three per cent interest on the capital invested. Now suppose the return expected falls short of three per cent. I say, still the project should be carried out on this ground, and that is this; under the scheme you will get an yield from land which is greater than that you were getting before the scheme came into being. And this difference in the yield is new wealth to the country.

Sri M. NARAYANA RAO: A.—In other words national prosperity against Government prosperity.

Q.—So that the State's assets have increased. Would you under those circumstances consider the project should be proceeded with?

Sri M. NARAYANA RAO: A.—As a legislator I would say, I would not be baffled with any disappointment, but would find out some methods by which the loss could be made up. This, it will be possible for the Government to do, but not for individuals. If Government take shelter under the plea of unproductiveness it is a wrong policy they are pursuing. After all we must put before us not Government prosperity but national prosperity.

Q.—In other words you say the schemes should be taken up?

A.—Yes.

Examined by Dr. R. ADISHESHAN: Q.—You say the food value given to people should be increased by 25 per cent?

A.—I have suggested the increase as the food value now given is not sufficient for their food and other requirements as in non-famine times.

Q.—Do you believe in non-famine years the food is about 25 per cent over and above what it is in famine times?

A.—No. In famine days the wage may not be sufficient for their meals.

Q.—In the next sentence you say, "the greater financial commitments involved have to be met by savings out of establishment and supervision charges." Do you mean to say that the expenditure under establishment can be reduced by 25 per cent?

A.—No. I only mean an attempt should be made to save under this head.

Examined by Mr. F. M. DOWLEY: Q.—You agree that the minor irrigation schemes should be pushed on?

A.—Yes. Even without the Tungabhadra project or simultaneously with it.

Q.—Do you think the value of land will be increased as a result of this?

A.—Yes.

Q.—Have you any idea by how much?

A.—About 20 to 25 per cent.

Q.—Do you think in order to make the scheme attractive financially to the Government, Government would be entitled to take, say, half of the amount by which the value of land has increased under the scheme?

A.—As a lump amount?

Q.—That is a detail. But if some scheme is devised in that behalf would you have no objection to that?

A.—That is not wrong. I am not opposed to it.

Sri M. NARAYANA RAO: A.—I agree.

Examined by Sri KALLUR SUBBA RAO: Q.—You want the Tungabhadra scheme to be so constructed as to take water to the Anantapur district?

A.—Yes.

Q.—You know in Anantapur district there is the river Penner with its distributaries. Are there any possibilities of damming the rivers there?

A.—I believe there are a number of places where flood water can be dammed.

Q.—Would it be worthwhile spending sums on dams?

A.—The dams would be damn cheap, if I may say so; because it is not a reservoir you are going to construct.

Q.—But the rivers are dry for the most part of the year?

A.—Roughly for 240 hours in the year they will be in floods. It will fill 500 tanks. There are several places where springs are supposed to exist. Such places can be tapped for water. I think there are springs in certain tank-bed areas. There is another difficulty. The ryot unauthorizedly sinks wells in tank beds, and consequently, by percolation all the water running in the sub-soil strata is taken away. In my own village there are a number of springs in the tank-bed area. The difficulty is this. In previous years with one inch of rain we had water for six months; but now, even with six inches of rain we can get on only for one month; and all this, because of sinking wells in tank beds.

ABDUL RAWOOF SAHIB Bahadur: Q.—But water is not lost; by percolation it is made available if not for this purpose at least for some other purpose.

Sri K. S. RAGHAVACHARLU: A.—I would appeal to the Chief Engineer to so modify the Tungabhadra project as to take its waters to the Anantapur district.

The CHAIRMAN: Yes.

Sri K. KOTI REDDI: Q.—You have agreed to the levy of the inclusion fee.

A.—Yes. I would request Government to collect that inclusion fee, whether it be 8 annas or 4 annas whatever it is in several instalments spread over a fairly long period so as to enable the ryot to bear it.

Q.—Would you advocate any increase in assessment over and above the inclusion fee?

A.—No.

Q.—Both of you agree for a geological survey to be carried out?

A.—Most welcome, as we are supposed to be rich in gold.

Mr. F. M. DOWLEY: Q.—Do you think inclusion fee may be levied in addition to water-rate? Water-rate is now charged for the supply of water; but now inclusion fee is to be charged for the supply of water in preference to other places.

A.—It should not be levied as part of assessment on land.

Q.—About electricity you suggest it should be brought from Mysore State?

A.—Yes, as it can be got from there at a cheap rate. I would prefer our own organization, generation and distribution, if it is possible at a cheaper cost.

Q.—Do you want the tank restoration investigation scheme of 1926 to be revived now?

A.—Yes. It is necessary so far as the Ceded Districts are concerned.

Q.—In addition to the other minor irrigation scheme of Penner-Kumudavati scheme, you want the Ethodu project in Kadiri to be taken up immediately.

A.—Yes, immediately.

APPENDIX XI

THE ECONOMIC RESOURCES AND COTTAGE INDUSTRIES OF THE CEDED DISTRICTS AND THEIR POSSIBILITIES OF DEVELOPMENT.

A NOTE BY THE DIRECTOR OF INDUSTRIES.

Section I.—Economic Resources.

There is a marked tendency on the part of industrial countries to become agriculturally more self-sufficing, and it is very necessary, as a corollary, that India should become industrially more self-contained and that a more balanced internal economy as between manufacturing industries and the primary production of agricultural commodities should be achieved. The cultivator suffered much more than the industrial worker during the last economic depression and in order to raise the standard of living of the Indian people, it is necessary to industrialize the country in addition to improving the organization of agriculture. There can, in fact, be no difference of opinion as to the advisability of encouraging in every way possible the development of new industries of basic and fundamental importance, of medium scale industries, and of small scale and cottage industries, though opinions may differ as to what steps should actually be taken to accelerate industrial development in its various forms and manifestations. It is desirable that industrial development in India should be spread over as wide an area of the country as possible instead of being concentrated in a few large urban areas in order not only to distribute employment as far as possible over different parts of the country, but also to avoid the evils which result from the concentration of large conglomeration of industries in a few limited areas. There are four main sources of raw materials for the development of industries in a country: namely, (i) agricultural products, (ii) animal products, (iii) forest products, and (iv) mineral products. It was formerly believed that the development of industries in Madras was likely to be chiefly in the direction of converting into manufactured and semi-manufactured form the agricultural and forest products of the Province, but the possibility of establishing several new chemical and metallurgical industries has been opened up by the advent of cheap electric power in some areas. In the Ceded districts, however, cheap electric power is not at present available although the position in this respect may be improved to some extent if it is found possible to associate with the Tungabhadra irrigation project an hydro-electric scheme. In considering the question of introducing new occupations for, or developing the existing occupations of, the inhabitants of the Ceded Districts, it is necessary to examine the position in regard to yield of crops, rainfall, soil, etc., and the general possibilities of the district, and aim at selecting industries, the raw material for which already exists or could be made available in the area or could be brought from outside at sufficiently cheap rates. And in order to make this note complete in itself, it has been considered desirable to set down this information as a preliminary to considering the potentialities of economic development generally in the districts concerned.

2. *Population.*—The following statement shows the population of the four districts:—

District.	Population according to the census of 1931.	Estimated population in 1936 to the nearest thousand.
Kurnool	1,024,961	1,085,000
Bellary	969,774	1,028,000
Anantapur	1,050,411	1,101,000
Cuddapah	949,397	982,000

3. *Rainfall.*—The Ceded districts get their rainfall mainly during the south-west monsoon, but Cuddapah gets fairly good rainfall during the north-east monsoon period also. September is the month of maximum normal rainfall in these districts. The following statement shows the normal rainfall:—

	Kurnool INCHES.	Bellary. INCHES.	Anantapur. INCHES.	Cuddapah. INCHES.
South-west monsoon	17.3	14.6	13.4	15.4
North-east monsoon	6.1	5.7	6.4	10.5
Hot weather	2.3	2.9	2.9	2.3
	<u>25.7</u>	<u>23.2</u>	<u>22.7</u>	<u>28.2</u>

4. *Soil—Kurnool.*—The soil is of two main classes, namely, regar and red. The pure regar soils is very fertile and highly retentive of moisture. The mosab (mixed regar) comes next. In the case of this soil, manuring is essential. The outturn on the best soil of this class when irrigated is stated to be heavier than on the best regar; it is more suitable for wet cultivation. The chief crops grown on regar soil are cholam, cotton, indigo, korra and Bengal-gram. The proportions in which the two varieties occur are regar (59.7 per cent) and red (40.3 per cent). Regar soil predominates in Nandyal (94.8 per cent), Sirvel, Kurnool, Nandikotkur and Koilkuntla (83.4 per cent) and red soil in Markapur (93.2 per cent), Cumbum, Dhone and Pattikonda (63.1 per cent).

Bellary.—The soil is of three main classes, namely, black, mixed and red. Black soil is considered to be good, mixed soil is also good and for some purposes superior to the heavy variety, and red soil varies from rich red loam to very stony gravel. The proportions in which the three varieties are found are respectively 41.8 per cent for 'black,' 33.6 per cent for 'mixed,' and 24.6 per cent for 'red.' Black soil predominates in Bellary (80 per cent), Alur, Adoni and Siruguppa (62 per cent), mixed soil in Hospet (90 per cent), Harpanahalli and Rayadrug (54 per cent), while red soil is to be found chiefly in Kudligi (69 per cent), Adoni (34 per cent) and Hadagalli (33 per cent). Considering the rate of average assessment per annum of dry land which is probably an index of the quality of the soil and its productivity, Alur, Adoni, Bellary, and Siruguppa taluks, especially the first, should be considered good owing to the predominance of good black soils which are specially suited for the cultivation of white cholam and cotton, and Rayadrug, Hospet and Kudligi taluks, especially the last, should be considered poor owing to the existence of considerable areas of the poorest soils, assessed at 2 annas and 4 annas an acre.

Anantapur.—The soil is of two main classes, namely, black and red, and each main class is subdivided under the three heads, clay, loam, and sand. In point of quality, black soil is the best owing to the extensive groundnut cultivation, black loam and red clay rank next, black sand comes next in order and red sand, the last in rank, is the worst of all. The proportions in which the six varieties are found are as follows :—

	PER CENT
Black clay	10.1
Black loam	9.2
Black sand	2.0
Total, black soil ..	21.3
Red clay	4.5
Red loam	32.7
Red sand	41.5
Total, red soil ..	78.7

Red soil predominates in all the taluks except Tadpatri, Kadiri having the highest percentage of 99.7, Gooty the lowest percentage of 50.7 and the other taluks having more than 80 per cent. Black soil predominates in the Tadpatri taluk (71.5 per cent) and is also found largely in the Gooty taluk (49.3 per cent). Black clay is found chiefly in Tadpatri (42.1 per cent) and Gooty (33.2 per cent), black loam in Tadpatri (25.6 per cent) and red clay in Kadiri (41 per cent). Red loam and red sand are found practically in all the taluks.

Cuddapah.—The soil is of two main classes, black or regar (46.2 per cent) and red (53.4 per cent). Each of these is again subdivided into clay, loam and sand. There are thus six classes of soil occupying the following proportions :—

Class.	PERCENTAGE.
Black clay	24.1
Black loam	18.3
Black sand	3.8
Red clay	1.3
Red loam	24.6
Red sand	27.5
Special rate	0.4

Black clay is considered to be excellent soil and is found mainly in the taluks of Jammalamadugu, Pulivendla, Kamalapuram, and Proddatur. Red loam which is not so good is met with in all the taluks of the district, but is exceptionally plentiful in Badvel, Cuddapah, Rajampet and Rayachoti, in Rajampet taluk, red loam of high agricultural value predominates. The worst soil is red sand which varies from superior dark-red soil in the low lands

to the poor stony upland soil on a subsoil of rock or gravel. It is, in general, treeless and arid and yields poor crops. Near villages, however, it is usually well tilled and yields fair crops. Nearly half of this red sandy soil is met with in Rayachoti taluk, where dry lands have little value. As a rule, they are taken up one year and abandoned the next. The status of the ryots owning such lands is poor and one bad season is sufficient to make them feel the pinch of distress. The soils in Cuddapah, Proddatur, Jammalamadugu, Kamalapuram and Pulivendla taluks are moderately valuable. As regards the taluks of Rajampet, Badvel and Siddhout, the lands situated near the Penneru and Sagileru basins are fertile on account of the alluvium deposited there. Wells sunk in such lands contain good supplies and valuable crops are grown under them, but the extent of such lands is very limited.

5. *Classification of area.*—Kurnool and Cuddapah abound in forests. The net area sown is largest in Bellary and is smallest in Cuddapah. The tables below give the classification of area, and the percentage of the area under forests, etc., in each district to the total area of the district in 1936-37.

Classification of area in 1936-37.

District.	Forests.	Not available for cultivation.	Cultivable waste other than fallow.	Current fallow.	Net area sown.	Total area of the district.
Kurnool	1,648,019	315,089	565,314	277,892	2,054,343	4,860,657
Bellary	361,236	215,741	395,892	321,173	2,349,363	3,643,405
Anantapur	456,588	315,802	1,054,153	524,404	1,956,106	4,307,053
Cuddapah	1,152,250	499,093	710,173	308,975	1,054,204	3,724,695

Percentage to the total area of the district of the area under

District.	Forests.	Not available for cultivation.	Cultivable waste other than fallow.	Current fallow.	Net area sown.
Kurnool	33.9	6.5	11.6	5.7	42.3
Bellary	9.9	5.9	10.9	8.8	64.5
Anantapur	10.6	7.3	24.5	12.2	45.4
Cuddapah	30.9	13.4	19.1	8.3	28.3

6. *Area irrigated.*—Government canals and tanks are the predominant sources of irrigation in Kurnool and Bellary and tanks and wells in Anantapur and Cuddapah. The percentage of irrigated area to the net area sown is low in Kurnool, Bellary and Anantapur. It is higher in Cuddapah. The tables below show the area irrigated and, the percentage of the area irrigated by each source of irrigation to the total irrigated area and of the total irrigated area to the net area sown in 1936-37.

Area irrigated in 1936-37.

Particulars.	Kurnool.	Bellary.	Anantapur.	Cuddapah.
	ACS.	ACS.	ACS.	ACS.
Government canals	44,228	16,062	34,575	51,430
Private canals	11	84	744	385
Tanks	31,772	15,693	73,747	57,589
Wells	19,076	9,491	56,755	82,463
Other sources	3,634	7,027	796	20,554
Total area irrigated	98,721	48,357	166,617	212,421
Net area sown	2,054,343	2,349,363	1,956,106	1,054,204

Percentage of the area irrigated by each source of irrigation to the total irrigated area.

District.	Percentage of the area irrigated by each source of irrigation to the total irrigated area.					Percentage of the total irrigated area to the net area sown.
	Government canals.	Private canals.	Tanks.	Wells.	Other sources.	
Kurnool	44.8	..	32.2	19.3	3.7	4.8
Bellary	33.2	0.2	32.5	19.6	14.5	2.1
Anantapur	20.8	0.4	44.3	34.0	0.5	8.5
Cuddapah	24.2	0.2	27.1	38.8	9.7	20.2

Wells supplement other sources of irrigation to a fairly appreciable extent in Chittoor, Anantapur and Cuddapah.

7. *Crops irrigated.*—The percentage of the area of irrigated crops to the area of crops cultivated is low in the Ceded Districts. The tables below show the crops irrigated and the percentage of irrigation in respect of the main crops which were irrigated on fairly appreciable areas in 1936-37.

Crops irrigated in 1936-37.

Crop.					Kurnool.	Bellary.	Anantapur.	Cuddapah.
					ACS.	ACS.	ACS.	ACS.
Paddy, irrigated	..	..	..	..	56,270	29,014	98,773	83,542
Paddy	..	..	..	..	70,293	33,092	99,724	87,052
Cholam, irrigated	..	..	..	..	2,898	2,682	26,785	5,746
Cholam	..	..	..	..	575,190	782,149	374,198	346,329
Cumbu, irrigated	..	..	..	..	12,064	89	425	29,744
Cumbu	..	..	..	..	63,039	114,500	164,457	114,675
Ragi, irrigated	..	..	..	..	19,841	6,738	79,870	73,787
Ragi	..	..	..	..	24,416	26,748	98,858	80,420
Cotton, irrigated	..	..	..	..	3,397	2,976	871	2,341
Cotton	..	..	..	..	233,192	591,914	143,316	61,421
Korra, irrigated	..	..	..	..	4,495	1,338	4,439	17,185
Korra	..	..	..	..	400,001	381,017	218,218	88,972
Varagu, irrigated	..	..	..	..	1,596	..	39	1,062
Varagu	..	..	..	..	75,070	1,948	45,361	20,836
Groundnut, irrigated	..	..	..	..	11,358	605	663	9,357
Groundnut	..	..	..	..	468,195	229,899	315,639	202,929
Gingelly, irrigated	..	..	..	..	174	85	35	5,119
Gingelly	..	..	..	..	1,788	18,432	36,062	6,389
Indigo, irrigated	..	..	..	..	42	..	59	5,703
Indigo	..	..	..	..	1,261	..	113	6,952
Total, area of crops irrigated	..	..	..	..	126,258	66,757	235,400	255,615
Total, area of crops cultivated	..	..	..	..	2,133,945	2,478,293	2,029,599	1,141,700

Crop.	Percentage of the area of the crop irrigated to the total area of the crop cultivated.			
	Kurnool.	Bellary.	Anantapur.	Cuddapah.
Paddy	80.1	87.7	99.1	96.0
Cholam	..	..	7.2	..
Cumbu	19.1	..	..	25.9
Ragi	81.3	25.2	80.8	91.8
Korra	..	..	..	19.3
Groundnut	2.4	..	..	4.6
Gingelly	..	..	..	80.1
Indigo	..	..	..	81.0
All crops	5.9	2.7	11.6	22.4

8. *Area sown with crops.*—The following tables show (i) the normal area and the area of crops in 1936-37, (ii) the normal yield and the yield in 1936-37 and (iii) the relative importance of crops in each district in 1936-37 expressed in percentages :—

(i) Normal area and the area of crops in 1936-37.

