

REPORT
OF THE
ECONOMIC ENQUIRY COMMITTEE

Vols. I—III
AND
Other connected papers.



MADRAS
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REPORT
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ECONOMIC ENQUIRY COMMITTEE

Vol. I



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REPORT OF THE ECONOMIC ENQUIRY COMMITTEE.

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REPORT, DATED 11TH APRIL 1930, BY MR. B. G. HOLDSWORTH, I.C.S.

1. *The Committee's Report.*—The report of the Committee is contained in three volumes comprising 101 pages of text and 212 pages of appendices. The report and the appendices have been examined as carefully and thoroughly as time permitted, but the task has not been facilitated by the numerous errors they contain. Arithmetical mistakes, many of them serious, occur in practically every appendix. The figures and arguments of the Settlement Officer have been attacked often unreasonably and on occasion misrepresented. Public statistics have been quoted without verification of their relevancy, and although the appendices bristle with an imposing array of columns, many of them are irrelevant and some of them so impracticable that in the end the Committee's staff has not attempted to fill them in. The frequent errors of fact and calculation suggest that the report has not been drafted with the care required by a subject of such complexity, and though many of the mistakes may be of detail they detract from the authority of the conclusions. Care has been taken to refer to the original manuscript of the Committee's report and to verify that none of the mistakes criticized below are merely misprints.

2. *The Costs of Resettlement.*—In concluding its report, the Committee has drawn attention to the fact that its investigation has taken only nine months while that of the Settlement Party took some years. It admits that the work of the Settlement Party was of a somewhat different kind. In view, however, of the misapprehensions betrayed in paragraph 378 of the report on the subject of the cost of resettlement, it is essential to emphasize the difference between the operations of the Settlement Party as a whole and those on which the Committee was engaged. It is only a very small fraction of a Settlement Party that is employed on work directly connected with proposals for a revision of rates. The large majority of the Party is engaged in operations which would be essential, whether any alteration of the rates of assessment was contemplated or not. Its activities are confined almost entirely to the task of bringing up to date the registry and description of holdings in the revenue records. It must also be clearly understood that a resurvey is in no sense an essential part of a resettlement. There would be no difficulty in raising or lowering the assessment without any resurvey. Resurvey is necessary not because a district is resettled but because the existing survey, owing to changes in the holdings, has become so out-of-date that it can no longer be adapted to existing conditions. To argue that the cost of the Survey department should be considered as an essential part of the costs of a resettlement, as the Committee has done in paragraph 378, is, therefore, unsound. There is even less justification for including the charges on account of the Inam Commissioner; and the further suggestion that the transfer of the cost of the district staff employed on the maintenance of revenue records from "5. Land Revenue" to "22. General Administration" is improper on the ground that this staff has some connection with resettlement has little to commend it. If the question is impartially considered, it will be seen that the only legitimate debit against the increased revenue levied at a resettlement is a small portion of the cost of the Settlement Party employed in the district resettled. The annual average expenditure for the last three years on the four Settlement Parties employed in various parts of the Presidency is 7.9 lakhs. About one half of this represents the cost incurred in Kistna and Godavari and it will be no exaggeration to say that less than one-tenth of this half was spent on staff directly connected with the operations involved in submitting proposals for a revision of rates. So slight is the cost of revising the rates that if resettlements were abandoned and a permanent settlement introduced, it would make little difference to the figures of expenditure quoted by the Committee in paragraph 378.

3. *The Principles of Settlement and Resettlement.*—The Committee has gone somewhat outside its terms of reference and has opened its report with a criticism of the principles of settlement and resettlement and a suggestion that these principles have been ignored by the Settlement Officer and by Government.

In paragraph 15 the Committee has misstated the settlement principles and misinterpreted the statement of the Hon'ble the Revenue Member made in Council

on 28th November 1928. It states that the settlement calculations make no allowance for the subsistence of the farmer and that the Madras Government are not prepared to consider the requirements of the cultivator in assessing their revenue rates. Under the strict theory of Settlement the net profits from agriculture, i.e., the gross outturn less the cultivation expenses, are divided equally between the ryot and Government; but owing to the number of deductions that are made in favour of the ryot at each step in the calculation and owing to the fact that the net produce is valued at a commutation rate which is always considerably below the market price prevailing at the time when the settlement is made, the theoretical half share is never taken in practice, and the assessment is invariably very much less than half the current value of the net produce. The balance is left to the cultivator and as a result of the fact that at resettlements Government have never enhanced rates up to the full percentage of the rise in prices, it has come about that the ryot's share is constantly increasing while the Government's share is constantly decreasing as the value of the products rises. It is impossible to follow the reasoning of the quotation from Mr. Srinivasa Raghava Ayyangar given in paragraph 13 of the report to the effect that slight errors in the calculation are likely to result in excessive assessments. It is true that slight errors in detail might vitiate the total but there is no more likelihood of such errors tending to make assessments excessive than of their making them lenient. It all depends on the nature of the error: and in view of the care taken to see that the calculations are made in a way most favourable to the ryot the second alternative is really more probable than the first. The quotation from Sir Norman Marjoribanks does not mean that the Government of Madras are not concerned with the maintenance of the family of the cultivator but that as adequate allowance has been made for the maintenance of the cultivator in fixing original and resettlement rates, it is not necessary and, in fact, it is not practicable, to vary the assessment in accordance with the peculiar circumstances of each *individual* cultivator. This is a very different thing from stating, as the Committee suggests, that the Government of Madras were not prepared to make due provision for the maintenance of the family of the cultivator. As a matter of fact, the present rates of assessment in these districts represent nothing like the value of half the net produce. Figures will be given later to show that the assessment is very much less than a half or even a quarter of the net produce.

These facts explain the treatment of the question of cultivation expenses in the Scheme Report. The Committee has accused the Settlement Officer of having dealt with this matter in a cursory fashion. The calculation of cultivation expenses is a matter of extreme difficulty and a recalculation of such expenses would involve a recalculation of the standard outturns. In recent resettlements in view of the fact that the enhancements proposed have been so much lower than the rise in prices, it has been considered unnecessary to embark upon such debatable points as the cost of cultivation. If it were proposed to enhance the assessment up to the full percentage of the rise in prices it would be essential to examine the relation of modern cultivation expenses to those of the preceding resettlement. The normal development would be for cultivation expenses to increase similarly with prices. There is no apparent reason why the cost of agricultural implements, cattle, manure, etc., should rise faster than the price of grain: and as labour is generally paid in grain the money equivalent will vary exactly as the price of produce, unless there has been an increase in the rate of grain wages. It is possible that there has been a slight increase in grain wages and by this amount the increase in the cost of cultivation may exceed the rise in prices. The excess is however so slight that it should be amply covered by the difference between the rise in the price of produce and the percentage enhancement of the assessment proposed. As, however, the Committee has supplied an estimate of cultivation expenses which purports to show an increase of no less than 300 per cent over the figures of 1900 the question will be examined more elaborately in a subsequent part of this report.

4. *The Resettlement Factors—(a) The standard outturns.*—The Committee has advanced a series of arguments to show that the allowance made under the head 'vicissitudes of season and uncultivable areas' is inadequate, that the allowance

for cartage and merchants' profits is too small and that the commutation rate is unfairly calculated. It has also questioned the correctness of the standard outturns which are the theoretical bases of the rates of assessment. This latter point however has not been pressed except to the extent that the Committee has quoted from various reports regarding other provinces to show the difficulties inherent in any attempt to estimate the actual yield of the soil. It has, however, suggested no more satisfactory method of arriving at the outturn which must be ascertained if land revenue is to be adjusted according to fertility. The point whether the standard outturns were excessive was examined in paragraph 40 (f) of the Scheme Report and figures were given to show that the settlement classification based on these standard outturns was substantially correct.

Further evidence regarding outturns has been abstracted from the claims preferred by ryots before the Land Acquisition Officer or a Civil Court in connection with the recent railway acquisitions in these districts. The figures are given below. They indicate that the settlement outturns are anything but excessive.

Rate of assessment.		Standard outturn.					Yield claimed per acre.
RS.	A.	BAGS.					
WEST.							
<i>Kistna.</i>							
9	0	13	..	..	..	..	20 to 9 bags of paddy.
8	0	11	..	..	..	..	20 to 9 bags of paddy.
7	0	10	..	..	..	..	20 bags of paddy.
6	0	8	..	..	..	..	20 to 10 bags of paddy.
5	0	8	..	..	..	..	20 to 12½ bags of paddy.
4	8	7	..	..	..	..	16 bags of paddy.
<i>West Godavari.</i>							
9	0	13	..	..	..	..	25 to 17½ bags of paddy Rs. 500 to Rs. 400.
8	0	11	..	..	..	..	20 to 12 bags of paddy Rs. 400 to Rs. 170.
7	0	10	..	..	..	..	20 to 18 bags of paddy.
<i>East Godavari.</i>							
12	0	16	..	..	..	..	20 to 16½ bags of paddy.
10	0	14	..	..	..	..	30 to 12 bags of paddy Rs. 100 to Rs. 90.
9	0	13	..	..	..	..	30 bags to 15 bags of paddy. 4 putties of garlic. Chillies worth Rs. 60. Rs. 100.
8	0	11	..	..	..	..	30 to 15 bags of paddy.

(b) *Allowance for vicissitudes of season.*—The deduction made for vicissitudes of season and uncultivable areas has been attacked on several grounds. It is argued that these allowances of 10 per cent in the deltas and 20 per cent in the uplands are insufficient to cover the vicissitudes of the season, since seasons sufficiently adverse to damage the crops are more frequent than the allowance made could cover. The Committee has criticized the rainfall statistics given by the Settlement Officer as 'not only worthless but thoroughly misleading.' The form in which the statistics were presented is that laid down by Government and it has been adopted in all recent Scheme Reports. It is moreover difficult to reconcile the Committee's criticism with the fact that it has accepted the only deduction which the Settlement Officer made from the rainfall figures, viz., that there had been no appreciable change in the character of the seasons. The reason for this may be that the Committee desired to apply the results of its examination of the rainfall figures for the years 1890—1899 (Appendix 2) to the period of the expiring settlement which opened in 1900. The Committee professes to have experienced some difficulty in obtaining similar figures for later years. It is not easy to understand why it should have been able to obtain figures 40 years old and not those of later years. The figures are all equally available in every

Collector's office in a printed Board's Proceedings containing the monthly rainfall returns for each station for the 45 years ending 1914. Whatever the difficulties or disadvantages of quoting more relevant figures may have been, the Committee has enunciated the sweeping generalization [paragraph 338 (1)] that in half the years under consideration, the seasonal conditions were such as to cause damage to crops, on an examination of the rainfall recorded during ten years prior to the resettlement period at only six stations in an area covering some 12,000 square miles. It is obvious that figures will vary considerably even in adjoining stations over periods as short as a month and the Committee's evidence for so serious a conclusion can only be described as inconclusive. Moreover the argument it draws from its figures, that the allowance for vicissitudes of seasons is inadequate, is weakened further by the fact that the crop experiments on which the standard outturns were estimated were conducted in the year 1894 which the Committee itself has marked as adverse in the East Godavari district and which was distinguished in Kistna and West Godavari by heavy rains in the harvest months.

The other criticisms levelled against the adequacy of the allowance for vicissitudes of season and unprofitable areas assume that the standard outturn is the maximum or ideal. It has been seen that the experiments on which the standard outturns were fixed were carried out in an unfavourable year and consequently such outturns cannot be assumed to represent even the normal, much less the perfect, crop. It is therefore quite incorrect to claim that further deduction should be made on account of late transplantation. Any effect which the date of transplantation has on the outturn must have been reflected in the standard outturns. The arguments in paragraphs 29 and 30 are therefore at best irrelevant and in paragraph 30 in particular are based on quite inadequate grounds. The same considerations apply to the contentions in paragraphs 42 to 47, to the effect that no allowance is made for insect and other pests.

In paragraph 34 the Committee has pressed for low rates of assessment in view of the losses to which the ryots are liable owing to vicissitudes of season. In this connection it must be emphasised that the Government rates are low as compared with the rents realized by the ryots from their sub-tenants and as compared with the rents paid by occupancy ryots in proprietary villages. The fact that the Government ryot can secure a rent which may be as much as ten times the assessment he pays to Government and that the occupancy ryot is prepared to pay considerably more than the Government assessment to the zamindar indicates that the revenue rates cannot be considered anything but low.

(c) *Allowance for unprofitable areas.*—The arguments based on the area of current fallows are vitiated by the fact that the Committee is mistaken about the meaning of the statistics it has quoted. It has taken them from Appendix 1 of Benson's Statistical Atlas and has been led, no doubt inadvertently, into the fallacy of claiming that Government assessment is paid on fallows in proprietary estates. An examination of this Appendix would have shown that it related not only to Government lands but also to lands in zamindari and whole inam villages. The figures required by the Committee might have been found in paragraph 7 of the letter press of the Statistical Atlas from which it would have been seen that only 11 per cent of the occupied ryotwari area is uncultivated in Kistna and West Godavari and 27·5 per cent in East Godavari. In the latter district most of these fallows lie in the Rajahmundry and Peddapur taluks where the soil is poor and the assessment extremely low. Moreover much of this fallow contains trees from which the owner receives an appreciable return. It may incidentally be noticed that in no settlement has the allowance for uncultivable areas been intended to cover current fallows. It is intended to cover only small areas such as paths, channels, bunds, threshing floors, etc., which are measured in with the holdings. It must be remembered also that much of this current fallow is deliberately kept waste to be leased as pasturage for delta cattle, a practice which yields a reliable income considerably in excess of the assessment.

(d) *Remissions.*—The dissertation on remissions in section VIII of the report is not particularly relevant to Kistna and Godavari which are as thoroughly

protected against famine as any district in the Presidency. Since the construction of the anicut seventy years ago there has been no widespread calamity in these districts and it requires more than a quotation from Mr. Clarke's report of 1899 to prove that the remission rules as now worked do not afford relief in the case of individual lands which suffer on occasions from excess or deficiency of water.

(e) *Ryots' improvements.*—In section X the Committee has raised the question of ryots' improvements and expressed an opinion that there should be some reduction of land revenue in consideration of the expenditure incurred by ryots in bringing their lands under wet cultivation. It is no doubt true that in most cases it requires some labour or expenditure to convert dry land into wet but it has never been the practice to regard this as a ryot's improvement, provided that the water is supplied from a Government source of irrigation. Where however the ryot digs a well or a private tank for the improvement of his land he is exempted from any enhanced assessment on this account. It must be remembered also that under the existing scheme of classification lands which are on the fringe of an ayacut or in an undeveloped area are invariably assessed at low rates. Carried to its logical conclusion the Committee's argument would necessitate the assessment of all lands at jungle rates since at one time or another they must have been cleared by the labour of some ryot. The Committee has offered no practical suggestion and, in view of the fact that the lands which require improvement are, as a rule, assessed in the lowest tarans it seems unnecessary to consider the adoption of any further relief.

5. *The Irrigation Systems.*—The section on Irrigation consists largely of the opinions of the Committee as to the conditions of irrigation in the deltas in question. In the case of the Kistna delta it has expressed the opinion in paragraph 60, of which it was not altogether convinced in paragraph 54, that in the Kistna delta the more chronic insufficiency of supply from which the system had suffered almost throughout the period under report had been in a very large measure set right by the fitting up of 6 feet shutters over the Kistna anicut.

In paragraph 57 however the Committee has strayed into the question of the second crop zone which has recently been fixed in the Godavari Western delta and has claimed to have discovered "numerous cases of people who were not at all anxious to raise a second crop cultivation but who, on the other hand, desired to have their lands excluded from the second crop zones." In the face of this assertion it is worth noting that out of the 132 petitions concerning the second crop zone received by the Board of Revenue only eight were from parties requesting the exclusion of their lands. The remaining 124 contained the requests of 1,800 ryots for the supply of water in the second crop season to some 15,000 acres of land and of the eight desiring exclusion most of them were under the misapprehension that the supply for second crop would mean the loss of the supply in the first crop season which they had hitherto enjoyed. Not only did the vast majority of ryots, who had any representations to make, desire the inclusion of their lands but certain registered companies and private individuals, who own property at present outside the limits of the area irrigated by direct flow, have petitioned in no half-hearted terms for the inclusion of their lands at almost any cost. These parties are prepared to pay an 'inclusion fee' of Rs. 25 per acre, to set aside lands for the benefit of the depressed classes and discharged sepoys, to construct at their own expense all the channels and engineering works necessary to bring the water on to their properties and undertake to pay such water-rate as Government may care to fix. It is difficult to believe that, if irrigation were so unsatisfactory and the profits of cultivation so exiguous and unreliable as the Committee maintains, unsentimental entities like registered companies would be prepared to offer such handsome terms for the supply of water.

6. *The relevance of the statistics regarding Population, Cultivation, Communications and Trade.*—In view of the Committee's reply to the statistics given in the Scheme Report concerning the economic condition of the district, it will be advisable to restate briefly the basis of the resettlement proposals. Land revenue represents the commuted value of Government's share of the produce. This value was at the last settlement commuted at a rate calculated on the prices of food-grains

prevailing prior to 1894. It has been demonstrated in the Scheme Report that these prices have increased by over a 100 per cent since the Government share was last commuted. It follows, therefore, that the Government's share is worth at least twice what it was worth when the existing rates of assessment were fixed. It has, however, been proposed to enhance the land revenue only by $18\frac{3}{4}$ per cent. The enhancement has been proposed not because there has been an increase in the population, in the mileage of maintained roads, in the trade of the district, in the extent of holdings or in the sale and lease values of land, but simply because that share of the crop which represented the Government assessment 30 years ago is now worth twice as much as it was then worth. In other words, the ryot requires to sell only half as much of his crop to-day as he did some 30 years ago to meet the Government assessment. Much therefore of the argument advanced by the Committee to the effect that the increase in population, the expansion of maintained roads and the development of trade, etc., do not justify any enhancement of revenue, is irrelevant. Statistics regarding these points were introduced into the Scheme Report merely to illustrate the condition and development of the tract during the expiring settlement period and to throw light on the effect of the previous rates of assessment. If the old rates had been pitched too high, the effect would have been seen in a progressive deterioration of the tract.

7. *Population*.—The Committee has pointed out that an increase of population is not an unmixed blessing and has argued as if there had been a rise in population of 21 per cent. This is not quite accurate. The correct figure is 19 per cent. The Committee has also stressed the fact that there was a retarded rate of expansion in the decade 1911—1921 which is not entirely explicable as being due to the influenza epidemic. Its argument in this paragraph would have been worthy of more attention if its figures had been correct. It has, however, quoted for East Godavari the figures for Kistna and for Kistna the figures for Guntur. It is, however, a fact that in the Godavaris and Kistna there was a marked falling off in the rate of increase during the decade 1911—1921 and that there was less immigration than during previous decades. During those periods, however, the rate of increase in these districts had been very much above the Presidency average and an eventual retardation was in such circumstances inevitable.

The Committee's main point, however, is that an increase of population has its dangers. While it is true that increased population involves increased pressure on the land the statistics of cultivation given in the Scheme Report show there has been an expansion in cultivation greater than the increase in population. In paragraph 67 of its report the Committee has questioned the calculations made by the Settlement Officer regarding the expansion of cultivation in the Godavari districts. The figures furnished by the Settlement Officer will be found in paragraph 28 of the Scheme Report where it is explained that the comparison is made between the average of the figures for the five years 1919-20 to 1923-24 and the area of cultivation given in the previous Resettlement Scheme Reports for the two districts. These figures in the case of the Godavari districts were the average of the four years immediately preceding 1894. Using these figures which relate to cultivation in Government villages only the Settlement Officer has calculated that the cultivated area has increased by 22 per cent in Kistna and West Godavari and by 21 per cent in East Godavari. The Committee has attacked these results on the ground that the Settlement Officer has based his calculations on the irrigated area of 1899 in which year second crop in the Godavari delta was cultivated on only 66,000 odd acres whereas in 1897 the second crop area was 166,000. The Committee's figures are taken from the Annual Administration Report of the Public Works Department, Part II (Irrigation) and it must be noted in passing that they refer to non-Government as well as Government villages, whereas the Settlement Officer's figures in paragraph 28 of the Scheme Report refer to Government villages only. Because of the disparity in the irrigation returns for 1897 and 1899 the Committee has argued that it is justified in reducing the increase of cultivation claimed by the Settlement Officer by 100,000 acres and accordingly with the help of an erroneous statement that the increase in population was 21 per cent (instead of 19 per cent) it has gone on to show that population has increased more than the cultivated area.