	Kurnool.	Bellary.	Anantapur.	Cuddapah.
	ACS.	ACS.	ACS.	ACS.
Paddy—				
Normal	70,800	36,530	109,020	109,940
1936-37	70,293	33,092	99,724	87,052
Cholam—				
Normal	559,100	640,110	270,000	309,600
1936-37	575,190	782,149	374,198	346,329
Cumbu—				
Normal	67,700	115,140	172,500	125,700
1936-37	63,039	114,500	164,457	114,675
Ragi—				
Normal	23,840	24,420	95,000	65,210
1936-37	24,416	26,748	98,858	80,420
Korra—				
Normal	473,200	544,000	340,000	107,000
1936-37	400,001	381,017	218,218	88,972
Varagu—				
Normal	96,300	2,140	44,300	31,200
1936-37	75,070	1,948	45,361	20,836
Samai—				
Normal	970	13,000	105,000	5,160
1936-37	768	10,000	54,415	2,050
Maize—				
Normal	120	130	140	80
1936-37	92	144	221	26
Bengalgram—				
Normal	17,100	14,900	5,620	2,470
1936-37	13,296	20,639	9,364	1,857
Horsegram—				
Normal	81,500	95,100	312,000	47,800
1936-37	72,800	100,178	282,829	41,320

(i) Normal area and the area of crops in 1936-37—cont.

	Kurnool.	Bellary.	Anantapur.	Cuddapah.
	ACS.	ACS.	ACS.	ACS.
Sugarcane—				
Normal	470	8,530	2,590	400
1936-37	781	9,544	2,794	519
Groundnut—				
Normal	369,000	289,000	348,000	177,000
1936-37	468,195	229,899	315,639	202,929
Gingelly—				
Normal	2,420	15,100	32,400	5,000
1936-37	1,788	18,432	36,062	6,389
Castor—				
Normal	32,900	18,600	76,700	10,700
1936-37	28,526	22,676	67,178	7,793
Cotton—				
Normal	233,440	557,370	116,990	59,950
1936-37	233,192	591,914	143,316	61,421
Indigo—				
Normal	3,590	10	200	4,200
1936-37	1,261	..	113	6,952
Tobacco—				
Normal	8,900	1,880	3,460	1,860
1936-37	4,505	2,260	2,530	973

(ii) Normal yield and the yield of crops in 1936-37.

	Kurnool.	Bellary.	Anantapur.	Cuddapah.
	TONS.	TONS.	TONS.	TONS.
Paddy—				
Normal	47,790	26,480	82,360	87,180
1936-37	43,690	23,640	69,310	69,220
Cholam—				
Normal	157,940	130,080	65,700	90,460
1936-37	143,590	109,240	66,600	83,730
Cumbu—				
Normal	19,620	23,180	30,970	47,500
1936-37	19,130	19,340	23,880	40,800
Ragi—				
Normal	14,450	6,560	56,320	44,780
1936-37	14,220	7,520	56,130	53,290
Korra—				
Normal	73,900	85,000	53,100	19,100
1936-37	60,000	59,500	30,000	13,800
Varagu—				
Normal	21,500	430	9,890	8,360
1936-37	15,800	430	8,510	5,190
Samai—				
Normal	170	2,420	18,800	920
1936-37	150	1,630	8,840	530
Maize—				
Normal	50	60	60	40
1936-37	40	60	90	10
Bengalgram—				
Normal	3,820	3,330	1,250	550
1936-37	2,230	2,720	1,420	340
Horsegram—				
Normal	7,280	8,490	27,900	4,270
1936-37	5,720	9,480	23,200	3,360
Sugarcane jaggery—				
Normal	940	22,800	4,970	1,070
1936-37	1,400	26,600	5,260	1,390
Groundnut unshelled—				
Normal	185,000	145,000	174,000	88,500
1936-37	213,000	115,000	137,000	88,300
Gingelly—				
Normal	240	1,510	3,240	500
1936-37	160	1,620	2,740	590
Castor—				
Normal	2,200	1,250	5,140	720
1936-37	1,830	1,470	3,820	490
Tobacco—				
Normal	3,970	840	1,550	820
1936-37	1,650	1,000	980	300
Indigo—				
Normal	900	..	50	1,050
1936-37	310	..	10	1,370
	BALES.	BALES.	BALES.	BALES.
Cotton—				
Normal	29,200	69,700	14,600	7,490
1936-37	25,700	54,800	13,800	6,370

The figures of yield relate to unhusked cereals and pulses. The percentage of loss of weight in husking is 33 per cent for paddy, 15 per cent for cholam, 20 per cent for cumbu and korra, 10 per cent for ragi, 45 per cent for samai, 40 per cent for varagu and maize and 20 per cent for pulses.

Groundnut.—Estimated loss of weight in shelling is 25 per cent.

Indigo.—The figures represent the yield if the whole crop were manufactured into dye. But there is no information as to the quantity actually manufactured into dye or used as green manure on wet lands, a practice which is on the increase.

Tobacco.—Yield is in dry leaf. Dry leaf may be converted into cured leaf by deducting ten per cent.

Cotton.—Figures are in bales of 400 lb. lint.

(iii) The relative importance of crops in each district in 1936-37 expressed in percentages.

Crop.	Percentage of the area under the crops to the total area under all crops.			
	Kurnool.	Bellary.	Anantapur.	Cuddapah.
Paddy	3.3	1.3	4.9	7.4
Cholam	27.0	31.6	18.4	26.3
Cumbu	3.0	4.6	8.1	10.0
Ragi	1.1	1.1	4.9	7.0
Korra	18.7	15.4	10.8	7.8
Varagu	3.5	..	2.2	1.8
Samai .. .. .	..	..	2.7	..
Main cereals ..	56.6	54.0	52.0	64.8
Bengalgram	0.6	0.8	0.8	..
Horsegram	3.4	4.0	13.9	3.6
Main pulses ..	4.0	4.8	14.4	3.6
Sugarcane .. .. .	..	..	..	..
Other foodcrop	4.4	5.2	4.6	5.9
Total foodcrops ..	65.0	64.0	71.0	74.0
Groundnut	21.9	9.3	15.6	17.8
Gingelly .. .. .	..	0.7	1.8	0.6
Castor	1.3	0.9	3.3	0.7
Main oil seeds ..	23.2	10.9	20.7	19.1
Cotton	10.9	23.9	7.1	5.4
Indigo .. .. .	..	..	..	0.6
Other non-food crops	0.9	1.2	1.2	0.9
Total, non-food crops ..	35.0	36.0	29.0	36.0

9. *Livestock*.—The following statement shows the number of livestock in the four districts as ascertained by a census held in 1935 :—

Districts	Cattle.							
	Males.				Females.			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Breeding bulls, i.e., entire males over three years kept or used for breeding purpose.	Working bullocks, i.e., bullocks and uncastrated males over three years kept for work only.	Bulls and bullocks over three years not in use for breeding or work.	Young stock.		Breeding cows, i.e., cows over three years kept for breeding for milk production.	Cows over three years used for work.
					Under one year.	One to three years of age.		
Kurnool	539	163,943	15,871	14,965	25,617	75,241	4,924	
Bellary	4,525	186,258	12,528	26,084	33,593	94,652	8,012	
Anantapur	4,466	192,782	25,321	32,159	42,651	123,877	19,113	
Cuddapah	2,731	97,174	39,211	11,276	17,219	50,360	13,159	
I.—Total, Ceded Districts ..	12,261	640,156	92,931	84,484	119,080	344,130	45,207	
II.—Total of the Province (including the old district of Ganjam).	169,285	6,177,708	655,170	996,892	1,286,279	4,265,373	1,116,870	
III.—Percentage of I to II ..	7.24	10.36	14.18	9.73	9.25	8.61	4.05	

District.	Cattle—Females.			Buffaloes—Males.			
	Cows over three years not in use for work or breeding purposes.	Young stock.		Breeding bulls, i.e., entire males over three years kept or used for breeding purposes.	Working bullocks, i.e., bullocks and uncastrated males over three years kept for work only.	Bulls and bullocks over three years not in use for breeding or work.	Young stock—Under one year.
		Under one year.	One to three years of age.					(12)	(13)	(14)	(15)
	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Kurnool	10,490	20,418	20,479	2,136	9,699	2,594	25,211
Bellary	9,389	34,188	24,973	2,065	5,456	2,187	13,354
Anantapur	17,874	44,940	33,530	4,080	16,207	4,093	14,909
Cuddapah	12,156	17,012	15,435	4,879	17,679	5,472	20,099
I.—Total, Ceded Districts ..	49,909	116,558	94,417	13,160	49,041	14,346	73,573
II.—Total of the Province (including the old district of Ganjam).	573,535	1,231,589	1,319,254	144,200	1,116,701	130,678	496,239
III.—Percentage of I to II ..	8.70	9.46	7.15	9.12	4.39	10.97	14.82

District.	Buffaloes.						
	Young stock—One to three years of age.	Breeding cows, i.e., cows over three years kept for breeding or milk production.	Cows over three years used for work.	Cows over three years not in use for work or breeding purposes.	Young stock.		Horses and ponies.—Sheep.
					Under one year.	One to three years of age.	
	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Kurnool	20,005	143,040	11,188	10,697	49,723	47,249	440,388
Bellary	8,735	71,913	5,925	5,919	28,411	21,233	267,793
Anantapur	12,129	65,169	8,601	8,910	29,373	20,425	858,528
Cuddapah	18,961	121,832	17,929	15,469	44,928	37,005	489,608
I.—Total, Ceded Districts ..	59,830	401,959	43,643	40,995	152,435	125,912	2,056,311
II.—Total of the Province (including the old district of Ganjam).	408,201	2,398,944	267,463	221,399	854,230	778,910	11,938,324
III.—Percentage of I to II ..	14.65	16.76	16.32	18.52	17.85	16.17	17.22

District.	Horses and ponies.						
	Cattle.	Horses.	Mares.	Young stock (colts and fillies).		Mules.	Donkeys.
				Under one year.	One to three years of age.		
	(23)	(24)	(25)	(26)	(27)	(28)	(29)
Kurnool	252,022	1,195	815	195	316	6	12,142
Bellary	230,520	1,244	749	208	91	134	6,642
Anantapur	328,824	1,942	1,140	151	135	464	16,357
Cuddapah	213,231	309	169	21	22	19	9,994
I.—Total, Ceded Districts ..	1,024,597	4,690	2,873	575	564	623	45,136
II.—Total of the Province (including the old district of Ganjam).	6,761,876	32,982	14,362	3,391	2,173	2,767	145,788
III.—Percentage of I to II ..	15.15	14.24	20.00	16.96	25.95	22.27	30.97

10. *Exports and imports.*—There is an appreciable net export by rail of metals (manganese) from Bellary, groundnut and dyes and tans from all the districts, cotton (raw) from Kurnool, Bellary and Anantapur, sugar from Bellary, and oil-seeds other than groundnuts from Bellary and Anantapur. There is on the other hand an appreciable net import by rail of grain and pulse and cotton (manufactured) into all the districts, sugar into Kurnool, Anantapur and Cuddapah, oils into Bellary, Anantapur and Cuddapah, spices into Bellary and Cuddapah, and oil seeds other than groundnuts into Cuddapah. The relevant statistics are extracted in the table below:—

Commodity.	Net exports by rail in 1936-37 from (+), net imports by rail in 1936-37 into (—).			
	Kurnool. TONS.	Bellary. TONS.	Anantapur. TONS.	Cuddapah. TONS.
<i>Net exports.</i>				
Groundnut	+ 36,586	+ 36,798	+ 47,645	+ 33,664
Cotton (raw)	+ 3,416	+ 19,134	+ 6,296	+ 976
Sugar .. .. .	..	+ 5,283	..	..
Metals including manganese .. .. .	..	+ 101,640	..	..
Oil seeds other than groundnuts .. .. .	..	+ 7,087	+ 1,935	..
Dyes and tans	+ 907	+ 1,636	+ 4,696	+ 5,212
<i>Net imports.</i>				
Grain and pulse	— 8,321	— 33,589	— 16,145	— 8,865
Sugar	— 3,998	..	— 1,600	— 1,928
Cotton (manufactured)	— 837	— 2,514	— 2,856	— 1,595
Oils .. .. .	..	— 6,578	— 5,326	— 3,141
Spices .. .. .	..	— 1,969	..	— 783
Oil seeds other than groundnuts .. .. .	..	..	..	— 1,727

11. *Minerals.*—Mining is carried on in each of the districts of Kurnool, Bellary, Anantapur and Cuddapah, the minerals produced in recent years comprising, manganese in Bellary and Kurnool, barytes in Kurnool, Anantapur and Cuddapah, steatite in Anantapur, and asbestos and aluminium silicate in Cuddapah. The following statement shows the output of minerals in the four districts during the last five years:—

Mineral.	District.	1933.	1934.	1935.	1936	1937.
		TONS.	TONS.	TONS.	TONS.	TONS.
Manganese	Bellary .. .. .	..	..	200 to 300	1,000	450
Do.	Kurnool	300	..	..	..	200
Barytes	Do.	334	417	595	252	180
Do.	Anantapur	110	180	597	346	1,465
Do.	Cuddapah	1,886	2,302	2,155	1,777	7,461
Steatite	Anantapur .. .. .	..	2	225	40	150
Asbestos	Cuddapah .. .. .	..	58.2	7.67	..	..
Aluminium silicate	Do.	80	..	..	..	..

It will be seen from the foregoing statement that the only development of any importance during recent years has been the marked increase in the production of barytes in Cuddapah and Anantapur in 1937 as compared with any of the previous years. In addition to the minerals referred to in the statement, other minerals are known to exist or to have existed, and mention may be made of diamonds, copper, lead, iron, steatite, limestone, mica, slate and saltpetre in Kurnool; iron, gold, diamonds, copper and steatite in Bellary, diamonds, gold, corundum, and iron in Anantapur, and diamonds, iron, lead, copper, limestone, slate and sandstone in Cuddapah district. There are valuable deposits of limestone suitable for cement manufacture in the Nandyal area of the Kurnool district, and this will be used in conjunction with the local kunkar limestone for the manufacture of cement in the new factory which the Associated Cement Companies propose to establish at Mangalagiri in Guntur district. Brief notes in respect of some of the minerals mentioned are appended.

Manganese.—Little information appears to be available in regard to the manganese deposits of Bellary and Kurnool, but it is believed that they are of low grade, whilst the distance of the deposits from the sea coast is probably an additional obstacle to their development.

Barytes.—The sulphate of barium, is a white mineral which finds its chief application in the paint industry. The barytes industry in India is yet in its youth, the first production of barytes in India of which statistics are available being in 1918 when 2,724 tons were produced from the mines in the Dhone taluk of the Kurnool district. The deposits of the Ceded districts are recognized to constitute the largest reserves of barytes in India. A new demand has arisen for barytes in recent years for weighting the mud fluid in rotary drilling, but the barytes produced in the Ceded districts has not, so far as is known, been employed

for this purpose up to the present. Dr. Coggin Brown of the Geological Survey of India, expressed the opinion some years ago that the possibilities of the large-scale exploitation of the Indian deposits of barytes would appear to depend on the future expansion of the paint and colour industry in India itself. Dr. A. L. Coulson of the Geological Survey, who wrote a memoir on barytes in the Ceded districts in 1933, agreed with Dr. Coggin Brown that it is improbable that Indian barytes could compete in overseas markets, and that the Indian producer should devote his attention to the capturing of the import trade of barytes into India. It was pointed out, however, that he was up against a fundamental difficulty immediately, i.e., the long railway distances and consequent heavy freight charges. Dr. Coulson considered it improbable that Madras barytes would ever be able to compete with foreign barytes in Sind and the Punjab as the railway freights from the producing centres to these places are excessive, and the Alwar State in Rajaputana is better situated as regards these markets. It was pointed out, however, that the Madras barytes has the advantage over the Alwar deposits as regards Calcutta and Assam, though the nearer deposits in Bihar and Orissa are more favourably situated. Apparently the needs of the various oil companies in Burma are being met by importation of barytes, and it would seem worthwhile examining whether Madras barytes could not be transported by sea to Rangoon and sold at a price to compete successfully with the foreign product, if it is the case that a trade with Burma in this product has not yet been developed. The rapid increase in the production of barytes is due to the development of the paint industry in Calcutta. The development of a paint industry in South India might be expected to stimulate still the further demand for the barytes of the Ceded districts.

Steatite.—One of the most widely distributed minerals in India is steatite or soap stone either in the form of a coarse potstone so-called on account of its general use in making pots, dishes, etc., or in the more compact form suitable for carvings, and in its best form suitable for the manufacture of gas-burners. Pure steatite has many applications in the arts and is used extensively in the paper, textile, rubber and soap industries. The powdered mineral commonly known as 'French Chalk' forms the basis of many toilet preparations. In India, steatite is carved into images, bowls, plates and ornamented articles. In 1912, the steatite deposits at Muddavaram and Musila cheruvu near Betamcherla in the Kurnool district were opened up, and consignments were shipped to America. Most of the steatite derived from Musila cheruvu appears to have been of the green variety although white steatite was also exported. At Muddavaram, the steatite is ivory white associated with quartzose rock and magnesite and is suitable for small articles such as gas burners. The output, from the Kurnool deposits, which in 1914 was 210 tons had all but ceased a few years later for reasons which are not on record. The question of whether the steatite deposits of Anantapur and Kurnool could not be developed would seem to be worth examination.

Asbestos.—Asbestos is found in the Cuddapah and Kurnool districts, but the Cuddapah deposits appear to be by far the most important. The existence of asbestos in the Anantapur district, although improbable is certainly not impossible. The existence in the Cuddapah district of asbestos in workable quantity and sufficiently good quality, has only been known in the last few years. Asbestos in this district was first discovered in 1924 in a well at Lingala by a cultivator, and specimens which were sent to the Wembley Exhibition secured a bronze medal. The production of asbestos in Cuddapah district in recent years has been small and there was no production at all during the last two years. A question which came under examination by the Department of Industries last year was the manufacture of asbestos cement products, the development of which it was thought could be taken up by a cement manufacturing concern in a factory adjacent to its cement works or as a separate industry. The raw materials required are asbestos, cement and water, and most factories of Europe obtain their supplies of asbestos from Canada and Russia and to a lesser extent from South Africa, Czechoslovakia and Cyprus. So far as information is available, Cuddapah asbestos has not been used for the purpose. There is one factory in India near Calcutta, but the possibilities of establishing a factory in this province for the requirements of South India and with a view to developing an export trade with Ceylon, Burma and the Federated Malay States seems worthy of consideration. Last year, five small samples of asbestos from the Cuddapah district were sent to an asbestos cement manufacturing concern in Germany and their report is to the effect that one of the samples is not suitable, but that two of the samples are of a quality similar to the Russian asbestos of the third and fourth qualities, that the strength of the fibre is good and that it would be possible, by a right preparation of the mixture to manufacture asbestos cement sheets of good quality. Before any definite steps could be taken by Government or by private enterprise to set up an industry, it would be necessary to examine further, the asbestos deposits in the Cuddapah district in order to determine how far the asbestos, or as much of it as might prove suitable, could be made available as a raw material for a local industry, for although the asbestos deposits of the Ceded districts have been examined

by Dr. A. L. Coulson, it is stated in his memoir that there has been no systematic proving of reserves and that it is not possible to give even a rough approximation of the potential reserves of asbestos in the area. In order to determine whether or not there would be a sufficient supply of the material careful proving of the deposits would be necessary.