The Committee's argument is fallacious. The Settlement Officer has explained that his early period figures were taken from the figures in the Resettlement Scheme Report of 1894. The Committee has ignored this and argued as if his calculations were based on the Irrigation returns of 1899. It has further committed a serious blunder in having deducted from the Settlement Officer's cultivated area for 1919-20 to 1923-24, which referred to the cultivation in Government villages only, the figures from the Administration Report (Irrigation) for the year 1897, which include inam and zamindari villages as well.

To prove how misleading is the argument of the Committee in this connection, the figures from the Annual Administration Reports (Irrigation) have been collected and compared. Second crop cultivation fluctuates from year to year and therefore averages have been taken for the five years 1895-96 to 1899-1900 (early period) and 1920-21 to 1924-25 (late period). Totals for the main systems are compared below :—

	Godavari Delta.	Kistna Delta.	Muniyern Project.	Divi Project.	Total.
	ACS.	ACS.	ACS.	ACS.	ACS.
Early period	750,353	522,067	1,445	Nil.	1,272,998
Late period	956,541	738,676	6,247	37,255	1,738,719
Percentage increase ..	+ 27	+ 41	+ 332	..	+ 37

In the main irrigated areas alone there has been an increase of 37 per cent. This of course does not mean that the cultivated area has similarly increased, since much of the land now irrigated was probably under dry cultivation formerly.

The statistics given in paragraph 28 of the Scheme Report showing that in the Government villages in Kistna and West Godavari there had been an increase in cultivation of 22 per cent and in East Godavari an increase of 21 per cent remain unaffected by the Committee's mistaken criticisms. There has therefore been an increase in the area cultivated actually greater than the increase in population and when it is remembered that it has been mainly under wet crops the suggestion that the increase is due only to the opening up of lands on the margin of cultivation may be decisively rejected. It follows therefore that the pressure of the population on the land must actually be less now than it was thirty years ago especially in view of the enhanced productivity of the area cultivated. There is therefore, not the menace in the figures of population which the Enquiry Committee apprehends and despite its quotation from Adam Smith it can hardly be denied that a marked increase in population is a generally accepted sign of prosperity. Before leaving this subject it may be noticed that the Committee's contention in paragraph 78 regarding the pressure of surplus labour upon the land, in support of which it quotes from the report of the Royal Commission on Agriculture, is hard to reconcile with its subsequent argument that owing to a marked scarcity of labour the cost of cultivation has increased out of all proportion to the rise in prices.

Owing to the fundamental errors in the Committee's figures which have been exposed above the argument in paragraph 68 falls to the ground. As to the minor points referred to in paragraph 69 a reference to the totals given by the Settlement Officer in his Scheme Report will show that the decreases noted are too trivial to merit comment.

8. *Communications and Trade.*—The statistics regarding communications, markets and trade are intended simply to show that the ryot is in a better position than he was thirty years ago in regard to the disposal of his produce. The 'higher prices from improved communications and conditions of marketing' are among the material benefits enumerated by the Royal Commission on Agriculture in the passage quoted by the Committee in section 72 of its report. It is clear therefore that the figures are relevant, as concerning a factor that affects agricultural prosperity.

9. *Mr. Srinivasa Raghava Ayyangar's historical error.*—Paragraph 79 contains a historical inaccuracy that requires contradiction. The Committee has quoted from Mr. Srinivasa Raghava Ayyangar to the effect that when the principles regulating the land tax were settled in 1856 it was intended that the charges for the maintenance of roads should be met out of the Government assessment and

that, owing to the development of the local land cess, the charges which it was intended should be met out of the Government share of the produce have actually been met out of the ryot's share.

The papers in which the principles of the land tax were settled have been scrutinized but nothing has been found which bears out Mr. Srinivasa Raghava Ayyangar's dictum. In fact the policy which is explicitly stated in these paper is the direct opposite. In paragraph 5 of the letter of the Madras Government, No. 44 of 1855, dated 11th October 1855, to the Hon'ble the Court of Directors, the following words occur: "The proportion is intended to be that taken for the general purposes of the State; but we have it in contemplation, besides to establish cesses for local objects . . . especially for the maintenance and improvement of the district roads and for education." In this letter the Government of Madras proposed to take a percentage of the *gross* produce as the assessment. The Hon'ble the Court of Directors replied in a letter No. 17 of 1856, dated 17th December 1856 in which, while recommending that the assessment should be a percentage of the net produce, they stressed the advisability of forming road funds in accordance with the principles accepted by them for South Arcot.

In acknowledging the despatch of the Hon'ble the Court of Directors the Government of Madras in extract from the Minutes of Consultation under date April 22nd, 1857, No. 372, referred again to the intention they had expressed in their letter of 1855 and eventually when passing orders on the settlement of the South Arcot district directed the levy in addition to the rates calculated on half the net produce of a cess of four pice in every rupee 'to be laid out on roads in the taluks.' It is evident that Mr. Srinivasa Raghava Ayyangar laboured under a misapprehension regarding the policy of Government.

10. *Agricultural statistics.*—The accuracy of the Scheme Report figures regarding the number of cattle, ploughs, etc., in the East Godavari district for 1920 has been attacked in paragraph 86. The Committee has relied on Benson's Statistical Atlas, Appendix IV. These figures are, owing to a mistake in the Collector's office, misleading and for this reason were not adopted by the Settlement Officer. He observed that in the case of East Godavari, the figures in the Statistical Atlas included returns from non-Government as well as from Government villages and he secured the figures for the latter villages only from Statistical Return A-4 in the Collector's office. To this extent the figures in paragraph 91 of the Committee's Report regarding the East Godavari district are inaccurate and inferences drawn from them must be abandoned. The figures for Kistna and West Godavari may, however, be further examined. The Committee professes to show that the amount of straw or other fodder obtained from the area under cereals and pulses will not feed more than one-sixth of the cattle in these districts. In so doing it has assumed that one acre produces 1,500 pounds of straw or other fodder. In the "Hand-book of Agricultural Facts and Figures" published by the Madras Agricultural Department, it is stated, however, that the yield of paddy straw is 2,500 to 3,000 pounds per acre and of cholam from 5,000 to 7,000 pounds. Another formula in use in the Agricultural Department is that cholam straw is to grain by weight as 3 is to 1 and paddy straw as $1\frac{1}{2}$ to 1. With an outturn of ten bags (1,660 lb.) to the acre the weight of paddy straw should reach 2,500 lb. It is clear, therefore, that 1,500 lb. is an underestimate and that it would be erring on the side of moderation to assume for purposes of calculation an average yield of 1 ton of straw or 2,240 lb. per acre. At this rate the total fodder yield of the district is 2,150 million pounds. The Committee has estimated that 9,000 million pounds of fodder are required to feed 600,000 head of cattle. This is based on an assumption that 15,000 lb. of straw or other fodder is required for one unit of cattle per annum. The formula in use in the Agricultural Department is 5 tons (11,200 lb.) per pair per annum or 5,600 lb. per head per annum. At this rate the amount of fodder required for the cattle of the district is only 3,360 million tons. There is still a shortage, but it is nothing like so serious as that estimated by the Committee, and it must be remembered that no allowance has been made for grazing on stubble, bunds and porambokes. Moreover the figures for cattle on which the above calculations are made include all the stock in the Government villages, and not only those animals which are required for agriculture. It is no doubt true that the

manure of all the animals is available for use on the fields but it is not fair to debit on that account the whole cost of their keep to the agricultural budget, unless at the same time, the receipts from dairy produce, cattle rearing, sale of skins and carting are also credited. The Committee, however, has concluded that the figures given in paragraph 91 prove how inadequate is the supply of paddy straw for the requirements of the cattle and has argued that the settlement practice of setting off the cost of feeding cattle against the value of straw is, therefore, indefensible. It is generally accepted that one pair of ploughing cattle is required for the cultivation of 5 acres of wet land. It has been seen that on a moderate estimate one acre of wet land yields 1 ton of straw per annum. Five acres will therefore yield 5 tons of straw per annum which is the accepted ration for a pair of ploughing bullocks. There is, therefore, not so much wrong with the time-honoured practice of the Settlement Department as the Committee is disposed to think.

11. *Statistics of holdings, darkhasts and sales for arrears of land revenue.*—The treatment of the subject of holdings and revenue, darkhasts and relinquishments and sales for arrears of land revenue in sections 17 and 18 of the report cannot be described as impartial.

In paragraph 96 there is no reference to the explanation given in the Scheme Report for the apparent excess of the increase in dry holdings over that in wet holdings, which is due to the system hitherto prevailing in these districts, by which a very large area of land which was under longstanding wet cultivation was shown as nominally dry in the revenue accounts.

Paragraph 97 of the report gives the impression that the proportion of the area of darkhasts to relinquishments is as 2 : 1. This is true only of the Kistna district and only so long as the figures for the Kaikalur taluk, the special difficulties of which are fully explained in the Scheme Report, are taken into consideration. The proportion in East Godavari is 11 : 1, in West Godavari 10 : 1, and in Kistna excluding Kaikalur 5 : 1.

It is impossible to follow the Committee in its conclusions that the Scheme Report figures, which show the extreme rarity of sales for arrears of land revenue, prove that 'the demand for land is everywhere so great that the ryot would generally manage somehow or other to pay up his dues'. This can only be described as a *petitio principii* and is not supported by a single fact.

12. *Sale value of land.*—In paragraph 100 the Committee has stated that the Settlement Officer 'has made no attempt to trace the progress of the rise and fall (of land values) since 1925.' The suggestion conveyed by the language used is that the Settlement Officer has deliberately excluded from consideration the statistics of the years subsequent to 1925. The Committee can hardly have been ignorant of the fact that the Settlement Officer's report was submitted in August 1926.

It has next enumerated the factors other than an anticipation of profits which *might* account for a rise in land value. The pressure of population on the soil might certainly send up the demand for land, but it would also send up equally the price of food-stuffs. The Committee admits that prices naturally vary with the rise of food-stuffs which is in itself an admission that the price fluctuates with the receipts from cultivation. It is scarcely fair to advance the accidental circumstances detailed in paragraph 107—sales in satisfaction of debts, family arrangements, charitable sales, special lands, double crop lands, seed bed lands, lands which have special value for a particular ryot, lands which contain a house and cattle-shed—since it is equally easy to place on the other side the accidental circumstances which depress prices below the normal. The sale in satisfaction of debt may show only a nominal consideration; the family arrangement is just as likely to result in a low price as a high price; and as against the special lands there are just as many lands which have nothing special about them at all and the Committee has not advanced a single fact in support of its bare assertion that these special lands 'form a numerous class in sales.' There are just as many circumstances in which a ryot has to sell for what he can get as there are in which a ryot can get a fancy price for his land. Even if it were admitted, however, that all the prices recorded in the thousands of registered sale-deeds examined by the Settlement staff

represented a price above the real value (whatever this may be) of land, the Committee's contention fails to affect the Settlement Officer's case. He has carefully pointed out in his Scheme Report that the proposal to enhance the rates of assessment does not rest on the fact that the price of lands has reached any particular figure in the years 1920 to 1925. The proposal rests on the proved rise in the price of food-grains and it is merely supported by a reference to sale and lease values. This reference moreover is not so much to the actual level of values at the present time as to a comparison between those values and the values prevailing at the time when the existing rates of assessment were introduced. The Committee will not presumably contend that the land hunger of the Indian ryot is a new phenomenon; that family arrangements and charitable sales are more numerous now than in the past and that special lands are more frequently brought to sale now than they were in 1900. The special factors which may possibly vitiate the average of the later period must equally have vitiated the averages of the earlier period. The Settlement Officer's argument that the value of lands has increased faster than the price of food-stuffs is unaffected by the arguments advanced by the Committee in depreciation of the present prices realized by the sale of land.

The Committee has further stated that subsequent to 1925 there has been a marked fall in the value of lands corresponding to the fall in the price of paddy. The Committee has however advanced nothing more than an assertion of this fact and a reference to information furnished by ryots in course of its enquiry. It has not produced a single figure verifiable by a reference to documents nor has it indicated the extent to which prices have been affected.

With a view to ascertaining to what extent the values of lands have fallen and how far the ryots support the allegations advanced by the Committee the records relating to the acquisition of lands for the three new railways in these deltas, Gudivada to Bhimavaram, Nidadavole to Narsapur and Cocanada to Kotipalli have been scrutinized. These acquisitions took place in 1926, 1927 and 1928. The results are tabulated below showing—

(1) the land values as stated in the Scheme Report (based on sale-deeds for five years 1920–1925), (2) the values claimed by ryots before the Land Acquisition Officer or before a civil court, and (3) the values eventually awarded.

Rate of assessment. (1)	Scheme Report value. (2)	Ryot's claim. (3)	Amount awarded. (4)
KISTNA (year 1926).			
<i>Wet.</i>			
RS. A.	RS.	RS.	RS.
9 0	1,090	1,750 to 1,250	1,750 to 1,250
8 0	934	1,500 to 1,250	1,500 to 1,000
7 0	548	1,000	1,000
6 0	399	1,000	650 to 550
5 0	220	1,200 to 600	500 to 200
4 8	141	600 to 500	225
<i>Dry.</i>			
1 0	78	400	125
WEST GODAVARI (year 1926).			
<i>Wet.</i>			
9 0	935	2,200 to 1,700	1,800 to 1,100
8 0	745	3,000 to 1,000	1,800 to 900
7 0	528	2,500 to 1,500	1,800 to 900
4 0	341	2,000	600
<i>Dry.</i>			
4 0	559	1,500 to 1,200	650 to 500
3 0	448	1,500	650
EAST GODAVARI (years 1927 and 1928).			
<i>Wet.</i>			
12 0	1,387	1,500 to 1,400	1,200
10 0	1,140	3,000 to 1,500	1,300 to 900
9 0	936	3,000 to 1,500	1,300 to 800
8 0	745	2,000 to 1,000	1,000 to 800

The ryots' estimates are considerably higher than the Scheme Report figures as are also the sums awarded. Claims preferred before a Land Acquisition Officer are naturally pitched high and cannot of course be taken too seriously; but they constitute oral evidence similar in kind to and entitled to just as much weight as the statements made to the Committee in their tours. In the one case the natural tendency would be to exaggerate and in the other to depreciate values. If the claims preferred before the Land Acquisition Officer are to be suspect as naturally biased, the oral complaints received by the Committee are open to exactly the same suspicion.

13. *Lease values.*—There is a certain irony in the Committee's description of the Settlement Officer's arguments from recorded lease values as 'crude and bald'. To enumerate, as it has done in paragraph 111, the factors which might account for an unusually high rate of rent without adverting to the exactly similar and opposite factors which might lead to a low rate of rent is certainly not an impartial statement of the case. The Committee has insisted that no arguments should be drawn from these figures unless all the factors relating to each individual document have been carefully ascertained. It may again be pointed out that the Settlement Officer's argument is not one based on the actual rate of lease revealed in modern figures, so much as on a comparison between the figures of to-day and the figures of 25 years ago. It might have been possible with the expenditure of much time and money to obtain a history of each individual lease during the past five years, but for the Settlement Officer's purpose it would have been equally necessary to investigate the history of the leases from 1900 which was patently out of the question. The same argument however holds good here as in the case of sale-deeds that the Settlement Officer's conclusions being based on a comparison of the figures of two periods, the vitiating factors cancel out.

In paragraph 115 of its report the Committee practically accepts the contention underlying the Settlement Officer's argument from the rental figures. "If therefore," it says, "a comparison of the grain leases in the earlier period and the later period showed that there was very little difference in these, it means that the difference in the money values of leases in two periods is merely due to the increase in the price of grains." Later, in paragraph 116, the Committee claims to have produced statements which are 'self-explanatory' and show 'that, as a rule, grain leases are not altered in the two periods under reference'. If the Committee imagines that the Settlement Officer attempted at any time to show that there had been an increase in the rate of rents expressed in kind, it has failed to appreciate the argument contained in the Scheme Report which is precisely that accepted by it, that the value of leases expressed in terms of cash is several times greater now than it was 30 years ago. The fact that the rates in kind have remained constant is no argument against the resettlement proposals but is, as will be seen later, the strongest possible proof that the Committee's contention that cultivation expenses have increased by 300 per cent is not borne out by facts.

The Committee has not however contented itself with destructive criticism on this point. It has made certain enquiries of its own the results of which are tabulated in Tables 1 to 5 of paragraphs 117 to 123 of the report. Apart from a few minor difficulties such as an entry in Table No. 2 of an average holding of 80 cents in the case of 23 'rentiers' who are described as owning no land at all and a persistent entry in all the five tables of an average holding of less than 5 acres against the class of ryots described as owning less than 10 but over 5 acres, its treatment of the figures calls for further notice. In view of its criticism of the Settlement Officer's arguments as 'crude and bald' it is interesting to observe that the Committee has drawn contradictory generalizations from each of the five tables though the cases examined in each are not sufficiently numerous to justify any generalization at all.

Table No. (1), e.g., is alleged to prove that small holders 'are not very much in the run for lands to be rented' because 'landlords who would like to lease out their lands do not have much trust in them'. Table No. (2) however shows that the 'lands rented by the landless people and ryots having only one acre and less is very considerable and it is generally admitted that by renting the lands the landless people become more credit-worthy and are able to raise more credit.' It

is also observed that the bigger ryots pay a higher rent per acre 'possibly because they are more anxious to rent some land at any cost and don't mind their rents being in arrears.' Table No. (3) shows that 'three big ryots rented as much land as 11 ryots who have very little or no land and that they are willing to pay very much higher rent than the latter.' Table No. (4) shows that "most of the rented land is taken up by the bigger ryots who pay very much lower rent than is demanded from the others. This is largely due to their greater bargaining capacity and stronger economic conditions." These points however are by the way. The Committee's contention is that in practically every one of these cases the tenant has lost during the last four years. It is not quite clear what is meant by the 'loss during the last four years' particularly as in some cases it is given in terms of lands and in other cases in terms of rupees and on occasion in terms of one when probably the other was intended. Does it mean that by their cultivation in general these ryots have lost money in the sense that they have spent more than they have secured or does it mean that the ryots had to borrow these sums during the last four years for no other purpose than to defray their rentals?

Fuller particulars are given in Appendix X (i) and X (ii) regarding the condition of lessees. We are told that the ryots interrogated were able to distinguish between debts due to 'renting lands' and debts due to other causes, between the property they had lost through 'renting lands' and the property they had lost through other causes. The keeping of accounts is not a strong point with the Indian ryot. It is difficult to see how he could produce the information furnished by the Committee and it is still more difficult to accept the conclusion that out of the 129 cases examined in Kistna there were 12 people who had had to sell property or cattle owing to their pernicious habit of 'renting land' while there was no single case in which any of these ryots had to sell property for other causes. If this information is to be accepted as reliable there are 78 cases out of 129 in which the ryot was indebted owing to his having taken lands on lease. In 31 of these cases this was the only reason for indebtedness. There is no conceivable reason why a ryot should deliberately reduce himself to a state of destitution simply to enrich an idle landlord. The ryots of these deltas cannot be so blind to their interests as to be unable to refrain from spending their labour and their resources on the cultivation of another man's land with a net result to themselves which is not only nil but in the majority of cases a minus balance. The Committee's schedules show that the majority of the lessees examined had quite a reasonable holding of their own. They cannot therefore have been driven to the disastrous expedient of leasing land by poverty or hunger. It is significant that, as we shall see when we examine the accounts submitted to the Committee by certain gentlemen of these districts, that the successful ones have increased the area of lands they take on lease and that the unsuccessful ones have had no difficulty in securing tenants to take the cultivation off their hands. It is extremely difficult therefore to accept the Committee's views in this respect as sound; but even if they were, they afford no argument why the Government should withhold its claim on the landholder for the assessment. It is not he who is losing but the over-optimistic tenant. The landlord is receiving a rent of about ten bags or Rs. 65 to an acre of wet land and paying a kist of about Rs. 8 and it is obvious that in his case the assessment represents nothing like half or even a quarter of the net produce. There is therefore no reason, on the facts adduced by the Committee, why the enhanced rates of assessment proposed should not be accepted.