Iron.—There is a reference to the existence of hematite iron in the gazetteers of Kurnool and Bellary districts. It is also stated in the gazetteer of the Cuddapah district that iron ore is scattered pretty generally over the country but only in any quantity at two or three localities, in the neighbourhood of which it used to be smelted according to the demand, the latter being always very small. It is further stated that usually the ore is some variety of peroxide of iron mostly a grey micaceous, and that some old iron smelting villages lie along the eastern side of the Kunder valley. It is also mentioned that the form of ore here worked was a massive shaly ferruginous sandstone mainly made up of hematite. Furnaces were worked at Yerraguntlakota in the Chitvel country and in the Rayachoti taluk near Madicheruvu. In the Anantapur Gazetteer, there is a brief reference to the fact that iron ore was smelted in insignificant quantities at Jambugumpala and Malanayakenahalli, hamlet of Kairevu, in Kalyandrug taluk. Further information in regard to these deposits of iron ore is not readily available. There is little doubt that the main obstacle to the exploitation of the Kurnool deposits of hematite iron is their distance from the sea coast, and a gentleman interested in mining matters informed me recently that if favourable freight rates could be introduced from the deposits to Marmagoa, it would be a commercial proposition to develop the Kurnool hematite ores. There would seem to be a case for an intensive examination of these ores with a view to determining their grade, quality and commercial value under modern conditions.

Diamonds.—A reference to the working of diamonds will be found in the gazetteers of Kurnool, Bellary, Anantapur and Cuddapah. The Southern of the three groups of diamond occurrences in India includes localities, with apparently authentic records, in the districts of Kurnool, Bellary, Anantapur, Cuddapah, Kistna and Godavari. Loose stones have been picked up from time to time on the surface of the ground and found in deposits of alluvium and in workings undertaken in the so-called Bangarapalle stage of the Kurnool series of strata. Although no official returns are available, unconfirmed reports indicate that every year a certain number of valuable diamonds are picked up after showers of rain in the neighbourhood of Wajra Karur in the Anantapur district.

Gold.—There is a reference to old gold workings in the gazetteer of the Bellary district. In 1902, a previously unknown belt of Dharwar schists stretching in a north and south direction for some 32 miles through the Anantapur district, was discovered. Several large quartz reefs occur in this belt, and near the village of Ramagiri old gold workings were found. A company called the Anantapur Gold Fields, Limited, was formed in 1905, and later the North Anantapur Gold Mines, Limited, and the Jibutil Gold Mines of Anantapur, Limited, were formed to assist in the exploitation of the deposits. The Jibutil Gold Mines of Anantapur ceased mining operations in 1924 and a small quantity of gold was extracted from the dumps in 1925 after which operations were suspended. The North Anantapur Gold Mines, Limited, after carrying on vigorous development work ceased mining operations on the original area in 1922. These mines which were situated in the Dharmavaram taluk of the Anantapur district, produced 44,678 ounces of fine gold during the quinquennium 1919—1923. In 1925, small quantities of gold were extracted from the dumps by cyanide treatment, but work was finally suspended in 1925. The total fine gold produced, from these mines since the commencement of operations was 136,739 ounces. As a result of prospecting operations in 1922 by the North Anantapur Gold Mines, Limited, ancient gold workings were discovered in the Gooty taluk of the Anantapur district some 35 miles north of the old North Anantapur mine. Exploratory work was carried on in the areas and finally in 1926 the North Anantapur Gold Mines, Limited, applied for a mining lease near the villages of Ramapuram and Venkatampalle, Gooty taluk. Gold was first extracted from this area in 1926. The extraction of gold ceased in 1927 after which date mining operations were permanently suspended. It is believed that the main operations were terminated because felsite was encountered which gave no indication of further shoots, but this can hardly be accepted as conclusive evidence of the absence of gold at lower depths. It seems *prima facie* improbable that the gold deposits of Anantapur district have been entirely worked out, and with gold at its present price, an enterprising mining prospecting company might find it worthwhile to undertake a re-examination of the position.

The districts of Kurnool, Bellary, Anantapur and Cuddapah might repay intensive examination by a scientific mining geologist for, as the districts abound in hilly country, it is by no means improbable that a good deal of mineral wealth remains untapped, whilst the available information in regard to the minerals which are known to exist is incomplete and inconclusive. As the problem of broadening the economic basis of these districts

postulates in some degree the discovery of new economic assets, if the position is to be improved by the introduction of new industries, and the development of their mineral resources must necessarily play an important part in the industrial development of the four districts, there would seem to be a case for conducting an intensive geological survey of the area. In fact one of the principal objectives of any economic policy with reference to the Ceded districts should be the adequate exploitation of their mineral resources.

12. The following statement shows the factories in the Ceded districts coming under the Factories Act. In addition, there are no doubt a number of small establishments in respect of which statistics are not available.

	Kurnool.	Bellary.	Anantapur.	Cuddapah.	Total.
Sugar manufacture .. .. .	..	1	..	..	1
Groundnut decorticating	11	1	5	9	26
Groundnut decorticating and rice milling	1	..	6	2	9
Groundnut decorticating and flour milling	2	1	..	..	3
Groundnut decorticating and oil extracting	2	2	2	1	7
Groundnut decorticating and turmeric polishing .. .. .	..	..	..	1	1
Groundnut decorticating and silk weaving .. .. .	..	1	..	..	1
Groundnut decorticating, rice and flour milling .. .. .	..	2	..	..	2
Groundnut decorticating, flour milling and oil extracting .. .. .	..	..	1	..	1
Groundnut decorticating, flour milling and turmeric polishing .. .. .	..	..	..	1	1
Groundnut decorticating, rice milling and turmeric polishing .. .. .	..	..	..	3	3
Groundnut decorticating, rice milling and oil extracting .. .. .	..	1	..	..	1
Oil mills .. .. .	..	1	1	..	2
Cotton ginning .. .. .	..	20	..	..	20
Cotton pressing .. .. .	..	6	2	..	8
Cotton ginning and pressing	1	..	1	..	2
Cotton ginning and groundnut decorticating	38	40	24	12	114
Cotton pressing and groundnut decorticating .. .. .	..	2	..	1	3
Cotton ginning and flour milling .. .. .	..	1	..	..	1
Cotton pressing and machinery repairing .. .. .	..	..	1	..	1
Cotton ginning, groundnut decorticating and flour milling	2	3	2	..	7
Cotton ginning, groundnut decorticating and rice milling .. .. .	..	4	..	..	4
Cotton ginning, groundnut decorticating and oil extracting	4	..	..	2	6
Cotton ginning and pressing and groundnut decorticating	2	6	..	..	8
Cotton ginning and pressing, groundnut decorticating and oil extracting	2	..	1	..	3
Cotton ginning and groundnut decorticating, oil extracting and flour milling	2	..	..	..	2
Railway workshops .. .. .	..	..	2	..	2
Breweries and distilleries .. .. .	..	..	1	..	1
Wool spinning and weaving .. .. .	..	1	..	..	1
Forage press .. .. .	..	1	..	..	1
Government Industrial School .. .. .	..	1	..	..	1
Bones and manure works .. .. .	..	1	..	..	1
Barytes crushing .. .. .	..	..	..	1	1
Beedi factories .. .. .	..	..	..	2	2
Match factories .. .. .	..	..	..	1	1
Total	67	96	49	36	248

Considering that Bellary is the largest cotton growing district in the province in area and the third in yield, and that groundnut is the only other industrial crop of any great importance, it is not surprising that there should be so many cotton ginning and pressing factories and groundnut decorticating mills. Most of these factories are seasonal, and some of the cotton ginning and pressing factories carry on groundnut decorticating also, as well as in some cases, rice milling, flour milling and oil extraction. A few of the groundnut decorticating mills also carry on oil extraction, flour milling, rice milling, and turmeric polishing. The areas under sugarcane in 1936-37 in the Kurnool, Bellary, Anantapur and Cuddapah districts were 781, 9,544, 2,794 and 519 acres respectively. The area under sugarcane in the Hospet taluk of the Bellary district in 1936-37 was 7,332 acres representing 76.8 per cent of the area under sugarcane in the Bellary district. It was recognized some years ago that all the essentials requisite for a successful sugar industry exist in the Hospet area and a company under the style of the India Sugars and Refineries, Limited, was started four or five years ago for the purpose of setting up a factory with an initial crushing capacity of 400 tons of sugarcane per day. There would appear to be scope for increasing the capacity of this factory or for the starting of an additional mill in the area. It is believed that there is also a considerable quantity of palmyra trees in the Hospet area,

and it would seem to be worthwhile for the sugar mill to consider whether it would not be possible for them to refine palmyra jaggery in the off-cane season as this would enable them to spread their overhead charges over a larger production of sugar and to earn a larger profit. There is also a belt of palmyra trees in the Cuddapah district and it might be possible for the factory to draw supplies of jaggery for refining from that area if a sufficiently low freight rate could be introduced. Consequent on the extension of Prohibition to Cuddapah it will be necessary to investigate whether suitable jaggery can be prepared from the sweet toddy obtained from the date palm which abounds in that district. The area under groundnut in Kurnool, Bellary, Anantapur and Cuddapah in 1936-37 was 468,195, 229,899, 315, 639 and 202,929 acres respectively, Kurnool being the largest groundnut growing district in the Province. The area under groundnut in the four districts in 1936-37 represented 34.8 per cent of the total area under groundnut in the Province. The area under other oil-seeds, i.e., castor, gingelly, etc., is also not inconsiderable. The number of oil mills which are in most cases combined with other industrial activities seems few and there should be scope for setting up more mills in the Ceded districts having regard to the large area under oil-seeds in the area. There would seem to be possibilities of developing the fruit preservation and canning industries in Cuddapah and Kurnool districts. Panyam in Kurnool is an important centre for fruits such as mango, orange, guava, wood apple, plums, etc. In order to provide an outlet for some of these fruits at certain seasons of the year when there is a glut, there is a proposal to establish a fruit preservation and canning factory at Panyam with the aid of financial assistance under the State Aid to Industries Act.

13. *Cotton spinning and weaving mills.*—In 1933, proposals were submitted to Government for the setting up of a cotton spinning mill in the Bellary district. It was suggested that it should be a State enterprise financed from the Famine Relief Insurance Fund, the actual management of the concern being entrusted to a firm of repute with experience of cotton mill management. It was pointed out that the establishment of such a mill would provide a means of subsistence, directly or indirectly to a considerable number of persons. Bellary is one of the chief cotton producing tracts in the Province having in 1936-37, 591,914 acres under cotton cultivation, whilst in the adjoining districts of Kurnool, Anantapur and Cuddapah, the areas under cultivation in 1936-37 were : 233,192 acres, 143,316 acres, and 61,421 acres respectively. As regards the counts of yarn, it was considered that it should be possible in a mill in this area to spin yarn of coarse and medium counts from the local cotton though for spinning finer counts up to 40s imported Karunganni or Cambodia would have to be used. The estimated population of Bellary district in 1936-37 was 1,028,000, whilst according to the census of 1931, 13,494 persons were cotton and silk weavers. The number of handlooms is estimated at 8,219. There are also a number of handlooms in the adjoining districts engaged in the production of cloth from coarse and medium counts of cotton. At present, large quantities of yarn are imported into the Ceded districts from mills in other parts of the Province, as also from the Province of Bombay. If a mill with a production capacity of 300,000 lb. of average 20s yarn per month was set up, the capital required was estimated at about Rs. 22 lakhs. Subsequently, it was suggested that a cotton mill should be started at Pamidi in the Anantapur district and that it should restrict its activities to the spinning of yarn and not undertake the weaving of cloth as the latter might have the effect of creating some unemployment among the handloom weavers of the area. Pamidi is situated on the railway line between Guntakal and Anantapur, and is on the banks of the Pennar river. The object of the proposal was twofold : (i) to provide employment for the people of an area often visited by famine and (ii) to provide a load for the Government thermal station which was then under investigation. It was also considered that it would redound to the benefit of the considerable number of handloom weavers in the Ceded districts if they could be supplied with their requirements of yarn from a local mill. The population of Anantapur district in 1936-37 was estimated at 101,000, whilst the number of handlooms in the district is about 6,494, the number of looms in Pamidi itself being from 200 to 300. If the average consumption of yarn per loom per year of 225 working days is taken at 315 lb. the requirements per year of the Anantapur district may be estimated approximately at about 20 lakhs of pounds of cotton yarn. The counts generally consumed at Pamidi are reported to be 8½s, 12½s, 14½s and 20s, whilst counts ranging from 8½s to 40s are in demand in the Anantapur district as a whole. There are also a number of handlooms in the adjoining districts engaged in the production of cloth from coarse and medium counts of yarn. For an output of 20 lakhs of pounds of cotton yarn, a spinning mill producing 20s counts would require to be fitted with about 20,000 spindles. The question was considered by a Sub-Committee for Cotton Mill Industry of the Provincial Economic Council in October 1936, when the Director of Industries was asked to go further into an estimate which he had put before the Sub-Committee and work out the cost of production and also examine the prospects of a mill at Pamidi with reference to the climatic conditions. Subsequently, a report was submitted to Government on which no orders appear to have been passed.

A financial statement for a cotton spinning mill in the Ceded districts with 24,000 spindles working two shifts and spinning average 20s, the production of which would be about 50 bales of 400 lb. each per day was submitted to Government, and is extracted below :—

Non-recurring expenditure.

	RS.
Land (about 10 acres at Rs. 250 per acre)	2,500
Building main mill building 80,000 sq. ft. at Rs. 1-12-0 per sq. ft.	1,40,000
Offices, stores, godowns, etc., 25,000 sq.ft. at Rs. 1-12-0 per sq.ft.	43,750
Compound wall, 3,000 r.ft. 9 feet, high, at Rs. 4	12,000
Roads and approaches	1,000
Quarters for officers and work people	60,000
Furniture and fittings	3,000
Bullock carts with Dunlop equipment—3-ton capacity	2,000
Water storage tanks	8,000
Motive power (150) individual motors for all machines except card line and group drive for cards with an aggregate of about 1,000 h.p.	80,000
Spinning machinery	9,00,000
Machine shops	5,000
Humidifying plant with suitable boiler	15,000
Gearing, shafts, pulleys, belts and ropes, etc.	10,000
Electric lighting installation (600 units)	3,500
Erection charges	10,000
	12,95,750
Working expenses for about three months for double shift working	1,80,000
Stock of stores, card cans, bobbins, etc.	50,000
Do. cotton, yarn, etc., for about six months on double shift	5,00,000
	20,25,750
Total capital required ..	20,25,750
or say ..	20,00,000

Recurring expenditure per month of 26 working days.

	RS.	RS.
Office and clerical establishment—		
1 Manager (office)	150	
1 Accountant	50	
1 Typist	30	
1 Despatching clerk	25	
2 Peons	25	
	280	
Supervision and technical and mill clerical staff for double shift—		
1 Mill Manager	300	
2 Spinning Masters on Rs. 150 each (1 for each shift)	300	
24 Jobbers on Rs. 50 each (12 for each shift on Rs. 50 each)	1,200	
2 Engineers (1 for each shift on Rs. 200 each)	400	
2 Workshop foremen (1 for each shift on Rs. 75 each)	150	
20 Clerks on Rs. 30 each	600	
2 Time-keepers (1 for each shift)	100	
2 Store-keepers (1 for each shift)	100	
4 Watchmen	50	
	3,200	
Labour charges for 1,440 men at 8 annas each per shift at about 30 men per 1,000 spindles per shift	18,720	
Power (electric current) charges at about 0.4 anna per KWH plus Rs. 3-4-0 per KVA on about 200,000 units per shift	11,300	
Lighting charges	200	
Lubrication oil, grease, etc.	2,000	
Packing materials—Craft paper, lessian cloth, hoop iron, etc.	2,000	
Rates and taxes	100	
Repairs and upkeep at 1½ per cent per shift on about Rs. 13,00,000	3,300	
Depreciation on machinery at 5 per cent per shift on about Rs. 10,25,000	8,500	
Do. building at 2½ per cent per shift on about Rs. 3,00,000 roads, furniture and fittings	625	
Insurance on buildings, machinery, cotton, etc., about Rs. 20,00,000 at ½ per cent	833	
Transport charges—Maintaining carts, bullocks and cartmen	300	
Interest charges on capital outlay of about Rs. 20,00,000 at 4 per cent	6,667	
Contingencies	2,000	
	60,025	
Production per day on 24,000 spindles at 7 oz. per spindle per shift of 9 hours each—21,000 lb. of average 20s .. .. .		..
Production per month of 26 days on 24,000 spindles at 7 oz. per spindle per shift of 9 hours each—546,000 lb. .. .. .		..

	Rs. A. P.
Cost of production per lb., Rs. 60,025/546, 000 =	0 1 9
Cost of 1 lb. of cotton mixing at about Rs. 245 per candy of 784 lb.	0 5 0
Cost of 1 lb. of cotton waste at 18 per cent	0 0 10-0
	0 7 7-9
Deduct the value of waste recovered	0 0 1-6
Net cost of 1 lb. of yarn	0 7 6-3
Sale price of lb. of yarn (ex-mill)	0 7 9
	0 0 2-7
	Rs.
Profit per month	7,678
Profit per year	92,136

Note.—The price of cotton, cost of land, buildings, and machinery and wages for labour are all variable factors and hence the above estimate should be regarded only as approximate.