The Committee would doubtless reply that no weight can be attached to documentary or oral evidence regarding rates of rental since the tenant is, as a rule, unable to pay the rent agreed upon and the landlord has to reduce or remit his dues. There must, of course, be cases where this occurs but it is extraordinary that the practice of leasing should continue if the defaulting tenant is the rule and not the exception. It is only to be expected that in supplying information to the Committee's staff the ryots would represent things in as black a light as possible and it is significant of the importance to be attached to their vague and unsubstantiated complaints before such a sympathetic audience as the Committee, that they had not the least reluctance during the railway acquisitions in advancing

before the Land Acquisition Officer and on oath in civil courts claims regarding the value of their land which they supported by oral and documentary evidence regarding the rates of rental they received. The rentals claimed are tabulated below :—

Rate of assessment.	Standard outturn in bags.			Rentals claimed per acre.
(1)	(2)			(3)
WET.				
KISTNA.				
9 0	13 bags	..	..	Rs. 100 plus 10 bags of paddy.
8 0	11 "	..	..	" 100. " 50 for leasing the land for seed-bed.
WEST GODAVARI.				
9 0	13 bags	..	..	Rs. 300 to Rs. 250. 10 bags to 9 bags of paddy.
8 0	11 "	..	..	Rs. 300 to Rs. 60.* " 50 to Rs. 200 for sugarcane. 15 to 9 bags of paddy.
7 0	10 "	..	..	Rs. 200 per acre for sugarcane. " 185. 9 bags of paddy.
4 0	6 "	..	..	9 bags of paddy.
EAST GODAVARI.				
10 0	14 bags	..	..	20 to 10 bags of paddy. Rs. 100 to Rs. 53.
9 0	13 "	..	..	14 to 8 bags of paddy. Rs. 200 to Rs. 75.
8 0	11 "	..	..	10 to 8½ bags of paddy. Rs. 90.

It is evident that the ryots, whatever they may say when the question of enhancing the land revenue is in issue, do not in actual fact treat rental agreements as mere formalities and worthless as evidence of agricultural values and profits. It is not only the ignorant ryot who has advanced such claims. One of the members of the Committee itself, for all his professed distrust of recorded rentals, had no hesitation in filing a lease deed before the Land Acquisition Officer in support of what the latter has described as "an exorbitant claim" and has even carried the case to a civil court where he must be prepared to support this agreement with evidence given on oath.

14. *The commutation prices.*—In paragraph 129 the Committee has written as follows: "A perusal of the tables given in Appendix XV to the Scheme Report will show that the Special Settlement Officer has, for purposes of arriving at the commutation rate, selected 20 years which give the highest rates possible for the 30 years period." The years selected by the Settlement Officer were the last two decades of the 30 years immediately succeeding the year in which the previous commutation price was calculated, i.e., 1893-94. It would have been possible for the Settlement Officer writing in 1926 to calculate the commutation price from the actuals of the 20 years ending with the year 1925-26; but a moment's thought will show that this would have resulted in an even higher commutation rate than that on which his proposals are based since the three years of relatively high prices between 1923-26 would have been substituted for the first three years of comparatively low prices in the period actually taken.

The commutation prices worked out from the figures of the 20 years ending 1928-29 will be found below. They are considerably higher than those adopted in the Scheme Report. The Committee seemed to imagine that if the trend of prices subsequent to 1923 had been taken into consideration the commutation rate would have been lower. It has pointed out that in the last few years prices have tended to fall. If the price on which the settlement proposals were based had

* Note.—The Rs. 60 is for a bapat wet land.

been the actual market price prevailing at the time of writing, the criticisms advanced by the Committee would have been cogent. It is, however, precisely with a view to avoiding hardships that might be caused by a fall in the price of paddy that revenue rates are calculated from an average price over a period of 20 years. This price is always very much lower than the prices ruling at the time of the settlement or resettlement and this margin is left in the ryot's favour precisely in order that Government may guard against their demand becoming excessive owing to a fall in prices.

In paragraphs 134 *et seq.* the Committee has discussed the theoretical reasons which have led to the increase in prices. These paragraphs are interesting but not altogether relevant. It is impossible to conjecture what will be the course of prices in the years to come and it would be impracticable to base any assessment on a guess of this sort. It is true that prices have fallen generally since 1922 and it may be that they will not again touch such a high figure. It may even be that prices will fall below the present level, though this is pure conjecture. The movement of prices is not uniformly downward. These facts would be telling arguments against a proposal to base the assessment on the prices actually ruling to-day. It cannot, however, be too strongly emphasized that the resettlement proposals are based on the *average* of prices ruling over a period of 20 years and that the figure taken as the commutation price and on which the proposals under examination are based is considerably lower than the present price and is in fact lower than any actual price recorded since the year 1910.

The Committee has objected particularly to the Settlement Officer having included in his figures the prices ruling in the years immediately after the war on the ground that they were abnormal and that there has been a marked fall since 1922. It may be noted in passing that the figures of these years were taken into consideration in connection with the resettlements of Tanjore and Trichinopoly. In view, however, of the Committee's contention fresh commutation prices for paddy down to and including the figures for the year 1928-29 have been prepared. The detailed figures are given in Appendix I. The results for the deltas are tabulated below.

Commutation price for 20 years ending 1928-29.	Percentage increase over commutation price of last settlement.	Scheme Report commutation price.	Percentage increase according to Scheme Report.
<i>East and West Godavari.</i>			
294	149	258	119
<i>Kistna.</i>			
272	131	241	104
Commutation price for 20 years ending 1928-29 omitting the three years 1919-20 to 1921-22.			
<i>East and West Godavari.</i>			
269	128	258	119
<i>Kistna.</i>			
253	114	241	104

It may be observed that the rise in prices disclosed even after the exclusion of the years of abnormal conditions is greater than that taken by the Special Settlement Officer in formulating his proposals.

The Committee has also questioned the accuracy of the prices used in framing the commutation price. These prices are taken from the monthly returns submitted by Collectors to the Board of Revenue. The old commutation price was similarly calculated at the last settlement from the official prices and if, as the Committee has suggested, these are exaggerated, the common error will cancel out on comparison. In support of its contention the Committee has in Appendix 11 (i) and (iii) contrasted the official figures with those furnished to it by certain private parties and public bodies. There is no means of checking the accuracy

of the non-official figures as presented by the Committee and in view of the obvious errors in the prices purporting to have been obtained from the Cocanada Chamber of Commerce for the years 1913, 1914, 1915 and 1916 in Appendix 11 (iii) and of the discrepancy between the Cocanada rates as quoted by the Committee in paragraph 150 of Volume I for the years 1921 and 1929 and as given in Appendix 11 (iii) for the same years, it is at least open to doubt whether the figures have been accurately stated. A point which can be checked is the Committee's presentation of the Settlement Officer's figures which are given in Appendix XV of the Scheme Report in terms of prices per garce of 3,200 Madras measures. In Appendix 11, the Committee has calculated these in terms of prices per bag of 164 lb. The arithmetic approximates to accuracy but the method of presentation involves a serious misrepresentation of the official figures. In calculating the commutation price the Settlement Officer reduced the officially recorded figures by 15 per cent to allow for cartage and merchants' profits. The figures quoted as his by the Committee are the official figures unreduced by 15 per cent. To suggest, as is implicitly done in Appendix 11, that the figures given there are those on which the resettlement proposals are based is a grave error. It was no doubt an oversight, but it is unfortunate that an oversight should have occurred in such a way as to misrepresent the official position. The figures have been recalculated so as to show the price per bag actually taken by the Settlement Officer in calculating his commutation rate and are given below in comparison with the prices attributed to him by the Committee, and the prices returned by Mr. Gopalakrishnayya. A reference to Appendix 11 will show that it is only in three years that the Settlement Officer's figures are not exceeded by one or more of the figures taken from private sources in Kistna, and six years in Godavari. The Committee's statement in paragraph 149 that it finds the Settlement Officer's figures are always very considerably in excess of those of Mr. Gopalakrishnayya is simply due to the fact that it has misrepresented the Settlement Officer's figures.

If Mr. Gopalakrishnayya's figures are used instead of the official figures, the commutation price for the 20 years ending 1922-23 becomes for Kistna 230 instead of 241—an increase of 95 per cent over the old commutation price as against the 104 per cent increase revealed by the official figures. It is clear, therefore, that there still remains a good case for an increase of 18½ per cent in assessment in view of the very much greater increase in prices.

PRICES OF PADDY PER BAG OF 164 lb.

Year.	<i>Kistna Delta—Wet.</i>														
	Mr. Holdsworth's prices as represented by the Committee.						The prices actually used by Mr. Holdsworth.						Mr. A. Gopalakrishnayya's figures as given by the Committee.		
	Annual average.			Ryots' selling months.			Annual average.			Ryots' selling months.					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)				
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
1903-04	3	8	0	3	7	3	2	15	6	2	14	0
1904-05	3	12	0	3	12	7	3	3	11	3	5	8
1905-06	4	12	8	4	15	4	4	1	8	4	4	11
1906-07	5	2	5	5	2	9	4	6	8	4	7	7
1907-08	4	13	8	5	1	0	4	3	9	4	6	1
1908-09	6	12	5	7	3	7	5	15	0	6	4	0
1909-10	5	12	9	5	6	4	5	1	6	4	12	6
1910-11	4	12	8	4	9	10	4	3	9	4	1	5
1911-12	5	9	2	5	12	5	4	12	10	4	15	9
1912-13	6	6	9	6	2	1	5	7	1	5	3	7
1913-14	5	10	7	5	3	2	4	13	1	4	7	3
1914-15	5	3	4	5	3	2	4	7	3	4	6	8
1915-16	5	6	8	5	6	8	4	9	11	4	9	11
1916-17	5	10	7	5	13	9	4	14	4	5	0	4
1917-18	5	10	0	5	10	0	4	12	3	4	12	6
1918-19	6	6	3	6	7	1	5	11	9	5	15	0
1919-20	8	7	6	8	13	0	7	5	0	7	10	0
1920-21	10	14	4	8	15	9	8	12	2	7	14	8
1921-22	8	10	5	8	12	5	7	8	3	7	8	10
1922-23	7	11	9	7	6	3	6	10	9	6	4	11

Godavari Delta—Wd.

Year.	Mr. Holdsworth's prices as represented by the Committee.			The prices actually used by Mr. Holdsworth.			
	Annual average.			Ryots' selling months.			
	(1)	(2)	(3)	(4)	(5)	(6)	
	RS.	A.	P.	RS.	A.	P.	
1903-04	3 6 0	3 5 0	3 14 11	2 14 4
1904-05	3 14 0	3 14 0	3 4 9	3 5 11
1905-06	4 11 0	4 12 0	3 15 8	4 1 5
1906-07	5 7 0	5 9 0	4 10 6	4 13 9
1907-08	5 13 0	5 15 0	4 14 11	5 1 3
1908-09	6 5 0	6 4 0	5 8 0	5 8 0
1909-10	5 0 0	4 11 0	4 5 6	4 0 3
1910-11	4 12 0	4 8 0	4 0 6	3 13 0
1911-12	5 10 0	5 12 0	4 13 5	5 0 1
1912-13	6 7 0	6 6 0	5 7 5	5 8 0
1913-14	6 6 0	6 5 0	5 6 10	5 7 1
1914-15	6 0 0	5 14 0	5 3 0	5 0 8
1915-16	6 6 0	6 6 0	5 8 3	5 8 3
1916-17	6 3 0	6 3 0	5 5 8	5 5 8
1917-18	6 4 0	6 5 0	5 6 10	5 7 1
1918-19	7 10 0	7 15 0	6 11 7	7 0 0
1919-20	9 10 0	10 1 0	8 8 8	8 15 5
1920-21	10 13 0	10 6 0	9 7 4	9 1 3
1921-22	9 8 0	9 5 0	8 5 9	8 1 7
1922-23	8 2 0	7 12 0	7 1 2	6 13 1

15. *Cultivation expenses.*—The only sound reply to a proposal to enhance assessment slightly on the ground of a much greater increase in prices is to show that the costs of cultivation have increased so much more than the price of food-grains that the additional income produced by the rise in prices is absorbed by the excess in the cultivation expenses. It is an elementary fact but one that is worth pointing out to avoid misunderstanding that if, on account of a 100 per cent rise in prices, Government enhanced its assessment rates by the full 100 per cent, there would still be twice as much money left for cultivation expenses as there was at the previous settlement and a balance twice as large for the cultivator. In other words until the rise in cultivation expenses exceeds the rise in prices, the costs of cultivation cannot encroach upon the other shares of the produce. The Committee has therefore set itself to prove that cultivation expenses have increased abnormally and out of all proportion to other prices.

The question of cultivation expenses is one of considerable difficulty. It has been the practice in recent resettlements not to attempt the recalculation of these expenses in any detail for the reason that the enhancement proposed was far below the rise in prices and that it was unnecessary to embark on so debatable a subject as the detailed cost of cultivation since it might be taken to vary similarly with the prices. For this reason the Settlement Officer gave no elaborate calculations in the Scheme Report. He recommended an enhancement of rates by only 18 $\frac{3}{4}$ per cent as against a rise in prices of over 100 per cent. He however came to the conclusion that the costs of cultivation had risen in much the same proportion as grain prices. The Committee has complained that a Settlement Officer's scale of expenses corresponds to nothing actual and that the assumption that expenses fall with the fertility of the land is not founded on fact. It must be realized that any estimate of cultivation expenses is an abstraction. The settlement scale does not profess to be the ideal or the maximum. It is an approximation to the expenditure that will ordinarily be incurred in securing the standard outturn and making allowance for the facts that in addition to his crop the ryot gets the straw, that he uses his bullocks and carts for other than agricultural purposes and that his cattle produce some of the manure required for the holding and some return in the way of dairy products. The situation is well

described in the memorandum submitted by the Board of Revenue in reply to the criticisms of Mr. Dutt in 1900, the relevant portion from which is extracted below :—

“It must be perfectly obvious to all that cultivation expenses differ not merely from soil to soil, but from man to man, crop to crop and from year to year; in one field a man will spend 10, 20, or more rupees on manure—according to crop, etc.—while his neighbour may spend little or nothing: one man cultivates his land with his own hand, drives a plough cut from a tree in his own field with a team he has bred on the land, and weeds and harvests with the labour of his own family, while his neighbour, perhaps a Brahman, a merchant, or other non-cultivator, hires labour and buys material at every step. But since it is necessary to allow for the cost of raising a crop, the Settlement Officers prepare tables based upon many years of enquiry and experience and apply them to the soils in rough proportion to their productiveness, knowing full well that the less productive lands do, as a matter of fact, generally get far less spent upon them than the more productive; it is not that expenses on the poorer lands would not be as great or greater if they were highly cultivated, or that they would not cost more than good lands if they had to be raised to a given productiveness or to yield a given produce, but that in fact they are *not* so highly cultivated and are not so productive; the best lands get the most attention, the most manure, the most labour; the ryot prefers to spend less upon the less productive and more precarious lands. Consequently the gradation, though only a generalized approximation, has a real foundation in fact.”

The Economic Enquiry Committee has reported that the estimate of the cost of cultivation given by the settlement investigators is too low since they have omitted provision for certain items of cultivation and made inadequate provision for others. What constitute the essential items of cultivation is a moot point and the Committee itself admits to doubts in Appendix 16 (i). The settlement investigators were not restricted to any pre-conceived table of cultivation items. What they reported was the information they gathered in the village and if there are omissions or underestimates they are the omissions and underestimates of their informants, the ryots of the village examined. The Committee claims to have made more exhaustive enquiry into this question and has produced a mass of statistics which are the result of enquiries in 60 villages.

In Appendix 28 (i) it has constructed scales of cultivation expenses for holdings of six different sizes and for three grades of cultivation termed the ‘maximum,’ ‘medium,’ and ‘minimum,’ making 18 scales in all. This Appendix 28 (i) is a summary of the various appendices, 28 (iii) to (xiii), in which the cost of each of the operations of cultivation is given for each of the 18 scales. It may be noticed however that in the course of posting the figures of ‘maximum’ labour costs from Appendix 28 (xi) to Appendix 28 (i) an unaccountable addition of Rs. 2-4-0 has been made in the case of holdings of 5 acres and 10 acres. Unfortunately the Committee has not explained how from the varying figures furnished by its investigators it has arrived at the results propounded with such precision and detail for holdings of six different sizes and for cultivation of three grades of intensity. This omission makes the examination of the figures a task of extreme difficulty, which is aggravated by an unusual number of arithmetical errors and the apparent absence of any rational scheme of calculation from holding to holding. It would be tedious to notice in detail all the points where the figures presented require further explanation. Attention is invited to a few examples which are typical of the appendices as a whole and which seriously detract from their value. Appendix 28 (xi) tabulates the costs of labour—both hired and permanent—under ‘maximum’ cultivation. Under the item “carting and spreading manure to seed beds,” it is reported that for a holding of 3 or 7 acres 3 men are required; for a holding of 12 acres 4 men; for a holding of 17 acres 19 men are required, yet for a holding of 22 acres only 4 men and for a holding of 27 acres only 5 men are required. For the weeding of an area of 7 acres the Committee has estimated that 14 men and 28 women costing Rs. 15-12-0 are

necessary, yet for the same operation on 12 acres it has provided for only 8 men, 8 women and 8 private servants at a cost of Rs. 6. In Appendix 28 (xii) the 'medium' scale of cultivation expenses is set out in similar detail, but if "Bodi repairs" require only 10 men for 7 acres (in three fields) and 12 men for 12 acres (in four fields), the Committee should have explained why it thought it necessary to allow 34 men for 17 acres (in four fields) and only 33 men for 22 acres (also in four fields). It would moreover be interesting to know why, although for thrashing and carting on 22 acres 62 hired men costing Rupees 46-8-0 are sufficient under the 'maximum' scale, under the so called 'medium' scale the Committee has thought it necessary to provide 64 hired men for Rs. 48. Incidentally it may be noticed that it only requires 20 men or less than a third of the above if the thrashing on 22 acres is of the 'minimum' quality—a fact which suggests that the maximum and medium allowance are unduly liberal. In Appendix 28 (xiii) which is supposed to represent the 'minimum' cost of labour, the Committee has omitted to enter the number of workers required for holdings of 3 and 7 acres. It has entered no particulars regarding the sex of the workers up to 12 acres and has given details only in respect of holdings of 17, 22 and 27 acres. In none of these cases has the Committee provided for the employment of women although women are freely employed in the 'maximum' and 'medium' scales. There are several discrepancies. The most surprising figures in this schedule are those for "thrashing, carting and hay stack" which amount to Rs. 35 for 17 acres and only Rs. 12-8-0 for 22 acres. The Committee has been so thorough that it has included the 'mamuls' paid to the Public Works Department in the cost of cultivation but has not explained why it has assumed that the ryot who adopts 'maximum' cultivation pays less in the way of 'mamuls' than the ryot who adopts the 'medium' cultivation: so much so that whereas the ryot cultivating 27 acres under 'maximum' cultivation pays only Rs. 12 and the ryot with 'medium' cultivation pays only Rs. 15, the unfortunate ryot with 'minimum' cultivation has to pay Rs. 20. It would be interesting to know why Palerus for 22 acres get Rs. 282 when their masters practise the 'maximum' or 'minimum' scales of cultivation and only Rs. 262 when they practise 'medium' cultivation. Further the Committee has failed to explain why it has taken Rs. 282 worth of Paleru service on 27 acres to be equivalent to the labour of 324 men in the 'maximum' schedule and to the labour of only 247 men under the 'minimum' schedule whereas the cheaper Palerus of the 'medium' schedule are supposed to be equivalent to 346 labourers although they get Rs. 20 less in the way of wages than their 'maximum' and 'minimum' fellows. These discrepancies justify grave doubts as to the soundness of the figures presented and suggest that the Committee has attempted greater elaboration than the subject admits of.

In Appendix 28 (iii) the Committee has presented its estimate of the cost of agricultural implements per acre on holdings of various sizes. There is again a specious mass of detail but it is difficult to understand why a cart worth Rs. 80 will do for 7 acres whereas a cart worth Rs. 100 is required for 12 acres; and why a cart worth Rs. 120 is sufficient for 22 acres while two carts at Rs. 100 each are required for 27 acres. The Committee has allowed no longer life for a cart worth Rs. 120 than for a cart worth Rs. 80. Most of the items are open to the same sort of question and the figures cannot be accepted as reliable. It cannot be even an approximation to actual facts that the cost of agricultural implements for a holding of 7 acres should average out to Rs. 3-4-10 per acre while for a holding of 17 acres it averages out to only Rs. 2-7-0.