It will be seen from the statement that on the basis of the rates then prevailing and working two shifts, the enterprise should yield a profit. It was pointed out that the price of machinery has advanced considerably in the last year or two and that a new mill would labour under the disadvantage of having to pay higher prices for its machinery and plant than many of the existing mills. Further, if it was found impracticable to set up a thermal electricity station in the area in which the mill would be established, considerable additional expenditure would have to be incurred on the provision of a steam turbine and boilers or on oil engines instead of electric motors, and this would involve increased provision for interest and depreciation charges. It will be noted from the statement of recurring expenditure that interest charges on a capital outlay of about 20 lakhs at 4 per cent have been allowed for although in an ordinary joint stock company the capital would be represented largely by share capital a dividend on which would be paid only when profits were forthcoming and interest charges would be directly debited to the profit and loss account only to a limited extent before arriving at the net profit. No allowance has also been made in the estimated profit for managing agents' remunerations, directors' fees and commission on sales, or for transport charges on yarn to consuming centres which, in some instances, it is understood, are defrayed by the mills themselves. If a thermal station is set up and the power required is provided by electric motors, the amount of water required would not be large as a supply would only be needed for the small boiler, for the humidifying plant and for drinking purposes for the operatives and such like purposes. The question of water-supply would nevertheless have to be carefully investigated. It may be mentioned that various cotton mill owners with whom the project was discussed by the Director of Industries, showed a preference for Bellary over Pamidi as a venue for the proposed cotton mill and other centres such as Tungabhadra, Guntakal, Hindupur, Adoni and Tadpatri may be considered as there would appear to be scope for setting up more than one mill. In regard to climatic conditions, the climate in the Anantapur and Bellary districts is not humid, but humid conditions are not absolutely necessary for a mill spinning medium counts only, and in any case provision has been made in the financial statement for the installation of a humidifying plant, and this should enable any difficulty experienced in the spinning of yarn owing to the lack of humidity in the atmosphere to be overcome. A new mill in the Ceded districts would in the initial stages labour under a disadvantage owing to the lack of skilled and trained labour, but this difficulty should in course of time be gradually overcome. The development of the cotton spinning and weaving industry in the Ceded districts would be greatly facilitated if, as a result of the Tungabhadra project, it was found practicable to introduce the cultivation of irrigated Cambodia cotton, as in this case, it would be possible to spin yarns of higher counts and to weave finer qualities of cloth.

14. *Kales improved spinning wheel.*—A merchant in Bezwada claims to have evolved an improved spinning wheel which is capable of dealing with all the processes from the ginning of cotton to the spinning of yarn. It is stated that on an average a man can spin 2,000 yards of yarn per hour from 10 to 20 counts according to the quality of the cotton, and that a man working on the spinning wheel for eight hours could produce about 14,000 yards of yarn in 16 counts, and earn Rs. 1-8-0 per day. The cost of the spinning wheel is Rs. 200. It is also suggested that two spinning wheels could be driven by a $\frac{1}{4}$ h.p. motor, in which case the earnings of the spinner would be increased. Samples of yarn spun on the wheel have not, however, been sent to the Director of Industries to enable tests in regard to breaking strength, elongation, twist, regularity and count to be conducted. If the spinning wheel is able to do all that is claimed for it, it might be very useful as a relief measure of a permanent character in the famine areas. And though Government could, if they saw fit, arrange to provide the capital for the purchase of these spinning wheels as

loan to a society which would purchase the charkas and distribute them to agriculturists or other workers and recover the amount in small instalments, it will first be necessary to determine whether the yarn spun on the wheel does not cost more than the price of mill yarn of the same quality. If the spinning wheel is able to turn out suitable yarn at an economic cost, the possibilities of introducing it in the Ceded districts as an alternative to the setting up of a large spinning mill in an area would appear to be considerable. It has, therefore, been suggested to Government that a spinning wheel should either be obtained on loan from the inventor for purposes of experiment or that one should be purchased from the famine relief funds and sent to the Government Textile Institute, Madras, for practical tests.

15. *Paper industry.*—In the Cuddapah district large quantities of Botha (*Cymbopogon Coloratus*) grass are available, and the possibilities of this grass as a raw material for manufacturing paper is at present under examination. The Paper and Pulp Expert of the Forest Research Institute has reported that semi-commercial tests carried out on this grass confirmed the previous laboratory tests, namely, that the fibre of the grass is very short and that the bleached pulp obtained from it is not very clean so that it is consequently suitable for the production of cheap grades of paper only and that too in admixture with a certain percentage (about 25 per cent) of some long fibre pulp, e.g., bamboo pulp. The Paper and Pulp Expert considers that Botha grass may be used for the production of hand-made paper of cheap quality provided that the pulp can be prepared at an economic and competitive cost. At the present stage of the investigation, therefore, it would appear that Botha is more suitable for the production of hand-made paper on cottage industry lines than for use as a raw material for the manufacture of paper on a large factory scale. The difficulty with paper manufacture on a large scale, moreover, is that the market for protected papers is limited, and the paper imports include very many varieties and descriptions of paper, whilst any one factory could only manufacture a limited range of qualities. When the new paper mills which are under construction in different parts of India, reach the production stage, it is anticipated that there will be a considerable overproduction of paper, and it is very doubtful whether there is scope for more than one new paper mill in the Madras Province. If this is so, it is unlikely that the Ceded districts, where coal is expensive, would offer the best prospects for the establishment of a factory. There are other areas in the Province which would seem *prima facie* to afford better facilities for the establishment of a paper industry, e.g., Tinnevely, when the Papanasam hydro-electric project materializes.

16. *Sisal fibre industry.*—There would appear to be possibilities in regard to the development of a sisal fibre industry in the Ceded districts. There is actually a sisal fibre estate in existence in Penukonda taluk of the Anantapur district which is known as the Beckfield Fibre Estate. This estate which has had a chequered career has comparatively recently been leased by Major C. B. Oakley for the purpose of preparing sisal fibre out of the aloes grown in and around the estate plantations. It is understood that about four lakhs of rupees have been spent in planting up the Beckfield Estate, and on buildings, machinery, transport and experiments. The plantation has not succeeded owing firstly to the fact that the correct variety of agave plant was not introduced and secondly because re-plantation was not carried out when the first generation of plants planted in 1912-14 died away. It is understood that the estate now chiefly consists of tertiary growths which are wild and untended, resulting in the leaves being very short and unsuitable for economic decortication. Although the Anantapur district has such poor rainfall, that even scrub jungle will hardly survive, it has been proved by practical demonstration that the correct variety of plant, the *Agave Sisalana*, grows sturdily. The machinery installed at the factory is capable of producing half to one ton per day of eight hours, of finished fibre, but it is operated now only once or twice a week owing to the wrong quality of the leaves and the paucity of supply to feed the mill. Major Oakley considers that, in the course of four years, the sisal industry could be developed into a prosperous industry in the Ceded districts, profitable to the grower and to the manufacturer, and forming a considerable source of employment in the famine area and he is contemplating preferring an application under the State Aid to Industries Act for a large acreage of land on the cowle system and for finance to enable him to plant up the land with true *Agave Sisalana* in order to develop the industry on approved modern lines. The land near the present factory site or on the strip of land between Hindupur and Penukonda would, it is suggested, be the most convenient base for large scale operations. Major Oakley appears to be exceptionally well placed to develop a sisal estate in the Ceded districts as he has in his possession a supply of the correct seedlings from acclimatized plants of *Agave Sisalana* from another estate which he owns in Coorg. There are probably other areas in the Ceded districts where the cultivation of sisal could be introduced or extended by planting it as a hedge crop. It not only supplies valuable fibre in the production of which a certain amount of labour can be absorbed, but also prevents soil erosion.

17. *Tanning industry.*—It will be seen from the list of factories extracted in paragraph 12 supra that there are no organized tanneries coming under the Factories Act, in the Ceded districts although it is believed that there are about six small tanneries in existence in Bellary and three in Cuddapah district. The distribution of tanneries in relation to the supply of raw materials throughout the Province appears to require study as it seems to be the case that raw hides and skins have often to be transported a considerable distance. The nearer a tannery is to the place where the hides and skins become available, the less will be the defects, such as stains, which manifest themselves at different stages of the tanning processes. Tanning was one of the earliest industries, other than agriculture, that developed in India and having regard to the large number of goats and sheep maintained in the Ceded districts, there would seem to be some scope either for more organized tanneries or for improving the village tanning industry if water suitable for tanning purposes is available. The question of the development of the village tanning industry will be considered in a separate note. The improvement and development of the tanning industry in the Ceded districts, whether on organized or village tanning lines, would be greatly facilitated if avaram or tangedu (*cassia auriculata*) could be made available at a cheaper price. Wattle bark is used in the tanning of hides and to a limited extent latterly in the tanning of second and third quality skins, though avaram is still used in the tanning of most of the skins. It is understood that wattle bark is not used to any great extent in the tanning of hides for local consumption, e.g., for kavalais. The cost of avaram bark is high relative to its tanning content, but this is compensated to some extent by other properties which are peculiar to it. A factor which increases the cost of avaram bark is that the shrub is not cultivated in plantations, but grows wild and the cost of collection of the bark thus forms the greater part of the cost. It has been stated that about two-thirds of the avaram bark used in the Province is imported from Mysore and Hyderabad and if this is the case, it should be worthwhile to investigate why it can be supplied cheaper from these States, and whether the bark could not be cultivated, collected and supplied on a more systematic basis and at cheaper rates, so that the dependence of the Province on outside sources of supply of the bark could be lessened. Avaram thrives on any kind of soil. It prefers a dry climate and low elevation and is able to withstand severe drought and even in unirrigated plantations it attains a height of four or five feet in the second year. The plant reproduces itself naturally by seed and coppices freely. The question whether organized plantations could not be organized and developed in the districts of Kurnool, Bellary, Anantapur and Cuddapah would seem to merit close examination as it might be feasible to reduce the cost of collection by systematic planting to an extent which would enable the cost of the bark to be lowered and its competitive position in relation to wattle improved. The stripping of the bark in dry hot weather presents some difficulty, whilst it is advisable that no time should be lost in between the stages of cutting the twigs and stripping the bark and that the bark should be stripped when the twigs are fresh and green in order to render possible the production of a light coloured tannage. Also if improved methods of bark stripping could be introduced, the cost of the bark could be further reduced.

18. *Ericulture.*—The area under castor in the districts of Kurnool, Bellary, Anantapur and Cuddapah in the year 1936–37 was 28,526, 22,676, 67,178 and 7,793 acres, respectively, the four districts between them accounting for as much as 126,173 acres out of a total of 263,870 acres for the whole Province. The yield in tons of the four districts amounted in 1936–37 to 7,610 tons out of a total of 24,586 tons for the Province as a whole. There would seem, therefore, to be scope for introducing ericulture in the area on a fairly considerable scale provided that an outlet could be found for the cocoons. Ericulture is the culture of silk worms that feed on castor leaves and these worms are bred entirely in cottages. Ericulture is pre-eminently suitable for development as a cottage industry as the apparatus is inexpensive and the work involved is simple and can be carried on by women and children in their spare time in their own homes. The following statement shows roughly the economics of silk worm rearing :—

Data—

1. Quantity of leaves that can be gathered if the leaves are removed from the beginning.	6,150 lbs. or about 75 maunds of 82-2/7 lbs.
2. Quantity of leaves available if they are picked after the seeds are formed and fairly matured.	4,500 lbs.
3. Leaf available for three months only in a year .. ..	....
4. At best three rearings can be had in a year .. ..	....
5. Quantity of leaves available for one rearing	1,500 lbs.
6. Each rearing takes about 20 days .. ..	....
7. Ten lbs. of leaves are required to produce one lb. of green cocoons.	....
8. Quantity of cocoons produced	150 lbs.

9. Seven lbs. of green cocoons :: one lb. of dry pierced cocoons (variable factor).
10. Quantity of pierced cocoons at seven : one rendita :: 21 3/7 lbs.
Number of dry pierced cocoons in one lb. : :: 1,500.
11. Approximate number of eggs in an ounce :: 17,000
12. Quantity allowed for non-hatching, etc. :: 1,000
13. Number of worms that can be had from one oz. of eggs :: 16,000.
14. Quantity of eggs required for one rearing = two oz. 21 3/7 lbs. of pierced cocoons are produced in one rearing
15. Quantity of pierced cocoons that can be had from one ounce of eggs : 10 2/3 lbs.

	RS.	A.	P.
Non-recurring expenditure—			
Rearing trays 80 at 4 annas each	20	0	0
Spinning baskets 60 at 2 annas each	7	8	0
Bamboo racks—six at Re. 1-4-0 each	7	8	0
Ant cellars	1	0	0
	36	0	0

Recurring expenditure for conducting three rearings a year—			
Cost of six oz. of eggs at Re. 0-12-0 per oz. at two oz. of eggs per rearing.	4	8	0
Extra labour required for picking leaves 48 units (girls) at Re. 0-1-6 per unit.	4	8	0
Waste paper for spinning	1	0	0
Depreciation on rearing appliances at 20 per cent per annum.	7	3	4
Kerosene oil	1	0	0
Sundries	0	12	0
Total ..	19	0	0

	LBS.
Output of green cocoons for three rearings :: from 4,500 lbs. of leaves.	450
Dry pierced cocoons :: (Rendita one :: seven)	64

	RS.	A.	P.
Sale price of 64 lbs. of pierced cocoons at 8 annas per lb.	32	0	0
Cost of production as per details given above	19	0	0
Net additional profit on each acre by rearing ..	13	0	0

Demonstrations of eri silk worm rearing have been successfully carried out at different centres in the Province, but little progress has been made with the development of the industry as there is little or no demand in South India for cloth woven from the yarn spun from eri cocoons. The outlook has altered considerably, however, consequent on the Mysore Government having set up a waste silk spinning plant in the Mysore State and enquiries are proceeding as to whether the plant will be in a position to absorb the eri cocoons produced in Madras at a price of about 8 annas per lb. If it is not found possible to develop this outlet for eri cocoons, the question of setting up a plant for the manufacture of spun silk from silk waste in Madras will have to be actively investigated. It may be mentioned that a departmental demonstrator supervised the rearing of eri worms at Kudligi in the Bellary district in 1935, and out of the eri eggs received from Kuppam and from the Coonor silk farm, the local agriculturists raised several crops of eri cocoons successfully. A few of the rearers were instructed how to spin eri silk out of the cocoons by means of spinning wheels, but the rearers evinced little interest in spinning and desired to dispose of their cocoons as such in order to realize a quick return for their labour. Attempts were made to find an outlet for the cocoons, but without success. The Assam merchants to whom samples of the eri cocoons raised were sent reported that they were superior to the Assam cocoons, but they were not prepared to purchase the cocoons as they are able to obtain a plentiful supply of eri cocoons in Assam itself at cheaper rates.

19. *Sericulture.*—The Kollegal taluk of the Coimbatore district is the only centre in Madras where the rearing of silk worms and the reeling of cocoons are conducted on an intensive scale and sericulture forms the main occupation of the people in almost all the villages. The women folk play a considerable part in the rearing of silk worms and they bestow considerable care and vigilance upon the rearing of worms. In 1937-38, mulberry cultivation was introduced at the following centres in the Bellary district; (i) Ondekota, (ii) Sovenahalli, (iii) Keriyaгинahalli, (iv) Kaligeri, (v) Hospet. But the experiment was not very successful on account of adverse seasonal conditions. Although the climate of the Ceded districts is generally speaking not very suitable for sericulture, the possibilities of introducing the industry might be further investigated since silk worm rearing would afford a valuable subsidiary occupation for the agricultural classes.

20. *Industrial education.*—There has been little development of industrial education in the Ceded districts. There is only one Government Industrial School in existence, namely, at Bellary. In this school, long term apprenticeship courses are provided in (i) carpentry and cabinet-making and (ii) general mechanics work which extend over a period of five years. The instruction is largely practical in character and aims at fitting the students for work as artisans in wood and metal. There is no attempt in this institution to provide advanced theoretical engineering courses, but every effort is made to turn out skilled practical workmen capable of maintaining running machinery in good repair and in a state of economic efficiency. The age prescribed is over 15 and under 18 years and the minimum educational qualification insisted on is first form pass or its equivalent, though preference is given to candidates who have studied beyond the minimum stage. No tuition fees are charged for the courses, and scholarships are granted, limited to cases where it is absolutely necessary subject to a maximum of 33 per cent of the number of new admissions to the first year course in each year and at the rates of Rs. 5, 5, 6, 8 and 10 per mensem during the different years of study. The strength of the school is 73. There is only one aided industrial school in the Bellary district, namely, St. Joseph's Girls' Industrial School which is managed by the Sisters of the Roman Catholic Church and provides instruction in lace-making, embroidery, hosiery work, dress-making and needle-work generally. The school is attended by Anglo-Indian and Indian girls and the instruction provided is very popular locally. The school is supported from mission funds aided by a grant from Government. There are no recognized aided industrial schools in the districts of Kurnool, Anantapur and Cuddapah, although the Coles Memorial Industrial School, Kurnool, was formerly in receipt of a grant from Government. The industrial subjects taught in this school at the time that it was in receipt of aid from Government were weaving, which was the principal subject, and cabinet-making. Instruction was also provided in literary subjects and in market-gardening. The school provided an extensive course in handloom weaving and allied processes. Information in regard to the recent history of the school is not available although it is believed to be still in existence. One of the ways of providing avenues of work for the unemployed is to select a limited number of youths and provide for them intensive training for comparatively short periods in such small scale industries as they might be able to establish and develop in and round their own homes. The first step in this direction has been taken in providing intensive courses of training in certain small scale industries, namely, leather goods manufacture, casting and metal working, pottery, and coir working, in addition to the usual courses of instruction in the Government and aided schools in the Province. The leather goods manufacturing section has been started in the first instance in the Leather Trades Institute, Madras, and the pottery class in the School of Arts and Crafts, Madras, whilst casting and metal working classes have been inaugurated in the Government School of Technology, Madras, and the Government Industrial School, Calicut. Proposals have been submitted to Government for attaching a casting and metal working class to the Government Industrial School at Bellary with effect from the 1st April 1939. In these casting and metal working classes instruction is, or will be, given among other things, in the manufacture of such articles as drawer handles, hinges, and locks and the aim is to teach youths how to prepare metal casting and light metal articles in iron, brass, aluminium, etc., which are imported into India from foreign countries. It is hoped that on the completion of their training, students of these short courses will be able to set up small establishments of their own with the aid of financial assistance under the State Aid to Industries Act if necessary, since the manufacture of such articles as locks, hinges, bolts, handles, and draw handles, could each be developed into a separate cottage industry. The question of whether agricultural industrial schools could be started at suitable centres in the Ceded districts would seem to be worthy of consideration. In such schools, boys completing the course in higher elementary schools or preparatory agricultural schools could go on to take a further three years course in local agriculture, poultry-keeping, bee-keeping, goat or sheep and cattle maintenance and breeding, with hand-spinning, hand-weaving of handspun yarn, village tanning, rope making, basket making, mat-making, etc., as subsidiary industries. As a preparation for the courses in

these schools there might be established under the control of the Director of Public Instruction in each district one or two preparatory agricultural schools of general education parallel to the II, III and IV Forms, but working six hours a day with a time-table heavily biased to agriculture, somewhat on the lines of the Preparatory Trades School in Madras where the time table is biased towards organized industry.

21. *Financial assistance to industries.*—As finance enters largely into the development of industries, a few concluding words may perhaps be said on this subject. Financial assistance for the establishment of industries—large and small—is afforded under the Madras State Aid to Industries Act (Act V of 1923). Under section 5 (i) of the Act as it stood formerly, State aid could be given only to three classes of industries, namely, (a) new or nascent industries, (b) industries to be newly introduced into areas where such industries are undeveloped and (c) cottage industries. The relative clause of the Act has, however, been amended so as to provide for the grant of aid to old or established industries also, in suitable cases if special reasons exist therefor. The relative section of the Act has been amended so as to exempt industrial businesses or enterprise with a capital outlay not exceeding Rs. 2,000 from certain restrictions imposed by the Act as against a previous limit of Rs. 1,000. The definition of “Cottage industries” has also been liberalized. Formerly, the term “Cottage Industries” was taken to refer only to industries carried on exclusively for the benefit of, or by, workers in their homes and not to industries carried on for the benefit of middlemen, although the workers happen to work not in factories but in their own cottages. In practice this definition was found to be restrictive since it is often not possible completely to dissociate the workers from the middlemen capitalists. The definition of the term has therefore been relaxed so as to permit of the grant of loans to cottage industries carried on by workers in their own homes even though the middlemen stand to benefit, in greater or less degree, by the cottage workers labour. The new definition of cottage industries is “Industries carried on by a worker in his own home.” As the development of cottage and village industries is a matter of vital importance, the scope of the Act has been still further enlarged so as to permit of the grant of subsidies for any purpose in the case of cottage industries and of such assistance to village industries as may from time to time be found necessary. The expression “cottage industry” and “village industry” have been clearly defined in the Act, and as already stated, the term “cottage industry” covers any industry carried on by a worker in his own home, whilst “village industry” means any industry which forms the normal occupation, whether whole-time or part-time of any class of the rural population of the Province. A new clause has been added to one of the sections of the Act so as to enable Government to assist a village industry in any manner which may be determined by the Provincial Government. The improved facilities in regard to the provision of financial assistance to cottage industries have been widely advertised in the newspapers and district gazettes, and also by the distribution throughout the Province of printed leaflets in English and the principal vernaculars. This has resulted in a large increase in the number of applications for aid. The rate of interest charged on advances under the Act, which was formerly 6½ per cent has been reduced to 5 per cent.

Section II.—Cottage Industries.

22. *General.*—While the establishment of large scale industries should be encouraged not only for the direct employment which they provide, but because they will render possible and greatly facilitate the development of new, medium or small scale industries, the finished products of the former functioning as raw materials in the processes employed by the medium and small scale industries, it is generally recognized that no scheme for the economic reconstruction of a great agricultural country like India can be complete without adequate provision for the introduction and development of rural industries. It is a truism that India dwells in the villages and in the Madras Province, 86·44 per cent of the population live in villages, whilst in the Ceded districts, the proportion must be still higher. The rural population has been severely affected by the economic depression and the fall in agricultural values, whilst the decay of local industries in some areas has left the rural population no supplementary source of income outside the seasonal periods of their agricultural work. It has become very necessary, therefore, to attempt to develop rural industries which would provide for the common needs of the people. In this connexion, it may be noted that large units are not predominant in Japanese industry and that a considerable proportion of the production in that country is carried on in works employing a comparatively small number of operatives, so that, Japan is, in fact, largely a country of small scale industries, handicraft units and family enterprises. The reasons for the survival of small scale units in Japan at a time when small scale

industries are tending to disappear in many other countries should repay careful study for the organization of the cottage and small scale industries of Japan must have many lessons for those in India who are applying their minds to the problem of development of rural industries in this country. It has been suggested that the various Provincial Governments should co-operate in the matter of deputing an officer to study the methods, technique and organization of the cottage and small scale industries of Japan or that alternatively arrangements should be made for the Indian Trade Commissioner in Japan to collect the desired information. The success of the Kerala Soap Institute in stimulating the establishment of small soap factories has opened up the question of whether the industrial schools might not do more in the direction of providing instruction in the manufacture of particular articles such as scissors, locks, pen-knives, pins, clips, wire-nails, hinges, implements, etc., so that the students could set up small establishments of their own on the completion of their training. It was no doubt the right policy in the past for the industrial schools to concentrate on turning out of general artisans of which there was formerly a dearth, but although the present system of training turns out men suitable for employment in some of the established industries it does not, generally speaking, enable the past students to set up small industrial establishments of their own. There would therefore seem something to be said for the view, which has been put forward, that in future some of the schools should be re-organized so as to provide more specialized courses of training or perhaps even for them to have small demonstration factories attached to them. A reference has been made in a separate note to the intensive courses of training in light metal casting work which have been organized at the Government School of Technology and the Government Industrial School, Calicut, and are proposed to be attached to the Government Industrial Schools at Madura and Bellary. There are a number of institutions in the Punjab in which the manufacture of particular articles by modern methods has been introduced; for example, the Government Industrial School at Lyallpur, which city is the centre of a large agricultural district, specializes in the provision of modern and improved methods for agriculture, the Government Tanning Institute at Jullundar provides practical training in improved methods of tanning to village chamars with the object of improving the village tanning industry, whilst the Government Industrial School, Ferozepore, specialize in cottage industries in wood and metal such as as are urban in character and can be worked on a cottage industry basis, e.g., manufacture of sewing machine covers and cases, simple machine parts which are not patented, perambulators, hooks, pegs and handles, tonga wheels, cycle parts, etc. The Government Industrial School, Muzzafargargh, provides practical training in manual trades of local utility (a) with a view to enabling local needs to be met locally, and (b) enabling local materials to be consumed locally, thus increasing employment and the earning capacity of the local inhabitants. As a preliminary to considering further the question of providing more specialized courses of training which would enable students to set up small establishments of their own, Sri V. R. Chitra, Superintendent of Crafts, School of Arts and Crafts, has been recently deputed to undertake a tour of Northern India in order to study the development of industrial education in the Punjab and the United Provinces in this direction and to examine the technique of a number of small-scale industries which have been started by private enterprise in some of the Northern provinces. When Sri Chitra returns, it is hoped to draw up proposals for the resuscitation and development of several small scale industries including, among others, lacquer work, toy manufacture and bangle making.

23. *Cottage industries of the Ceded districts.*—In the Manual of the Kurnool district which was published in 1886, it is stated that the chief trade of the district is weaving and that cotton carpets are manufactured at Cumbum and Kurnool, and woollen blankets chiefly by the Kurubas or shepherd caste. There is also a reference to the preparation of cotton tape for cots by Muhammadan women and to mat weaving. An iron industry is stated to have been carried on in the villages along the base of the Nallamalais. There is mention of the preparation of stone and copper images and idols, brass utensils, etc., and of the manufacture of bangles, and of pottery and oil extraction, as well as of the tanning industry, the work of which is stated to have been very rough. In the gazetteer of the Bellary district there is reference to gunny weaving, cotton weaving, carpet weaving, cotton dyeing, silk weaving and dyeing, blanket weaving, cotton spinning, jaggery making, oil extraction, tanning, iron smelting, bangle making, brass work, potstone articles, wooden toys, mat weaving and wood carving. In the gazetteer of the Anantapur district, there is mention of gunny weaving, cotton weaving, cotton dyeing, silk weaving and dyeing, cotton printing, blanket weaving, woollen rug making, jaggery making, oil extraction, tanning, bangle making, rough handmade paper, and wood carving. In the gazetteer of the Cuddapah district reference is made to cotton weaving,

silk weaving, blanket and rug making, cotton printing and dyeing, shoe-making, wood working, brass, copper and bell-metal working and stone carving and stone working. A survey of the cottage industries of the districts of Kurnool, Bellary, Anantapur, and Cuddapah, was carried out in 1927 by the Special Officer for Survey of Cottage Industries, and his reports contain a good deal of useful information in regard to the position of the several cottage industries as they existed at that time. The industries referred to in the report of the Kurnool district are cotton hand-spinning, cotton silk weaving, dyeing and printing, cotton carpet and tape weaving, blankets or woollen rugs, grass mat weaving, bangle making, lacquer work, slate industry, brass and copper work, basket making and beedi manufacture. In the report for the Bellary district, the industries described comprise cotton and silk weaving and dyeing, cotton screen making, cotton carpet weaving, cumbly or blanket weaving and bangle making. The report of the Anantapur district refers to hand-spinning, cotton and silk handloom weaving, dyeing and printing, cumbly weaving, bangle making, handmade paper, silk and cotton waste strings, wooden combs, hemp gunny weaving and castor oil pressing. The report of the Cuddapah district contains notes on hand-spinning, handloom-weaving, metal industry, kora mat making, dyeing and printing, carpet weaving, hemp canvas and tape making, and doll making. According to the Statistical Atlas of the Kurnool district which was prepared in 1936, the weaving of cotton carpets, cotton and silk cloths and woollen cumblies form the chief industry of the district and continue to engage a large number of the industrial class. There is also a reference to the development of the slate manufacturing industry at Markapur, where, it is stated, there are 32 slate factories, each constituting a small unit in itself and operating on a small scale. The lacquer work carried on at Nossam is said to be fast disappearing. The Statistical Atlas of the Bellary district refers to the carpet weaving industry, the weaving of cumblies in Harpanahalli, Kudligi, and Rayadrag taluks, the manufacture of jaggery from sugarcane at Hospet, Kudligi, Siruguppa and Adoni, and to the existence of four tanneries in Adoni taluk, one in Rayadrag and one in Bellary which are said to be not prospering owing to trade depression. According to the Statistical Atlas of Anantapur, village industries are very few in number in the district. Cumblies of a rough sort are stated to be woven in most of the taluks of the district, those of Beluguppa and Karigunapalli of the Kalyandrag taluk being superior in quality. It is also stated that rough cotton cloths are woven in all the taluks, and that Dharmavaram is noted for its silk cloths and saris. Pamidi is said to have lost most of its old reputation for dyed cloths though it is still producing particoloured fabrics. Bangle manufacture of a primitive kind which was formerly carried on in Penukonda, Madakasira and Gooty, has almost disappeared. Hand-spinning is stated to be carried on as a subsidiary occupation in the Gooty and Tadpatri taluks during summer when there is little agricultural work for the ryots. According to the Statistical Atlas for Cuddapah, weaving is one of the chief industries of the district and coarse as well as fine cloths are woven. It is stated that Jammalamadugu turbans which were formerly exported to the Central Provinces and Bombay on a large scale have been replaced by the export of saris, and that the production of fine lace-bordered cloth at Pullampet has fallen off considerably. Fine woven cloths are said to be manufactured in Madhavaram, Moolapalli and Karungantapalli of Sidhout taluk; whilst there is also a considerable weaving industry at Rameswaram in Proddatur taluk and Veerannagattupalli in Rayachoti taluk. The other small industries referred to are tanneries (three), the manufacture of brass, bell-metal and copper vessels at Vonipenta in the Proddatur taluk, of reed and bamboo mats in Pullampet, and of earthen bangles in the Pulivendla and Rayachoti taluks. A considerable number of witnesses have suggested that the cottage industries of hand spinning and handloom weaving industry should be encouraged and developed. The other cottage industries which it has been suggested by various witnesses should receive attention and encouragement are wool spinning, cumbly weaving, carpet weaving, mat making, coir rope making, tanning, oil-seed crushing, jaggery making, paper, bangles, matches, beedis, sericulture and silk embroidery, shoe-making, toys, soap-stone, slate-frame, pottery, dairy farming, and poultry farming. The introduction of handpounding of rice has also been recommended by one witness.

24. *Hand spinning*.—A provision of Rs. 2,00,000 was made in the budget for 1937-38 for the development of the hand spinning and khadi industry but was not fully utilized and a similar provision has been made in the budget for the current year for the purpose. The All-India Spinners' Association submitted a scheme for the utilization of the provision of Rs. 2,00,000 in 1937-38 and Government sanctioned an amount of Rs. 60,341 to be utilized by the branches of the All-India Spinners' Association for the Tamil Nadu (Tiruppur), Kerala (Payyanur), and Andhra (Masulipatam) to finance the designing,

manufacturing and supplying of gins, bows with guts, and spindles with thin pulleys, speed wheels, vertical and horizontal charkas, fly shuttle looms and fittings and also for the conduct of research work in carding, spinning and printing, dyeing and weaving, and for the training of 86 workers and the employment of these workers as instructors in the villages with a view to increasing the efficiency of the artisans and the implements used. The All-India Spinners' Association considered it essential that in addition to this grant, a subsidy should be provided to cover possible losses caused by inexperienced workers in the initial stage and also to enable it to give adequate wages to the spinners and other artisans, and suggested that it should be based on the actual increase in the production effected during the year. Government, therefore, granted a subsidy up to a maximum of Rs. 1,25,000 on the actual increase of production of khadi during the year calculated at the rate of one anna per square yard of increase. The All-India Spinners' Association have not established a branch in the Ceded districts although a centre has been established at Tadpatri by private effort which, it is understood, is linked up with the All-India Spinners' Association. In view of the consensus of opinion amongst witnesses as to the suitability of handspinning as a subsidiary industry for the agriculturists in an area where it was formerly carried on, the question of whether part of the amount sanctioned to the All-India Spinners' Association should not be diverted to the Ceded districts, or alternatively, whether a special grant should not be sanctioned by Government for the purpose of developing the movement in the Ceded districts seems to merit consideration.

25. *Handloom weaving*.—The handloom weaving industry of the Province and the ancillary operations connected with it, as in India as a whole, ranks in importance and magnitude next only to agriculture. From the standpoint of the well-being of the rural population, the industry plays a conspicuous part as there is no other occupation so remunerative as weaving to absorb the population not engaged in agriculture, or to keep the agriculturists occupied when there is no work for them in the fields. It serves also as a suitable part-time occupation for the families of the agriculturists. The question of affording adequate protection to the handloom weavers is beset with many difficulties and it is indeed a complex problem to reconcile the different interests of the large mass of cottage workers, the Indian mills, and the consuming public with their desire for cheap cloth, even though it may be conceded that the interests of the cottage workers should be paramount. In recent years, handloom weavers have had to face increasing competition from Indian mill-made fabrics, and disquieting reports and a number of representations have been received from handloom weaving centres in regard to the state of unemployment which prevails in them. Nevertheless up to last year, the handloom weaving industry of the Province appears to have held its own fairly well judged from the statistics of the quantity of cotton yarn left over for consumption by handloom weavers, the figure being 72.6 million pounds in 1933-34, 78.8 million pounds in 1934-35, 83.4 million pounds in 1935-36, and 86.8 million pounds in 1936-37 as compared with an average annual consumption of 59 million pounds in the decade ending with the year 1920-21. No entirely satisfactory explanation of the apparent paradox of increased yarn consumption and growing unemployment is forthcoming, although it is possible that owing to the depression in agriculture, more people have taken to handloom weaving and that there are now more handloom weavers than there is work for. There is the possibility also that the handloom weavers are now weaving more coarse cloth than formerly. The consumption of yarn by handloom weavers, however, after rising steadily during the years 1933-34 to 1936-37 showed a decline in the year 1937-38 to 75.7 million pounds, and there is ground for apprehension that from now onwards, the industry may find it increasingly difficult to maintain its position in view of the ever-growing competition of mill cloth. If statistics of the last five years of the yardage of piecegoods of (i) foreign origin, (ii) Indian mill origin, and (iii) produced by handlooms, are examined, it will be seen that in only one year—1937-38—was the handloom weaving industry in the Province less than four times as important as the power loom industry in respect of production, whilst it is of course many times more important in respect of the employment which it provides. A gratifying feature of the position as disclosed by the statistics, is the gradual decline in the actual and relative consumption in Madras of foreign cloth, and it is evident that the competition which handloom cloth has mostly to fear is that of the Indian weaving mills. In the last few years there has been a growing volume of public opinion in favour of some adjustment of the spheres of production of the power mill and the handloom and regulation of the classes of fabrics to be produced by each. It is not proposed to discuss this difficult and complex question here as it would unduly lengthen this note, especially as the whole question is at present under the consideration of Government. Suffice it to say that the adoption of measures to bring about the adjustment of production of the power loom and the handloom or to restrict

or limit the production of mill cloth by a quota or otherwise would involve the introduction of legislation by the Government of India and would have to apply to the whole of India including the Indian States, the latter of which might or might not be prepared to co-operate. In 1937, the Madras Government enacted a law under which dealers of cloth in this Province are required to obtain a licence and a fee is levied on shops dealing in mill cloth at the rate of Rs. 2 per annum where the monthly turnover does not exceed Rs. 5,000 and Rs. 5 in other cases. The licence fee as it stands, is too low to afford any real protection to handloom cloth, and one way of assisting the handloom industry would be to increase the present scale of licence fees imposed on dealers of mill cloth to an extent which would in itself be sufficient to offset the higher cost of handloom cloth in relation to mill cloth.

26. The number of handlooms in the Ceded districts is extracted below :—

District.	Cotton.	Durry.	Silk.	Art silk.	Cumbly.	Colr.	Kora.	Total.
Kurnool	9,714	633	52	1,965	295	..	27	12,686
Bellary	8,467	2,017	286	1,870	860	..	..	13,500
Anantapur	6,517	87	1,966	385	1,671	12	49	10,887
Cuddapah	10,350	..	15	1,440	1	..	92	11,898

It will be seen from the above statement that the handloom weaving industry is of considerable importance in each of the four districts. A survey of the handloom industry was recently carried out by the Co-operative Department and the report of the Special Officer shows that, in the Kurnool district, the handloom weavers are engaged on the weaving of saris, dhotis, upper cloths, shirtings, bedsheets and towels, and in the Bellary district, on the weaving of cotton jamakalams, duppaties, saris and dhotis, cotton and silk saris, and silk and art silk upper cloths. In the Anantapur district, 70 per cent of the handloom weavers are engaged on the weaving of cotton shirtings, coatings, and dhotis, 15 per cent on the production of art silk saris, 10 per cent on the weaving of upper cloths and saris from cotton and art silk mixtures and 5 per cent on the weaving of silk upper cloths and saris, whilst in the Cuddapah district, the weavers are engaged on the production of cotton dhotis, dhupatties, saris and towels, and saris of mixtures of silk and cotton. The following statement shows how the weavers are employed in the four districts :—

District.	Independent weavers.			Working for sowcars.			Coolie weavers.		
	PER CENT			PER CENT			PER CENT		
Kurnool	23	28	49	..	..	..
Bellary	13	12	75	..	..	..
Anantapur—									
Tadpatri	40	30	30	..	..	..
Gooty	30	10	60	..	..	..
Cuddapah	25	50	25	..	..	..