Appendix 28 (iv) deals with manure. For a small holding of 1 acre and less the calculation is at 5 cart-loads per acre per annum and for the other holdings it is at 10 cart-loads per acre. The Committee has made an allowance for the manure produced by the ryot's cattle and assumed that the remainder is purchased. For some unexplained reason it has charged at 12 annas a cart-load for holdings up to 10 acres and for larger holdings at Re. 1 per cart-load. The point open to more serious criticism, however, is that the same allowance has been made for manure under the 'maximum' 'medium,' and 'minimum' scales of cultivation, whereas in actual practice it is perhaps in the application of manure more

than in any other respect that cultivation differs in quality. However that may be, the allowance for manure is excessive. No account seems to have been taken of the manurial properties of the silt brought down the canals and deposited on the fields. In this connection the figures given by the Committee in paragraph 229 of the report regarding the total quantity of cattle manure available may be considered. The Committee has assumed that one head of cattle produces only 2,000 lb. of dung. This is an underestimate. It is an accepted principle that the dung produced by an animal is equal in weight when dried to about half the weight of fodder consumed. At the rate assumed by the Committee of 15,000 lb. of fodder per animal per annum, each head of cattle would produce 7,500 lb. of manure or two and a half times the Committee's estimate. It has been seen, however, that a more reasonable figure for fodder would be 5,600 lb. which would yield 2,800 lb. of dried manure as against the 2,000 allowed by the Committee. It is further unsound to assume, as the Committee does, that all the dung produced during the day is wasted. This is the dung that is used for fuel. The other assumptions made, viz., that half the cattle are absent for half the year and that half the manure produced at night is used for fuel, are certainly exaggerated: but accepting them for purposes of argument it will be found that the net available yield of manure per animal per annum would be 700 lb. instead of 500 and the total amount for the Kistna and West Godavari districts would be 420 million pounds. It has to be remembered that the manure produced by other animals such as sheep, goats and pigs as well as the green manure grown by the ryot on his wet land without any revenue charge and which is the best manure for swamp paddy has not been taken into account and that the deductions made from the amount of cattle manure available are excessive. The cattle dung burnt for example is usually that collected from the half of the droppings which the Committee assumes to be totally lost.

Appendices 28 (v), (vi) and (vii) give the figures for cattle depreciation in the maximum, medium and minimum schedules but no longer life is allowed in the case of more expensive cattle than is allowed for inferior cattle. The Committee has included an amount for insurance against epidemics and has assumed that every ryot purchases every head of cattle he uses and no allowance has been made for the use of cattle born from the ryot's existing stock.

Appendices 28 (viii), (ix) and (x) give particulars regarding maintenance of cattle. A serious omission, however, is that there is no set-off for the straw produced on the ryot's own land. The Committee is emphatically of opinion that the settlement practice of setting off the cost of maintaining cattle against the value of the straw is unjustified, but figures have been given in paragraph 10 above which prove that the settlement procedure is correct and fair. Moreover it must not be forgotten that in addition to the straw the ryots raise a fodder crop on extensive areas of wet lands after the paddy has been reaped and without any revenue charge. Whether or no the straw and other fodder raised on a holding is insufficient to maintain the cattle required for the working of the holding, it is certain that such fodder will go a considerable way towards feeding such cattle and to omit it altogether from the calculation of expenses seriously vitiates the results. As a matter of practice the ordinary ryot buys little, if any, food for his cattle. A further point for criticism is that no deduction from the costs of depreciation and maintenance is allowed on account of the receipts accruing from the hiring of cattle and carts for transport and work on other ryots' land. The cattle are not always required for working the holding and are frequently loaned out to others during the slack season. Even taking the figures as they stand, it is extremely difficult to accept them at their face value. It is illogical that the maintenance of cattle should average as much as Rs. 13-6-3 per acre under 'maximum' in the case of a holding of 7 acres and only Rs. 8-14-7 per acre in the case of a holding of 17 acres. It may be replied that the larger the holding the more economical it is to work per acre particularly in respect of cattle charges but in that case it becomes difficult to explain why the maintenance of cattle for 22 acres should cost Rs. 10-10-0 an acre while for 17 acres it costs only Rs. 8-14-7 per acre. It is difficult to understand also why

under 'maximum' cultivation the average cost of cattle maintenance is approximately the same for holdings of 3 acres and 7 acres whereas under the 'medium' cultivation the cost per acre for holdings of 3 acres is only Rs. 8-1-4 and for holdings of 7 acres is Rs. 10-14-10.

Such however are the detailed bases on which the Committee has built Appendix 28 (i). To this it has added a further elaboration, the details of which are found in Appendix 28 (ii), which purports to show the value of the work per acre contributed (a) by the ryot and (b) by a dependent. A perusal of this appendix raises several problems. It is not obvious, for example, why on 5 acres of land the ryot's work is twice the value of the dependent's, whereas on larger holdings the dependent's contribution is more valuable than the ryot's. Nor is it clear why a dependent can do work of more value on a holding of 10 acres than on a holding of 5.

€ The final costs of cultivation as they appear in Appendix 28 (i) show that under the maximum scale the most expensive holding to farm is that of 5 acres and less. This is as might be expected : but it makes an explanation all the more necessary why under the medium and minimum scales this particular size of holding is the cheapest to farm. This explanation the Committee has not given.

The points of detail criticized above are not exhaustive. Individually some of them are perhaps of no great importance but the cumulative effect is to cast grave doubts on the care and impartiality with which the elaborate schedules have been framed. Such a mass of statistics as that which the Committee has presented must create, and was no doubt designed to create, an impression that the results arrived at were the product of a most careful and exhaustive enquiry. The points brought out above however demonstrate that such an impression would be illusory.

Taking the figures however for what they are worth, it is found that the Committee has estimated the maximum cost of cultivation per acre at a figure somewhere between Rs. 64 (which as we have seen includes an unexplained Rs. 2) and Rs. 56, whereas the medium cost varies between Rs. 55 and Rs. 47 and the minimum between Rs. 48 and Rs. 41. Throughout these appendices every detail that could possibly be included in the cost of cultivation has been inserted, from repair of the cattle-shed to depreciation of the ladders. No allowance has been made for the fodder produced on the ryot's own holding and the cost of one or more "Palerus" has been included in almost every case. The Paleru however is more than an agricultural labourer ; he is a whole-time servant of the ryot's family. He cannot be employed on operations directly connected with agriculture for the whole year. It is significant moreover that the cost of the Paleru for the whole year is included in the expenditure on a single crop, whereas the Paleru's services must certainly be debited partly against the second-crop cultivation. The allowances for Palerus are very liberal and even a ryot with 3 acres to farm is assumed to spend Rs. 18 on a servant. Even if a charge under this head is accepted, the cost to be debited against single-crop cultivation must be considerably reduced. If therefore the charges under the head "Paleru" are reduced by a third, which is really too little, and the value of straw is set off against a part of the cost of maintaining cattle, and the receipts obtained from hiring out cattle and carts are taken into consideration, it would be found that the Settlement Officer's maximum estimate of Rs. 35 per acre on settlement principles is not very different from the figure advanced by the Committee.

On comparing the Committee's estimates with its data, it will be observed that the figures given by the Committee's investigators are not as high as those advanced as the maximum cost of cultivation. The figures furnished by the six ryots referred to in Appendix 26 (ii) will not bear examination as representative of the general run of things. The depreciation in cattle varies from Rs. 10 to Rs. 30 per head. The cost of maintenance varies from Rs. 53-12-0 to Rs. 8-14-0 ; the cost of Palerus varies from Rs. 46 to Rs. 93 per head and the total cost of labour from Rs. 31 to Rs. 42 per acre. These figures are considerably higher than those accepted by the Committee. It is not a matter for surprise therefore that four of the six ryots should show a *minus* amount as their income. It is,

however, a pity that in striking the agricultural balance the income from dairy and other services shown in column (9) has been entirely overlooked.

The Committee has claimed considerable weight for the 'Khata' accounts, which were submitted for its perusal. It is a curious fact that the accounts submitted should be so few. The first point to be noticed is that the figures in Appendix 12, which give the details of wages taken from the Khatas, do not bear out the rates adopted in Appendix 28. According to Appendix 28 the wage for women for transplantation is 8 annas. The khatas show 6 annas, 5 annas, 4 annas 6 pies and 4 annas. For weeding the charge in 1928 was 6 annas for men and 4 annas for women in Blimadole (the only entry for this year), whereas in Appendix 28 the charge is 6 annas apparently for man and woman alike. Similarly for reaping the 1928 figures for a man are 8 annas, 6 annas, 5 annas 6 pies and 5 annas and for a woman 5 annas 6 pies and 4 annas; yet in Appendix 28 a flat rate of 8 annas for a man and woman alike is adopted.

In Volume 2 of the report, Appendix 16 (i) to (vi), the Committee has edited extracts from the accounts of six gentlemen and has claimed that the figures contained in these accounts support their calculations. Some examination of them is therefore essential. It may be prefaced with the remark that in every case the Committee has had to adjust the figures. In its own phrase it has found it necessary to use its 'local knowledge and the usual discretion' and confesses that with all this "it remains doubtful whether some more items of expenditure upon labour could not have been added to or subtracted from those which are taken into consideration."

In the case of Mr. Veerasalingam of Idappakallu—Appendix 16 (i)—the figures are complicated by the omission of the value of grain payments and of any allowance for the depreciation of cattle and implements. They are further complicated by the fact that this gentleman was conducting experiments in betel cultivation. His figures as modified in accordance with the Committee's 'local knowledge and usual discretion' show that in 1925 Mr. Veerasalingam spent Rs. 460 on hired labour and Palerus for farming 10 acres, whereas in 1928 he spent only Rs. 398 on the same item for farming 14 acres. The Committee has explained the low expenditure for 1928 by saying that he 'had somehow to get on with insufficient hands.' The remark appears to beg the question. According to the figures as edited by the Committee, Mr. Veerasalingam, as a result of cultivating 6 acres of wet lands of his own and 5 acres of wet lands taken on lease, is left with Rs. 18-15-7 per acre, from which he has to pay the kist and the rent on the leased lands before he thinks of his own maintenance. The kist is probably about Rs. 7 an acre. The rent is unlikely to be less than 10 bags per acre which would be valued by the Committee at Rs. 65; so that out of a net receipt of Rs. 208-11-5 this gentleman has to pay an assessment of Rs. 42 and a rent of Rs. 825 or Rs. 367 altogether. It has not been explained how Mr. Veerasalingam has managed to balance his accounts. According to the Committee his entries are extremely complete and he could not have omitted so important and apparently disastrous an item as the payment of his rent. It would have been interesting to know how this gentleman has managed to exist for the past five years which is the period for which the Committee has examined his accounts. In the circumstances it is all the more to his credit that he was able to purchase an acre of dry land for Rs. 800 in the year 1928; but one cannot help wondering why he has been so blind to the obvious lesson of his accounts as to increase the area of lands taken on lease from 2 acres in 1925 to 5 acres in the years 1926—1928. The Committee does not suggest that he is indebted.