27. In 1934, the Government of India announced their decision to assist by the grant of a subsidy, schemes drawn up by Provincial Governments for developing co-operative buying and selling on behalf of the cotton handloom weavers and generally for the better organization and improvement of the handloom weaving industry. The scheme prepared by the Madras Department of Industries and approved by the Government of India provided for the setting up of a central weavers' co-operative society at Madras with a number of district primary production societies linked to it. The production societies are assisted by the central society in securing supplies of raw materials such as yarn, dyestuffs, chemicals and also improved appliances and designs, and in the disposal of the surplus stock of goods left over after local sales. In pursuance of the scheme, a provincial society was formed under the name of the Madras Handloom Weavers Provincial Co-operative Society, Limited, and it was registered under the Madras Co-operative Societies Act VI of 1932 with an authorized share capital of Rs. 5 lakhs divided into 10,000 shares of Rs. 50 each. The Provincial Society is rendering useful service to the handloom weaving industry through the affiliated production societies in the several districts, the central emporium and sales depots which have been established in order to popularize and find an outlet for the cloth produced by the primary weavers societies, and the district staff of supervisors. With the initial facilities afforded by the Provincial Society, a departmental hand sizing machine has been taken up by the Adoni Weavers Co-operative Society. The Provincial Society maintains a sales depot at Bellary amongst other places. A second hand finishing and calendering plant for calendering the handloom cloths of the primary societies, has been obtained and will shortly be erected at Madras. The following statement shows the primary societies

affiliated to the Provincial Society in the districts of Kurnool, Bellary, Anantapur and Cuddapah, the classes of cloths woven and the subsidy disbursed to and the value of the goods produced and sold by them, during the co-operative year ended 30th June 1938 :—

Name of district and name of society.	Classes of cloth woven.	Subsidy disbursed.	Turn over					
			Materials purchased.		Goods sold.			
		Rs.	Rs.	A.	P.	Rs.	A.	P.
Kurnool district—								
Kurnool	Cloth carpets	297	1,772	6	0	2,584	0	0
Maddikera	Saris 20s	81	2,670	2	0	2,344	0	0
Gudur	Dhoties 40s .. .. .	..	37	6	0	55	12	0
Bellary district—								
Adoni	Mercerised saris and cotton saris.	586	2,525	0	0	4,095	0	0
Hospet	Shirting 20s and dhotis 20s.	120	1,428	14	0	1,151	6	0
Rayadrug	Dhotis 40s	228	754	11	0	591	2	0
Bellary	Do. .. .. .	..	..	..	..	..	..	..
Harpanahalli	Do. .. .. .	..	..	..	..	..	..	..
Anantapur district—								
Tadpatri	Khaddar	124	2,370	0	0	2,285	0	0
Uravakonda	Shirting in 20s, 30s and 40s, dhotis in 30s.	220	9,340	0	0	8,050	0	0
Bukkapatnam	Dhotis 20s .. .. .	..	..	..	..	..	..	..
Dharmavaram .. .. .	....	..	421	15	0	278	4	0
Cuddapah district—								
Jammalamadugu	Dhotis and saris in 40s and 60s	..	2,866	0	0	1,778	0	0
Pullampet	Saris 80s	140	767	4	0	442	8	0

There would seem to be scope for the organization of an increased number of weavers co-operative societies in the Ceded districts, though unless protection is afforded to the industry by an increase in the licence fee levied on cloth shops dealing in mill goods or by some other measure, the grant of direct assistance through the medium of co-operative societies will not be fully effective.

28. A famine-relief centre for weavers was opened at Uravakonda, which is one of the largest handloom weaving centres in the Anantapur district, on the 30th of September 1938 and will be closed down shortly. It is very desirable that the good work done by the relief centre in affording employment to the weavers of the district should be continued as far as possible after the relief centre is closed down, and the question whether the Uravakonda Weavers Co-operative Society could provide continuity of work for the weavers by extending the scope of their operations with the aid of a special loan or grant and a monthly subsidy is at present under consideration. It may be mentioned in passing that the wages payable for weaving each kind of cloth at the famine-relief centre depends upon the price of foodstuffs and the time required for weaving the cloths is fixed according to the task table given in the Famine Code, the wages paid to the weavers including wages for warp and weft preparation and dyeing. The task table adopted at the famine-relief centre at Uravakonda is out of date and calls for a complete revision as conditions have changed considerably since it was drawn up, the majority of the looms now being fitted with fly-shuttle slays and dobbies. The result is that the weavers in the famine-relief area are receiving higher wages than those paid by sowcars and co-operative societies in Uravakonda.

29. *Woollen cumbly weaving industry.*—The spinning of wool and the weaving of blankets and cumblies is an important industry in the districts of Anantapur, Bellary and Kurnool where the number of looms engaged in the weaving of cumblies is 1,671,860, and 295, respectively. The cumbly industry is largely carried on as a part-time occupation mostly by Kurubas who belong to the shepherd class. The industry does not provide continuity of work for the Kurubas owing to the lack of pastures for sheep, and an improvement in the breed of sheep should be aimed at with a view to improving the quantity and quality of wool supply. From the year 1937, the Government of India has provided a subvention for the benefit of the cottage and small scale woollen industries in the several provinces and the assistance to the woollen industries in Madras has taken the form of

(i) organization of co-operative societies in the cumbly weaving areas and the establishment of a sales depot at Bellary for marketing their products, (ii) organization of a central co-operative society of weavers engaged in the pile carpet industry at Ellore, and (iii) employment of a designer to assist in the development of both sections of the industry. Two cumbly weaving societies have been started, one at Kudatini, one of the most important cumbly weaving villages, and another at Bisalahalli, whilst steps are in progress for starting two more societies during the current year. In the depot at Bellary, samples of cumblies are exhibited and sold, and merchants and other buyers are placed in touch with the production societies. Active steps are being taken to extend and develop the market for cumblies to the extent that this is possible. The object of the formation of the cumbly weaving societies is to assist the cumbly weavers by arranging for the joint purchase of wool and sale of the cumblies, whilst demonstrations of the use of the fly shuttle loom with a view to increasing the daily output of the cumbly weavers and so reducing to some extent the cost of production and also of the working of hand driven warping and sizing machines for preparing long woolen warps are being given in the villages. Demonstrators have been appointed to train the local weavers in the use of the fly shuttle loom. The capital required for the purchase and introduction of improved appliances, working capital and also the recurring expenditure of the societies is provided from the Government of India subvention grant, whilst the pay of the demonstrators is met from Provincial funds. A co-operative inspector has also been appointed to supervise and assist the working of the societies. The cumbly weaving societies are undoubtedly of considerable assistance to the weavers in arranging for the supply of wool, and the disposal of the finished cumblies, but it is only too apparent that the great need of the cumbly weaving industry is the provision of additional pastures for sheep in order to improve their breed and to augment the supply of cut wool and that the deterioration in the condition of the industry in the Ceded districts may be traced largely to lack of suitable grazing facilities for the sheep. Another adverse factor affecting the industry is the scarcity and high cost of wool, as much of the wool produced locally appears to be bought by agents from Bombay and Bangalore. These fundamental difficulties affecting the prosperity and well-being of the weavers engaged in the industry will necessarily take time to solve; but it is very desirable that the question of the provision of improved grazing facilities should be taken up without delay. In the meantime, within the limitation of the subvention scheme, everything possible will be done to improve the lot of the cumbly weavers in the Ceded districts.

30. *Handmade paper*.—The possibilities of developing a handmade paper industry in the Ceded districts would appear to be reasonably promising in view of the fact that grasses such as 'Botha' (*Cymbopogon Coloratus*) and leaves of certain plants, which are available in plenty and have hitherto been regarded as of little economic value, could be employed as raw materials for the production of pulp. Ten students have been deputed to Wardha to receive instruction in the handmade paper industry and it is proposed, during the current year, to establish two training centres for the industry in the Province, each centre being in charge of a student who has completed his training in Wardha. Proposals have also been submitted to Government for the establishment of two more centres of handmade paper manufacture during 1939-40. At least one, if not two, centres of handmade paper manufacture may be established in the Ceded districts to commence with, and if they are successful, the number of centres may be increased.

31. *Oil pressing and soap manufacture*.—In view of the considerable resources of the Ceded districts in oil-seeds, there would seem to be scope for the further development of the oil-seed crushing industry and it has been suggested by one witness that every village should have its own country ghanni operated by a local co-operative society. Applications have recently been invited for the selection of ten candidates for training in oil pressing at Wardha during the current year. These candidates who will be deputed to Wardha are expected to complete their course in May 1939 and it has been suggested that two training centres in oil pressing should be set up in the Province next year, each centre being in charge of a student trained at Wardha. The number of centres will probably be increased if this is found desirable in the light of the experience gained in the working of the two initial centres. At least one centre may be established in the Ceded districts next year. Soap manufacture and the process of refining vegetable oils on a cottage industry scale, as evolved in the Kerala Soap Institute, could be demonstrated in the rural areas of the Ceded districts through the medium of peripatetic parties. The advantages of soap manufacture as a rural industry are that most of the raw materials are available in the Province, that the processes involved are fairly simple, whilst plant of the cheapest description may be employed and the demand for soap is decidedly on the increase. Some of the vegetable oils extracted in the villages could be utilized, and if the villagers are properly instructed clear washing soaps of good quality could be manufactured and sold at low prices.

32. *Village tanning industry.*—In view of the resources of the Ceded districts in livestock, details of which have been given elsewhere, there would seem to be considerable possibilities in regard to the development of the tanning industry, unless the water is found to be unsuitable. As stated in a separate note, tanning was one of the earliest industries, other than agriculture, which developed in India, and tanning and leather working were originally village industries. The village tanners, however, are largely influenced by modern practice and there would appear to be considerable scope for improvement in the methods adopted in country tanneries throughout the Province. The village chamar was a necessity in the Indian village in former days and it was his function to prepare the leather and leather articles required for the villagers, i.e., footwear for the inhabitants of the village and the leather articles required by the agriculturists such as collars for bullocks, articles of yokery and buckets for purposes of well irrigation. After the advent of the organized South Indian tanneries, the village tanning industry which afforded part-time occupation for the village chamar or chuckler who engaged himself in other agricultural pursuits, declined as the village resorted increasingly to leather articles manufactured in the towns from leather prepared according to modern methods. If the quality of the leather produced by the village chamar could be improved and he is instructed to prepare improved leather articles, there is no reason why the village chamar should not recover, in some measure, his former position in the village. The methods of preparing leather of a better quality than is produced at present should therefore be demonstrated to the village chamars. This could be done by conducting demonstrations through the medium of peripatetic tanning parties in important centres where there are a number of village chamars. The village chamar could be shown the improved methods of preserving and curing, liming and deliming and tanning by actual practical demonstrations. As a result, the value of the skins on which he works should be increased considerably as the curing and preserving of raw hides and skins is not at present carried out satisfactorily. It is even possible that if improved methods could be introduced in the villages, small model tanneries could be set up under the auspices of the panchayats and that the tanning of hides and skins for export to Madras and other places, which is now confined to the organized tanneries in the towns, could be undertaken, to some extent, in the villages though this may be anticipating a little. A good deal of interest has been evinced in the question of improving the position and status of the village tanning industry and several witnesses who have appeared before the Famine Code Revision Committee have stressed the necessity of taking it up. One witness, who has a considerable knowledge of village conditions in the Ceded districts, has expressed the view that the village tanning industry could easily be revived to an extent which would enable it again to engage hundreds of Harijans in the villages, but that arrangements must be made for the supply of tanning barks free of cost.

33. *Jaggery making and small-scale sugar manufacture.*—The Department of Industries has conducted demonstrations of white sugar manufacture from palmyra juice with the aid of centrifugals at Rettakulam in the Tinnevely district and Navadur in the West Godavari district. It was demonstrated on these occasions that good marketable white sugar could be prepared from palmyra juice by the open-pan system and that the molasses obtained in the process could be converted into jaggery by re-boiling with fresh juice. The results of the experiments went to show that it is possible to prepare from palmyra juice, jaggery of a superior quality which should realize a higher price than the jaggery at present prepared, that it would generally be more profitable to prepare improved jaggery than sugar, and that this is likely to remain the case unless a greater yield of sugar is obtained or the price of jaggery declines appreciably. Steps are in progress for organizing a co-operative society for preparing the improved jaggery in the West Godavari district. Jaggery is prepared from date palm juice and to a limited extent sugar is also produced by refining the jaggery, but so far no attempts appear to have been made to prepare sugar direct from the juice except at Peddapavani in the Nellore district where the Department of Industries carried out some experiments in the preparation of sugar in the year 1933. These experiments showed that it is possible to prepare good white sugar from date palm juice by the open-pan system using centrifugal machines but the data forthcoming from the experiments was insufficient to enable any very definite opinion to be formed as to the economics of such manufacture. The two important factors in the manufacture of date palm sugar are that a large number of trees should be situated in a compact block, and that an abundance of cheap fuel should be available. These conditions may be satisfied in the Cuddapah district. There seems no reason why the preparation of jaggery from sweet toddy should not be extended and developed in the palmyra and date palm tracts of the Ceded districts. With a view to finding employment for the former fermented toddy tappers, successful demonstrations of the manufacture of improved jaggery from cocoanut and palmyra sweet toddy were carried by the Department of Industries in the Salem district, and it was shown that a superior quality of jaggery could be prepared from cocoanut sweet toddy and that the jaggery is suitable for

refining into sugar. Now that prohibition has been extended to the Cuddapah district, it is very desirable that a demonstration of the manufacture of improved jaggery should be staged and that a demonstration of the manufacture of white sugar from date palm juice should also be carried out. Information is not available as to the local demand for jaggery for domestic consumption, but it may be necessary to develop an outlet for the jaggery for sugar refining purposes, especially in view of the fact that the Province is already self-sufficient in regard to jaggery production and that any considerably increased production of jaggery, not intended for refining purposes, would tend to create a glut in the market. On the other hand, the production of sugar is only about one-third of the consumption in the Province.

34. *Fruit preservation and canning.*—There would seem to be scope for the development in the Cuddapah and Kurnool districts of a fruit preservation and canning industry on a cottage basis. One or two primary societies of fruit growers and canners could be formed in each area and the members of the societies required to use up-to-date steam pressure cookers such as those used in thousands of American homes for domestic canning, and which are as nearly foolproof as such appliances can be. Suitable cookers and can-sealers can be obtained in India, the price for cookers of six quart size being Rs. 31 and for 40 quart size Rs. 140, and for sealers Rs. 50 and Rs. 80, respectively. Tins or cans could be obtained as 'flattened' cans from the Metal Box Manufacturing Co. (India), Ltd., Calcutta. In the cookers referred to, the fruits available could be preserved in tins, the tins being closed with a small hand sealing machine. A complete home canning outfit would cost about Rs. 200. In the districts where primary societies are started, there should be central societies in charge of persons who have specialized in fruit preservation and these societies would maintain and operate the can making equipment consisting of reforming, flanging and double seaming machinery. The cans, after being re-formed in the central district organization, would be supplied to the cottage workers who would undertake the preservation of the fruits and vegetables in the cookers referred to and seal the tins, the central society undertaking the supervision of the manufacture in the homes of the members of the primary societies and carrying out periodical tests with a view to ensuring that the products were up to the necessary standard. The central society in each district would also be responsible for the sales, which if goods of reasonably good quality were produced might be expected gradually to expand under the society's mark of guaranteed quality. In order to ensure the success of the fruit preservation industry if developed on these lines, it would probably be necessary to set up a central experimental laboratory not only in order to evolve and standardize recipes as a result of experimental work, but also to train the workers who would be required to organize and run the central co-operative societies to which the primary societies of fruit-growers and home-canners would be affiliated. It is possible, however, that this experimental and instructional work could be carried on at the Fruit Research Station, Anantarajupeta, Kodur, P.O., in the first instance.

35. *Hand pounding of rice.*—The normal area under paddy in the districts of Kurnool, Bellary, Anantapur and Cuddapah is 70,800, 36,530, 109,020 and 109,940 acres, respectively whilst the normal yield is 47,790, 26,480, 82,360 and 87,180 tons, respectively. The annual per capita consumption of rice in the districts of Kurnool, Bellary and Anantapur on the basis of statistics available for the year 1934-35 has been calculated at 1.12, 0.70 and 1.38 cwt. respectively against an average per capita consumption of cereals and pulses in this province of 3.85 cwt. If this figure correctly represents the per capita requirements of cereals and pulses of the three districts, the consumption of rice forms only 29.1 per cent of the total consumption of cereals and pulses in Kurnool, 18.2 per cent in Bellary, and 35.8 per cent in Anantapur. It would appear, therefore, as pointed out in a separate note, that rice is not a staple food-grain in these districts. In the Kurnool, Bellary, Anantapur and Cuddapah districts, there are respectively 1, 0, 6 and 2 rice mills associated with groundnut decorticating factories whilst in the Bellary district there are two rice mills which carry on groundnut decorticating and flour milling also, one rice mill which conducts groundnut decorticating and oil extraction also, and four factories which combine rice milling with groundnut decorticating and cotton ginning. In the Cuddapah district there are three factories which combine rice milling with groundnut decorticating and turmeric polishing. In areas where paddy is produced, rice pounding by hand, either by the old method under which a conical plastered pit in the ground and a wooden pounding bar with an iron shoe at one end are used, or by an improved rice pounder such as the one which the Department of Industries is at present experimenting with, would be preferable to rice milling by machinery not only for the employment which hand pounding would provide, but also in the interests of the health of the people as Vitamin B is practically absent in polished rice.

36. *Glass bangle industry.*—The bangle industry is still carried on in the districts of Kurnool, Bellary and Anantapur although it is gradually decaying, and unless active steps are taken to arrest its decline its complete disappearance is probably only a question of time. One witness in his evidence stated that in every taluk of the Bellary district, bangles were once manufactured and that whilst formerly the block glass was prepared locally it is now imported from Japan and Central India. There should be scope for resuscitating the manufacture of cheap glass bangles provided that suitable coloured glass blocks could be supplied sufficiently cheaply by the Jamal Glass Factory, Madras. There is a considerable import of bangles from countries overseas and from Northern India, and if it was found possible to produce glass bangles at a sufficiently low price in the villages, a new avenue of employment would be opened up for the people. The glass bangle industry once existed in a flourishing condition in many of the villages of the Ceded districts, and if the problem of the supply of block glass could be satisfactorily solved, there would appear to be possibilities of reviving the industry, the resuscitation of which has been previously held to be impracticable. The Jamal Glass Factory has, at my instance, prepared block glass in various colours, but there is some doubt as to whether this factory will be able to produce block glass at a sufficiently low price unless it receives large orders from the bangle manufacturers. If it is found possible to arrange for the supply of suitable coloured block glass at a sufficiently low price, the question of constituting one or two peripatetic demonstration parties for the purpose of introducing improved methods in the manufacture of glass bangles on a cottage industry basis may be considered. The question of evolving an improved furnace for the glass bangle makers also requires to be taken up.

37. *Slate manufacture.*—The manufacture of school slates at Markapur in the Kurnool district which appears to have been started in 1921 has since developed considerably, the slates finding a gradually increasing sale owing to their cheapness. The splitting, polishing and mounting of the slates is conducted on a cottage industry basis. A slate manufacturing factory at Kallai, Malabar, has also developed and is manufacturing, on a small scale, good quality slates out of slabs imported from Markapur and they have acquired a plot of land at Markapur on a mining lease. The greater portion of the wooden frames required for the Markapur industry is supplied from this factory at Kallai but in the last year or two the manufacture and supply of slate frames to the Markapur slate manufacturers has been undertaken in Hyderabad, which is nearer to Markapur, and so has a freight advantage over Calicut. The slate frame manufacturing company at Kallai manufactured during the year 1937–38, 4,320,000 running feet of frames which provided framing of the manufacture of 96,000 dozens of slates. The question whether the Forest Department could arrange for the supply of light wood for slate frames a good deal of which is at present being imported from Hyderabad has recently been under examination. It has been suggested that the Forest Department might consider the advisability of auctioning a certain quantity of timber to be supplied at Chelama or Diguvametta railway stations in parcels at certain periods of the year for a period of seven years in the first instance. Under these conditions, it might be possible for merchants, or small groups of merchants, to instal a small saw mill with subsidiary machines at Chelama or Diguvametta to prepare framing and packing case timber for use at Markapur. A conservative estimate of the requirements of wood by slate manufacturers at Markapur is about 50,000 cubic feet per annum and the Chief Conservator of Forests reports that, against this demand, Kurnool West Division could supply annually 1,500 cubic feet, Kurnool East 500 cubic feet and Kurnool South about 6,000 to 7,000 cubic feet for the next two years only from the two blocks remaining to be worked. The Chief Conservator states that the forests of the three Kurnool divisions could not supply all the requirements of the slate manufacturers if only the species they use at present continue in demand and that supplies from outside will continue to be necessary unless local timbers other than those used heretofore are found suitable. The whole position in regard to the Markapur slate industry is at present under review.

38. *Miscellaneous industries.*—Among the miscellaneous industries which offer possibilities of introduction or development in the Ceded districts may be mentioned the following:—*Manufacture of malted food from cholam.*—The Agricultural Chemist has investigated the malting capacities of all the more commonly used South Indian grains and has found that paddy malts as well as cholam or ragi, although the malting of cholam is cheaper and the outturn greater than in malting paddy. The experimental work carried out does not appear to have led to the manufacture of malted foods in the Province. There may be some limited scope for developing the manufacture of *metal vessels and agricultural implements* by improved methods. *Mat-weaving* is a subsidiary home occupation followed by agriculturists during the off-season in some areas and the possibilities

of the further development of the industry may be investigated. *Baskets* of various descriptions are manufactured from palmyra leaves at Pulicat in Chingleput district and also in some villages in the Trichinopoly, Tanjore and Tinnevely districts. The possibilities of introducing this industry in the palmyra and date palm tracts of the Ceded districts might be worthwhile investigating. If an increased demand could be created for *ropes*, more cottage workers could be employed in the manufacture of them from aloe, etc. If the village tanning industry is organized and developed, it may render possible the development of the small scale *leather goods manufacturing industry*. *Toy manufacture* is an industry the possibilities of development of which the Department of Industries is at present investigating. The industry of manufacturing articles from *soapstone* could perhaps be developed to some extent. A class of *paints* that could be worked as a minor industry with a small capital and with a not elaborate technical training is the manufacture of mixed paints for household use. The medium or vehicle, e.g., linseed oil, is boiled with the driers-litharge and manganese dioxide, and then intimately mixed with ground colouring matter. The grinding is done either by power or manual labour. The machinery required consists only of grinding mills and a few vessels for boiling. The manufacture of paints of this kind does not call for much training or experience and it might be possible to introduce it in some parts of the Ceded districts. The prospects of the further development of the Cuddapah slab industry have not been improved by the increasing use of cement-concrete building materials. There may be possibilities in regard to the manufacture of *matches* on a cottage industry basis in some areas although many of the small factories in the Province do not appear to be in a very flourishing condition. *Bee-keeping* as an agricultural pursuit has been much neglected in South India, but the possibilities of this rural industry in the Ceded districts are probably somewhat limited. Bee-keeping is dealt with by the Agricultural Department as also is *poultry farming* which might be worthy of attention.

L. B. GREEN.

APPENDIX XII

MINUTES OF THE MEETING HELD AT THE OFFICE OF THE BOARD OF REVENUE, CHEPAUK, MADRAS, AT 11 A.M. ON THE 15TH OCTOBER 1938

The following members were present :—

Sri T. A. RAMALINGAM CHETTIYAR (*Chairman*).

Mr. F. M. DOWLEY.

„ L. B. GREEN.

Dr. R. ADISESHAN.

Sri Diwan Bahadur N. SWAMINATHA AYYAR.

ABDUL RAWOOF SAHIB Bahadur.

Sri H. SITARAMA REDDI.

„ KALLUR SUBBA RAO.

„ SANKARA REDDI.

„ R. SURYANARAYANA RAO.

Mr. H. R. DOGRA.

„ D. I. R. MUIR (*Secretary*).

The introduction to the Famine Code was first taken up for consideration with the notes on the same by Sri R. Suryanarayana Rao.

In the second sentence of paragraph 3 of the introduction, the Committee decided to add the words 'sickness and' before the word 'mortality' on the suggestion of Dr. R. Adishesan.

In the same paragraph, it was thought that the last sentence laid too much stress on saving life merely and therefore ought to be deleted. The Committee therefore decided to delete that sentence beginning with 'At the same time. . .', Mr. H. R. Dogra dissenting.

In view of the above decision, it was considered that there was no place for existing section 127 of the Code. The section was therefore deleted, Mr. H. R. Dogra again dissenting.

CHAPTER II.

Sri R. Suryanarayana Rao's amendment to section 33-A was accepted by the Committee and the words

“and thus to obviate the necessity of instituting test-works unless the next monsoon fails or is unduly late or to postpone the stage at which they are called for as long as possible”

were deleted from the section.

Condition 2 (a) in 33-A was deleted.

In section 42 it was decided to add 'stop collection of revenue and' between 'shall' and 'institute.'

CHAPTER III.

The following sentence was added to section 48 after the words 'to the Board or to the Collector':—

“Though the practical and most trustworthy means of deciding whether distress requiring relief exists among those who are able to work may be a test work, the Collector may with the previous sanction of the Board of Revenue dispense with the test stage if works started under section 33-A prove sufficiently attractive.”

Section 50.—The following paragraph was adopted in place of paragraph 1 of section 50 :—

“The Collector may deal with the earlier stages of distress either through the expansion of ordinary works or test works (sections 33-A and 48), non-official relief agency and organized private charity (section 40) and the grant of takavi loans (section 41). As the test works provide an admittedly inadequate wage for the workers, with a higher task and no rest day, the object being to test whether the labouring classes are in such a state of distress that relief works must be opened to save them from starvation, the period of test should not be unnecessarily prolonged. In no case should the test period exceed four weeks. If test

works are opened distribution of gratuitous relief should be commenced soon after the test works are opened as the persons eligible for official gratuitous relief are the destitute who are incapable of work (see section 137) and who are in danger of starvation. If for this purpose additional establishments are required, the Collector shall apply in good time to the Board of Revenue for the same."

Section 49—Sub-section (a).—The Committee decided to amend the sub-section as follows:—

"(a) In the case of departmental works, when the workers are employed in breaking stone or in earth work where the earth has hardened by drying, the task imposed shall be 80 per cent of the ordinary task; where the test work is a village work, the full ordinary task shall be imposed. See section 103, paragraph 39, Appendix D."

Sri R. Suryanarayana Rao did not press his amendment to substitute the word 'may' for the word 'shall' in this sub-section.

Sub-section (b).—The Committee decided to amend the sub-section as follows:—

"There shall be no rest day during the test period, and no allowance need be paid to the dependants."

Sub-section (c).—The Committee decided—

(1) to omit the words 'and weakly persons' and

(2) to add the following at the end:—

"As regards weakly persons the provisions of section 102 will apply."

Section 53.—The Committee accepted the amendment to substitute 'four weeks' for 'a fortnight.'

The following amendment of Sri R. Suryanarayana Rao to section 53 was not pressed:—

'one month' for 'two months.'

Sections 62, 63, 64 and 65.—Sri T. A. Ramalingam Chettiyar said that the main object of the amendments proposed to these sections was to make the Collector the final authority in all matters and leave it to him to consult the Chief Engineer or the Superintending Engineer.

As regards sections 63, 64 and 65 after considerable discussion the Committee agreed to the following principle:—

The work agent should be made to correspond with superior officers only through the charge officer and not directly.

Section 77 was agreed to be amended as follows:—

"Some non-departmental and village works including village improvement works may be kept as a reserve" for "non-departmental . . . reserve."

The amendment of Sri R. Suryanarayana Rao to section 79 was not pressed.

In section 82 it was agreed to change 'ten miles' to 'five miles.'

As regards section 87 it was resolved that famine service should be recognized for probation for deputy tahsildars and tahsildars and a recommendation to this effect may be made to the Government.

The amendment to section 103 was not pressed.

The amendment to section 105 to substitute 'charge officer' for 'work agent' was carried, Mr. H. R. Dogra dissenting.

It was agreed that section 107 should begin thus:—

"Persons certified to be weak by the medical officer and unable, etc."

The amendment to section 109 was accepted—

Substitute "the Collector" for "the Famine Commissioner" and "the Famine Commissioner" for "the Local Government."

In section III 'headman of the gang' was substituted at the end for the 'person, etc.'

Section 112 was passed over.

The amendment to section 114 was agreed to—

Delete the last sentence in view of the new section 122.

As regards section 132 the amended draft of the office was agreed to—

"A pregnant woman whether on public or village works shall be permitted to absent herself for three weeks before delivery and one month after delivery on the certificate of the medical officer. If delivery does not take place at the end

of three weeks she may be permitted to absent herself for a further period of two weeks on a certificate from the village officer that delivery has not yet taken place. If at the end of this extended period of two weeks the child has not yet been born, the woman should be brought to the village gratuitous relief list until the child is born. After delivery she should be replaced on the charge list for a period of four weeks. In an exceptional case the medical officer in charge of the camp shall permit a pregnant woman to absent herself for such period as he considers necessary."

Section 132.—The Committee decided in favour of giving Rs. 2 and one sari costing not more than Rs. 2 to the pregnant women who now get Rs. 2 only.

Section 133.—The following amendment was accepted:—

"Add at the end of the section the following words 'under section 137'."

Section 134.—It was agreed that the maternity relief should be extended to women on the gratuitous relief list.

Section 134 (b).—Amendment accepted.

It was decided that allowance should be given to mothers who were on quarantine.

Section 135.—The following amendment was agreed to:—

"The allowance for dependants under Class V (e) shall be paid to the mother."

The amendment to section 135, paragraph 3, was accepted making the conditions applicable to dependants.

The Committee then adjourned to meet again at 11 a.m. on Monday, the 17th October 1938.

MINUTES OF THE MEETING HELD AT THE OFFICE OF THE BOARD OF REVENUE, CHEPAUK, MADRAS, ON THE 17TH OCTOBER 1938.

The following members were present:—

Sri T. A. RAMALINGAM CHETTIYAR (*Chairman*).

Mr. H. R. DOGRA.

Dr. R. ADISESHAN.

Sri H. SITARAMA REDDI.

ABDUL RAWOOF SAHIB Bahadur.

Sri R. SURYANARAYANA RAO.

„ K. SUBBA RAO.

„ N. SANKARA REDDI.

„ K. KOTI REDDI.

Mr. D. I. R. MUIR (*Secretary*).

Section 35 (b) (3).—The Committee agreed to add the words 'sickness or' before 'mortality.'

Dr. R. Adishesan suggested a few amendments to various sections and they were taken up for consideration one after another.

Page 24—Section 67 (d) (iv).—It was decided to add at the beginning of the subsection the following words:—

'sanitary arrangements are provided and.'

Section 90 (b).—The following amendment was accepted:—

"After the word 'disease' in the second line, add the words 'and the segregation, if necessary, of contacts'."

Section 92.—It was decided to add the words 'smallpox or other communicable disease' after the word 'cholera' in line 1. At the end of sub-clause (a), the following words were added:—

"inoculation or vaccination of the people in the camps shall if necessary be carried out forthwith."

The last sentence of section 199 (a) was amended as follows:—

"Pensioned medical officers and rural medical practitioners may be enlisted and should this supply prove inadequate, private registered medical practitioners may be employed part time."

Dr. R. Adishesan did not press his amendment to delete sub-clause (b), regarding indenting of officers from other provinces.

Section 203 (d).—It was agreed to substitute the word 'communicable' for the words 'infectious and contagious' in line 1.

Section 203 (f).—The words 'and anti-scorbutics on the appearance of scurvy' at the end, were omitted.

Section 201 (c).—Sri R. Suryanarayana Rao's suggestion to amend the sub-clause as follows was accepted :—

"He shall keep his subordinates supplied with medicines, instruments and appliances for the treatment of the sick in famine hospitals, by indenting for them as soon as the test works are opened."

Paragraph 18—Appendix D.—The Committee decided to add the following sentence :—

"Each camp will be supplied with a set of the Horrocks Water Testing Apparatus for the purpose of carrying out the test."

Section 203.—The Committee agreed with Dr. R. Adishesan that stretchers would have to be supplied. This amendment should be made in its proper place.

Appendix C—XXII (1).—It was decided to add the following at the end :—

"(3) such other features as may affect the health of the workers."

Section 128.—The CHAIRMAN : Two important points are to be considered now : one is the question of grain equivalent, that is, whether the system of grain equivalent should be continued ; and the other is whether there is any justification for the continuation of difference in the nature of work and wages given to women, as some women are as capable as men in doing famine work.

Sri R. Suryanarayana Rao explained how the grain equivalent system is defective. Mr. H. R. Dogra inquired whether the advantage arising from the alternative scheme would be proportionate to the labour involved in calculating the wage frequently.

After some discussion the Committee considered that the system of grain equivalent adopted for calculating wages might be given up and the actual prices for the several items of food should be taken into consideration in fixing the wages.

The Committee then took up the question of classification of men and women in one class. Mr. H. R. Dogra said that generally he was for putting women in class II, but that there was no objection to putting them in class I, when there were such exceptions. From his experience in the Public Works Department he could say that he had come across women who could do as good work as men ; and that there are rules for such cases. But the general rule is women should not be given the same work as men.

The question then drifted to the amount of food required by men and women. At this stage Dr. R. Adishesan read out a note he had prepared. The Chairman suggested that that note be circulated to all members of the Committee, and the question might be taken up to-morrow. In the meanwhile it was agreed to discuss the other provisions of the Code ; and it was also agreed to take up the note of Mr. L. B. Green in the afternoon.

CHAPTER I.

Section 9, page 4—Programmes and estimates.—Mr. H. R. Dogra suggested the Committee might consider his suggestions.

He suggested that in view of frequent famine in the four districts, the preparation of estimates might be based on the previous experience of famine, and statistics previously collected, such as the locality and intensity of distress which should be indicated on taluk maps in different colours with the information of the number of works carried out in previous famines. The estimates could then be prepared so as to provide work for the anticipated number of workers who are likely to come up to each centre. If this method is adopted revision of such estimates will not be found necessary.

Continuing Mr. H. R. Dogra said that his other amendment related to sections 58 (c), 63 (e) and 64 (c) and (e). The Chief Engineer explained the scope of his amendment at some length, at the conclusion of which, the Chairman suggested that the Chief Engineer might give a copy of his amendments, so that the Chairman might cause them to be examined by the Board of Revenue, as the subject-matter of the amendments was one to be settled between the Public Works Department and the Board of Revenue. The Chief Engineer (Mr. Dogra) agreed to this.

The Committee then proceeded to deal with the amendments of Sri R. Suryanarayana Rao.

CHAPTER IX.

Section 137.—Sri R. Suryanarayana Rao accepted an amendment to this section as follows :—

“ This section does not apply to the relief of dependants of workers on relief works who are provided for under section 114–116 of the Code. But if any such dependants fall within the class of persons mentioned in this section, they shall be brought on to the gratuitous relief.”

The Committee accepted the amendment.

The Committee adopted the words “ not living with ” for the words “ to have no ” in sections 140 (iv) and 140 (vii).

Section 144.—Sri R. Suryanarayana Rao suggested that a permanent advance might be provided for the village headman under section 144.

After some discussion the Committee agreed to add the words “ section 144 and ” before the words “ section 147 (b) ” in Appendix F, paragraph 6, Permanent Advance, as that met the proposal of Sri R. Suryanarayana Rao.

Section 145.—The Committee resolved that Government might arrange for the preparation of a task table for hand-spinning both for village works as well as for those receiving gratuitous relief.

Section 146.—The amendment of Sri R. Suryanarayana Rao (at page 15 of his note) was not accepted by the Committee.

CHAPTER X.

Sections 161 to 163.—Sri R. Suryanarayana Rao wanted the “ Note ” at page 15 of his printed note to be adopted. The Committee was not in favour of it, but it was understood that a suitable note on the lines contemplated by Sri R. Suryanarayana Rao will be included in the report.

The Committee adopted the suggestion with regard to section 163 (c) (that is, giving of doles to the workers to rehabilitate themselves).

CHAPTER XI.

New section 192-C.—The Committee adopted the suggestion without any discussion as all the members agreed on the point.

New section 192-D.—The suggestion was adopted, and it was also agreed to substitute the word “ may ” for the word “ shall ” towards the end of the section where the words “ the Collector shall make necessary . . . occur.”

New section 192-E.—The consideration of this amendment was postponed.

The Committee then rose for lunch to meet again at 2–30 p.m.

The Committee re-assembled after lunch with Sri T. A. Ramalingam Chettiyar in the chair.

The note prepared by Mr. L. B. Green, the Director of Industries, regarding industrial development, was taken up for consideration.

The draft recommendations prepared by the Chairman was accepted with the following amendments.

With regard to the possibility of ‘ the development of the production of palmyra jaggery in Cuddapah, ’ it was thought better that date jaggery may also be included and brought under the purview of the investigation and it was also agreed that the area may be extended to cover the whole of the Ceded districts.

In the paragraph relating to the starting of spinning mills in the Ceded Districts, the Committee made illustrative mention of certain centres as the ones where the mills may be started, i.e., Bellary, Tadpatri and Nandyal. A verbal alteration was made changing the words ‘ Tungabhadra Project ’ into ‘ Tungabhadra Irrigation Project. ’

The recommendation regarding the growing of avaram for purposes of tanning was partially modified so as to include the possibility of encouragement being given to the growing of that crop as a local cultivation to the extent possible. It was also considered desirable that enquiries should be made as to why the products from Hyderabad and Mysore were preferred to the local product and that encouragement should be given for local cultivation rather than depend upon imported avaram.

After having considered the recommendation regarding the promotion of hand-spinning and weaving, it was resolved on the suggestion of Sri R. Suryanarayana Rao that that portion of the paragraph beginning with the words “ The Committee consider

that as the handloom weaving industry is the most important one . . . " to the end may be separately communicated to the Government at once in view of the fact the camps may have to be closed down very shortly.

In addition to rendering improved grazing facilities, it was also recommended that a sheep-breeding station should be opened in the Ceded Districts.

Sri Diwan Bahadur N. Swaminatha Ayyar pointed out that there was an absolute dearth of lands which could be used for pasture purposes, the whole area being an arid expanse of black soil. Sri K. Koti Reddi pointed out that the black-cotton soil was too precious to be used for pasture purposes and that in the red-soil areas places were available for this purpose.

It was recommended that the possibility of establishing a glass factory in Anantapur district might also be investigated.

In reply to the suggestion of Sri K. Koti Reddi that cement factories may be started in the Ceded Districts, the Chairman pointed out that the supply in respect of cement by far exceeded the demand with the result that prices have dropped very low and that it would not pay to start further factories.

The report was adopted.

Section 192-E.—Sri R. Suryanarayana Rao pointed out that on account of the wording of the section in the Compensation Act, the workers were denied compensation. If they were employed in the construction of the roads, they would be eligible for compensation, but simply because they were employed for the construction of the roads they were denied compensation. He pointed out that the moral liability was there and that compensation should not be denied to them because they were employed for the construction of roads. The Chairman observed that there was nothing in the nature of a capitalist taking labour from the worker for his gain and evading the responsibility for any harm that may befall the worker. The case stood on a different footing. The Government were not starting these relief works for their own gain; they got nothing out of it but on the contrary the workers got everything from it and he opined that it would be too much to burden the Government with this obligation. He suggested that it may be left to the Government to give any compassionate gratuity they liked.

The amendment regarding legal obligation to pay compensation, was carried, by 5 against 4, but the drafting of the proposal was left to the Secretary.

Section 203.—The amendment to add 'pregnant women' after 'weakly persons' was carried.

Appendix C.—The amendment was not pressed.

Appendix D.—The amendment was passed amended as follows:—

(2) In section 34 at the end the following sentences may be added:—

"The Collector may during the summer months extend the rest period by not more than one hour making corresponding reduction in the task allotted. To enable workers coming from a distance exceeding five miles to complete the task and earn full wages, a 'distance' allowance in the shape of reduction in the task shall be granted. As far as possible workers coming from distance exceeding five miles shall be constituted into separate gangs and given work nearer their villages and thereby the 'distance' allowance reduced. In calculating the distance, the workspot shall be the starting point.

Work shall be ordinarily stopped at 5-30 p.m. and stoppage of work earlier even if the task has been completed shall not be permitted."

Appendix D-(3).—The amendment was passed, viz.—

"In view of the suggestions already made to reduce the task for earthwork under section 103 of the Code, section 39 of Appendix D has also to be revised. The tables of task for earthwork also need revision."

Appendix D (4).—The following recommendation was made:—

It having been brought to the notice of the Committee that in the case of the Moka-Gulyam road and the Hebbattam road in the Bellary district, very long leads were given with the result that the carriers had to walk long distances, the Committee recommends that care should be taken in selecting the work and such long leads should be avoided.

(5) Section 67 was omitted.

(6) Section 68 was omitted.

(7) Dropped.

(8) The Committee recommended that the use of tickets for payment of wages which can be cashed at the workspot will be a better system than the one in force and will avoid many of the evils attendant on the present practice. The Secretary was asked to put the suggestion to the Collectors of Bellary and Anantapur and to the Famine Engineer and ask for their remarks urgently.

(9) The following amendments were passed :—

In section 97 (v) (a) add at the end the following :—

“ or who should be allowed to absent themselves from work owing to illness.”

Add also the following at the end :—

“ (f) for removing women in advanced stage of pregnancy for action under section 132;

(g) for removing all persons who from age or physical infirmity are incapable of working;

(h) for permitting absence from work of all persons whose attendance on the sick or on infant children in their homes is absolutely necessary;

(i) for removing children from the work who should not have been admitted as workers.”

As regards the scale of pay of the establishment, the Committee recommended in general terms that since the work is of an onerous nature, generally men in permanent service and with some experience should be appointed to this task, and famine work should be treated in the same way as regular work for purposes of probation.

The supplementary note was taken up for consideration.

The following amendment was passed :—

“ In section 3 (c) add after ‘ disease ’ the words ‘ and dearth of fodder ’.”

The amendment regarding the inclusion of spinning as a form of village work was passed over as action had already been taken in that direction.

Consideration of (3) and (4) was postponed to the next day.

The Committee adjourned to meet again at 11 a.m. the next day.

MINUTES OF THE MEETING HELD AT THE OFFICE OF THE BOARD OF REVENUE, CHEPAUK, MADRAS, ON THE 18TH OCTOBER 1938.

The Committee re-assembled at 11 a.m. with Sri T. A. RAMALINGAM CHETTIYAR in the chair. All the members except Dr. R. ADISESHAN and Sri KALLUR SUBBA RAO, were present.

Section 112.—The amendment to this section regarding minimum wage was not pressed.

A note containing draft recommendations of the Committee prepared by the Chairman was then taken up for consideration.

Mr. F. M. Dowley was of the opinion that the ryots would not know how to make use of the water when it was supplied to them from the Tungabhadra project. As a matter of fact, they might even refuse to take water. Even under the present system of irrigation in Bellary, they were not taking all the water that was supplied to them. So if, after the Tungabhadra project was completed, the water that was brought down from that project was not made use of by the ryots in the Ceded Districts on account of the fact that black-cotton soil was not fit for wet cultivation, or on account of other causes, then the whole project would become a failure. That was why he suggested that they might await the results obtained from investigations made at the Siruguppa experimental station and start the Tungabhadra project in the year 1940.

Sri Diwan Bahadur N. Swaminatha Ayyar was very strongly against this view. His opinion was that the ryots would be capable of using the water to the best advantage. Though experiments and demonstrations might go on, the ryots knew their jobs very well. It was enough if they were told what particular crops would suit their particular lands. They need not be taught how to cultivate their lands or how to plant the particular crops. In the natural course of things they knew all this. So if Government were to wait till they actually got the results of their experiments at Siruguppa, there was no knowing as to when the Tungabhadra project would become a *fait accompli*. Already the project was hanging fire all these years. So he would urge that the Committee might at least say in their recommendations that the results obtained at Siruguppa experimental station might be utilized in working out the lands in the project area and not wait to start the scheme till after 1940.

After a long discussion the last three sentences of the paragraph were cut out and the following substituted :—

“ The Director of Agriculture has no hesitation from his experience of the Ceded Districts and of the black-cotton soil of the Ceded Districts to recommend the sanction of the project immediately. The investigations at Siruguppa should be pushed on so that the results relating to the reaction on the black-cotton soil by a systematic irrigation of the Tungabhadra water should be made available before 1940 and all the preliminaries necessary to start the actual work at the time should be completed before April 1940.”

The Committee also decided to recommend that the Agricultural Department might suggest suitable rotation of crops for the soil in that area and that a better and systematic distribution of water in the area might be provided.

The Committee decided to keep the recommendation for Kurnool-Cuddapah canal irrigation.

The Committee at this stage adjourned for lunch and re-assembled at 2-30 p.m.

Continuing the consideration of the draft report the Committee decided to modify the last sentence in the paragraph relating to the sinking of wells, as follows :—

“ A scheme by which the Government may advance the amount necessary for sinking or improving wells and collecting it in easy instalments and writing off the same in cases of failure will be the best to adopt.”

It was decided to delete the reference to the desirability of collecting betterment fees.

In the succeeding paragraph of the draft report, Sri K. Koti Reddi objected to the words ‘ where factions are existing,’ occurring in the first sentence. These words were therefore omitted.

The paragraph in the Chairman’s note relating to the development of fruit-culture, improvement of the cultivation of avaram and castor, and botha grass for the manufacture of paper, was accepted.

In connexion with the consideration of the question of the manufacture of cloth and the development of seri-culture, the Director of Industries observed that marketing difficulties stood in the way and that the yarn made from cocoons was not good. The following sentence was therefore added to the draft :—

“ Efforts may be made to find a market for the cloth manufactured, and if they do not succeed, the question of setting up a waste silk weaving plant to absorb the cocoons produced by the rearers may be considered by the Government.”

The question of constituting an Economic Board was then considered. It was considered that a Member of the Revenue Board must be its Chairman.

The Committee decided that a Board consisting of the following persons should be constituted :—

- (1) The Member of the Board of Revenue in charge of Famine (*Chairman*).
- (2) The Director of Industries.
- (3) The Director of Agriculture.
- (4) The Chief Engineer for Irrigation.
- (5) The Chief Conservator of Forests.
- (6) The Registrar of Co-operative Societies.
- (7) to (10) Four non-official members, one for each of the famine districts.
- (11) and (12) Two other members to advise on financial and business aspects of matters coming before the Board.

The Committee also decided that it would be necessary to have a full-time Secretary for the Board.

The Chairman then went through the questionnaire in order to examine whether any question had been left unanswered by the Committee. The following questions were then discussed :—

Bund formers.—The Committee decided that bund formers should be stocked at the taluk headquarters by the Government and that ryots who wanted to use them should be allowed to use them free of charge in the beginning.

Afforestation.—The Committee considered that there had been too much denudation of forests in the Ceded Districts and afforestation on a planned scale ought to be taken up immediately and that wherever forests were proposed to be grown in areas now handed over to the forest panchayats, such areas should be taken away from the control of the forest panchayats and handed over to the Forest department.

The Committee also considered that encouragement should be given for tree planting on all available waste lands by the grant of the usufruct of the trees to the planters for a number of years and that encouragement should be given to private landowners who plant trees in considerable areas by remission of land revenue for the first few years.

Use of sparked water.—The Committee came to the conclusion that they had no information nor any evidence before them on which they could base any recommendations with reference to the use of sparked water.

The Committee adjourned till 11 a.m. on Wednesday, 19th October.

MINUTES OF THE MEETING HELD AT THE OFFICE OF THE BOARD OF REVENUE, CHEPAUK, MADRAS, ON THE 19TH OCTOBER 1936.

The Committee re-assembled at 11 a.m. in the Board's office with Sri T. A. RAMALINGAM CHETTIYAR in the chair. All the members of the Committee were present.

The question of classification of workers was taken up.

Mr. H. R. Dogra maintained that not age but quality of work must be the criterion for classification. He also pointed out that sex distinction was not specifically recognized in the Code.

Dr. R. Adiseshan was for classifying people over 20 as adults. He was against putting more strain on them during the period of growth.

The Committee would like the Government to draw the attention of the officers in charge of famine relief to the fact that in section 97 there is no sex distinction, that at present very few women are put under class I and that hereafter women capable of doing the same class of work as men should be placed under class I.

The present classifications I, II and III will remain unaltered.

In classification IV there is no justification for differentiating between male and female. So the Committee recommends that there should be only one class IV including all adults.

The sub-classifications (a), (b) and (c) will disappear and be converted into (a) and (b); (a) between the ages of 9 and 14 and (b) 5 and 9.

Sub-clauses (d) and (e) will remain as they are, but will be renumbered as V (c) and V (d).

The question of wages was next taken up.

The Committee agreed to the proposal of Dr. R. Adiseshan to fix a unit for purposes of determining the amount of other items and accepted the quantities of other items in the unit as given in his note.

The wages table may be revised as follows:—

No revision was made in the classification of workers. They will receive the following:—

	Grain.	Pulse.	Oil.	Salt.	Vegetable.	Condiments
Class I	55	10	2	2	16	2.5 or 2-1/2.
Class II	50	7.5	1.5	1.5	12	1.875 or 1-7/8.
Class III	40	6.25	1.25	1.25	10	1.5625 or 1-9/16.

Dependants were grouped in five classes instead of seven as at present, as described above.

	Grain.	Pulse.	Oil.	Salt.	Vegetable.	Condiments.
IV (Adults)	40	6.25	1.25	1.25	10	1.5625 or 1-9/16.
V (a) (14-9)	35	5	1	1	8	1.25 or 1-1/4.
V (b) (9-5)	25	3.75	.75	.75	6	.9375 or 1-15/16.
V (c) (5-1)	12	2.5	.5	.5	4	.625 or 5/8.
V (d) (Under 1 year) ..	1 pice paid to the mother.					

An amendment of Sri R. Suryanarayana Rao to section 128 was then taken up. The Committee agreed to his suggestion that "the amount of grain specified in column (2) of the table should be reckoned in terms of grain of good quality cleaned for consumption."

The Committee was in favour of omitting the portion of the first sentence in note (1) after the word 'cheaper' and also the second sentence.

The amendment to section 129 was accepted.

Note 2 of this section was recast as follows:—

"The pulse, dhall and the vegetables shall be in a condition suitable for cooking."

It was resolved to give one pice to workers for buttermilk, fuel, etc.

Section 172.—The suggestion of Sri H. Sitarama Reddi to delete 'possible' in line 1 was agreed to.

The note of Mr. H. R. Dogra was then taken up for consideration.

Mr. H. R. Dogra wanted to recommend that the instructions laid down in Chapter I regarding the preparation of programmes and estimates for famine works to be amplified or revised in the light of experience gained and statistics collected in previous famines in the Ceded Districts.

Sri Diwan Bahadur Swaminatha Ayyar was strongly in favour of giving up the old system and having a new system.

The Chairman observed that there was no harm in considering the matter and revising the procedure if it was considered necessary and that a recommendation should be made to that effect.

Section 99 (b).—It was resolved to add the words " or when the number of charges during the period is likely to exceed 8 " after the second line.

Section 247.—With regard to the amendment of Mr. H. R. Dogra to this section, the Chairman observed that Mr. H. R. Dogra might address the Government in the ordinary way and that the Committee need not consider the amendment.

Sections 250 and 257.—The Committee agreed to delete the words " salaries and allowances of gazetted officers and."

Appendix D 83 (a).—The amendment was not considered necessary.

Appendix G (7).—The amendment was accepted.

The Committee then adjourned for lunch to meet again at 2-30 p.m.

After some discussion, the following resolutions were passed :—

The Committee is of opinion that, in view of the frequent occurrence of famine in the Ceded Districts, the return expected from protective works may be reduced still further, in the case of projects which are considered to be promising, to afford protection against famine.

The Committee recommends that the Government may re-examine the irrigation schemes in the famine-affected areas, in the light of this recommendation, as early as possible.

The next item that was taken up for consideration was the communication from the Government containing some proposals from the Parliamentary Secretary for Agriculture and Rural Development.

With reference to the establishment of seed granaries, the Committee passed the following resolution :—

The Committee is of opinion that there is no need for seed-granaries generally, but for the propagation of improved strain. Government may arrange through the Agricultural Department for the supply of good seeds required by the ryots.

Sinking of wells.—The Committee agreed that with reference to the sinking of wells they had already made recommendations and they considered that action on those lines was sufficient.

The Committee agreed with the suggestion contained in the inspection notes of the late Famine Commissioner regarding a fodder reserve.

The changes suggested by Mr. H. R. Dogra with reference to sections 274 and 275 and with reference to the changes in the account were of an inter-departmental character, and the Committee agreed to leave them to be settled between the two departments concerned. (Public Works Department and Board of Revenue.)

Note submitted by Sri K. Koti Reddi.—The Committee proceeded to discuss the note submitted by Sri K. Koti Reddi.

The Committee considered that a portion of famine labour might be diverted by offering special facilities to go and work on irrigation works available in the Ceded Districts preferably, or as near as possible.

The Committee agreed that the Committee's recommendations relating to the Kumudavati-Pennar Project should be forwarded to Government at as early a date as possible.

The Committee agreed to meet again at 11 a.m. on the 11th November 1938 to consider the draft report and sit on the 12th and also on the 13th, if necessary.

The Committee then arose.

T. A. RAMALINGAM CHETTIYAR,
Chairman.

APPENDIX XIII

MINUTES OF THE MEETING HELD IN THE OFFICE OF THE BOARD OF REVENUE, CHEPAUK, MADRAS, ON THE 11TH AND 12TH NOVEMBER 1938.

The following members were present :—

Sri T. A. RAMALINGAM CHETTIYAR (*Chairman*).

Mr. F. M. DOWLEY.

„ L. B. GREEN.

Dr. R. ADISESHAN.

Sri Diwan Bahadur N. SWAMINATHA AYYAR.

ABDUL RAWOOF SAHIB Bahadur.

Sri H. SITARAMA REDDI.

„ KALLUR SUBBA RAO.

„ N. SANKARA REDDI.

„ R. SURYANABAYANA RAO.

Mr. H. R. DOGRA.

„ D. I. R. MUIR (*Secretary*).

The draft report prepared by the Secretary was considered and passed with the modifications considered necessary.

D. I. R. MUIR,
Secretary, Famine Code Revision Committee, Madras.