The account of Mr. Ramayya of Jujuraram—Appendix 16 (ii)—is interesting reading. The Committee has exercised its 'usual discretion' in dealing with his figures. Though his accounts reveal an average expenditure of only Rs. 47-2-2 per acre, the Committee has increased it to Rs. 58-2-2 by including the cost of depreciation of carts and the cost of the manure supplied from his own agricultural stock. This gentleman is something of a stock breeder. Though the Committee has justified the inclusion of the cost of maintaining other than agricultural cattle on the score that their manure is useful for the land it is illogical

enough to add to the cultivation expenses Rs. 10 an acre for the same manure on the ground that if the ryot had not got more cattle than usual he would have had to purchase this elsewhere. Since 1921 this gentleman has purchased 7 acres of wet land and 3.64 acres of dry for a sum of Rs. 1,27,000. (There is obviously something wrong here but the figures are as given by the Committee.) He borrowed most of this money at 12 per cent interest. At the time of writing the report his debt was only Rs. 7,000. The Committee has explained the apparent prosperity of this ryot as being an exceptional case due to his unusual competence and luck.

The accounts of Y. Ramayya of Bhimadole—Appendix 16 (iii)—are instructive. He kept his accounts in rather a curious manner and with a view to discovering the most economical way of utilizing labour. For this purpose he took credit as against the sums paid to his Palarus for the value of work turned out by them in agricultural operations on the field. The figures show that in the three years 1926 to 1929 he spent Rs. 2,824, while for the work done by the Palarus he has credited only Rs. 326. This suggests that if instead of using Palarus he had been content to hire labour according to requirements his expenditure on labour for the three years would have been Rs. 1,237 instead of the figure reported by the Committee, viz., Rs. 3,735, which would have been 20 per cent instead of 59 per cent of his total income.

The accounts of Mr. M. S. Ramayya of Kottapeta—Appendix 16 (iv)—are straightforward but present one amazing feature. He has two fields, one $3\frac{1}{2}$ acres and the other 2 acres, both in the same village. For each field he keeps separate accounts which show that his costs of labour per acre are Rs. 23-15-10. This is a much lower figure than the Committee claims in Appendix 28 (i) even for 'minimum' cultivation. The amazing feature, however, is that according to his accounts it takes more people to pull seedlings, transplant them and reap the crop for the field of 2 acres than for the field of $3\frac{1}{2}$ acres. The Committee has noticed that there is something curious and advanced the reasonable proposition that the number of workers needed per acre diminishes as the size of the field increases. It has not however adverted to the more surprising fact that the number of workers on the 2-acre field is not only greater per acre than those on the $3\frac{1}{2}$ -acre field, but is greater absolutely—a feature which renders the accuracy of these accounts somewhat doubtful.

The accounts of Mr. Venkata Razu of Lankalakoderu village are discussed in Appendix 16 (v). Unfortunately the Committee has given the details of his expenditure only up to the year 1916, whereas the deductions they have drawn relate to the figures of 1919—1921. It would have been interesting to know what accounted for the sudden rise in the cost of cultivation from Rs. 305 in 1918 to Rs. 577 in 1919 and Rs. 526 in 1920. The rise in his costs of cultivation between 1918 and 1919 is about 90 per cent—a rise greater than even the Committee would care to claim. There must have been some extraneous influence at work which has not been explained and which neutralizes the deduction drawn from the figures, viz., that the receipts do not increase in direct proportion to the rise in grain prices between 1917 and 1920. It is perhaps significant that from 1921 Mr. Venkata Razu has found it more profitable to lease out his land to others but it is difficult to reconcile this fact with the description of this gentleman as being an 'ideally efficient and hardworking ryot.'

Mr. K. Somayya of Tadikalaipudi village whose accounts are given in Appendix 16 (vi) is reported to have derived a net amount of Rs. 32-6-5 from 10 acres of wet and 41 acres of dry lands. This gentleman is really a trader and apparently takes to farming only as a hobby. He has however decided that it is better for him to lease his lands.

A consideration of these khata accounts shows that there is little, if any, reliable evidence to support the cultivation expenses propounded in Appendix 28.

A contrary method has been adopted in Appendices 27 (i) to (v) in which an attempt was made to estimate in 1928 the cost of cultivation in 1900. It is difficult to see what evidence can have been secured. People are hazy about their

costs of cultivation at the present day and they must be entirely unreliable regarding the costs of cultivation 28 years ago. It would be easy to show the numerous discrepancies and illogicalities apparent in the schedules constituting Appendix 27. Attention is invited to a few examples. In Appendix 27 (v) no Paleru is allowed for an area of less than 17 acres in 1900, whereas it is assumed that in these degenerate days the services of a Paleru are required for the cultivation of 3 acres—vide Appendix 28 (xi). It is a serious oversight that the Committee should estimate in Appendix 27 (iv) the cost of pasture for the cattle required to farm 3 acres, 7 acres, 12 acres and 17 acres as being alike, Rs. 2-8-0 in the year 1900 whereas cattle for the same areas cost for pasture Rs. 10, Rs. 15, Rs. 25 and Rs. 35 in 1928 according to Appendix 28 (viii). No doubt the cost of feeding cattle has risen, but it is doubtful if any one could support an estimate which claims that it has gone up from Rs. 2-8-0 to Rs. 35 or 1,400 per cent. It is difficult in these circumstances to attach much value to the figures for 1900.

By the methods which have been examined above the Committee claims to have established that the costs of cultivation have advanced by 300 per cent. It has been shown that in presenting the detailed material in support of its estimates the Committee has committed many serious blunders. This criticism does not perhaps finally dispose of the Committee's case though it strips it of the trappings of meticulous care in which it is decked. It may be argued that even if the details are artificial, the conclusions may conceivably be sound and might have been reached directly by an inspired guess instead of being calculated by the summation of individually ascertained details. The fact however that the calculations can be shown to be incorrect casts serious doubts on the reliability of the conclusions also. There are, moreover, further considerations that effectually dispose of the Committee's general position that cultivation expenses have increased by 300 per cent.

In the first place why should these expenses have increased so much faster than the price of food grains? *Prima facie* there should be a more or less similar increase in prices all round and the burden of proving that in any particular sphere prices have risen thrice as high as prices in general lies heavily on those who assert it. With an increasing population and a paucity of openings, wages cannot rise excessively. Much of the wages is paid in kind and this will vary exactly with the price of grain. There is no reason why carts, sacks, spades and cattle should cost three times what they cost 30 years ago, nor why cattle should cost more to feed than is necessitated by the rise in grain prices.

Moreover there has been a fall in the price of paddy during the last five years and with this fall the costs of cultivation like the general costs of living generally must also have fallen.

The facts that tell most seriously against the Committee's contention are those relating to rentals. The non-cultivating landholder who leases his land bears no expenses of cultivation other than manuring and sometimes the levelling of his fields. These items account for about 14 per cent of the Committee's cultivation expenses on the 'medium scale' which means that the cultivating tenant bears 86 per cent of the cultivation expenses. If these expenses had during the last thirty years actually risen by 300 per cent as against a rise in prices of only 100 per cent, it must inevitably have resulted in a reduction of the landlord's receipts whether taken in money or in grain at a fixed figure or at a share of the crop. Yet we have it on the authority of the Committee itself that 'grain leases are not altered in the two periods under reference' (paragraph 116 of the report) and comparative statements have been prepared in Appendix No. 9 which are said to demonstrate this fact. An alleged increase in the practice of sharing as opposed to fixed leases is no proof—as the Committee seems to think—that rents are falling. It proves nothing regarding the rates of rent: whereas there can be no question that if cultivation costs had really risen by 300 per cent as against a rise in prices of only 100 per cent there must necessarily have been a revision of the shares taken respectively by landlord and tenant under the sharing system, as no tenant could possibly continue to meet a 300 per cent rise in cultivation expenses from the same fraction of the yield as had proved sufficient before the rise. There

is, however, nothing to suggest that there has been any such revision of the shares or that the rates of grain rentals have fallen appreciably.

16. *The net produce and its value.*—The Committee next proceeds to examine the value of the net produce left to the ryot.

In Appendices 30, 31 and 32 with their numerous sub-heads the Committee has attempted to show the value per acre of the net produce left to the ryot assuming that his land yields the standard outturn and that the cultivation expenses are according to the estimates in Appendix 28. It is assumed that the same expenditure is incurred on bad land as on good land—an assumption which is entirely unjustified in fact and a mode of operations so unbusinesslike that there is no cause for surprise if it results in loss. In Appendix 30 (a) series the standard outturn is valued at the commutation price of Rs. 258 per garce or Rs. 5-9-0 per bag and the cultivation shows a profit only on the top two tarams under 'maximum,' the top three under 'medium' and the top four under 'minimum' cultivation, if no allowance is made for the labour of the owner and dependent. This comparison is however fallacious not only for the reason that it assumes that the expenditure is not adjusted to the quality of the land, but also because a comparison is made between the yield valued at the commutation price which is considerably below the prevailing prices on which the cultivation expenses are calculated.

Appendices 30 (b) and (c) series tabulate the results if the arbitrary allowances which the Committee has made for the owner's and dependents' labour, are subtracted from the cultivation expenses. Each of these series has two further subdivisions (ii) a simple piece of multiplication to show the aggregate result on holdings of different sizes and (iii) to show what must be added to the outturn to leave a surplus which shall be double the assessment. The Committee has not explained the purpose of these sub-schedules, but the above seems to be its intention.

For some unexplained reasons, schedules of this type have been omitted from the parallel appendices 31 and 32. Appendix 32 is designed to show the results if the outturn is valued at Rs. 10 per bag. The result is a very handsome profit for the ryot, but it is noteworthy that the Committee has refrained from adding schedules of the types numbered as (ii) and (iii) in Appendix 30.

Appendix 31 should be the instructive schedule because in it the outturn is alleged to be valued at Rs. 6-8-0 a bag which the Committee takes to be the present price of paddy. This schedule should therefore represent a comparison between outturn and cultivation expenses based on contemporaneous standards. Unfortunately the Committee's arithmetic contains so serious an error that the schedules as prepared understate by more than 20 per cent the value of the produce. The mistake committed by the Committee is not one of appreciation of evidence or misunderstanding of facts but a simple and elementary arithmetical error which is inexplicable. Instead of multiplying the number of bags in the standard outturn by Rs. 6-8-0 it has multiplied by about Rs. 5. The actual value of the produce at Rs. 6-8-0 a bag is not that shown by the Committee in its schedule but very nearly a quarter as much again. The Committee's figures and the correct figures are given below:—

Standard outturn.	Committee's figures of value.			Correct value at Rs. 6-8-0 a bag.		
	RS.	A.	P.	RS.	A.	P.
1,000 Madras measures	64	5	9	81	4	0
900 "	57	14	9	73	2	0
800 "	51	7	10	65	0	0
700 "	45	0	10	56	14	0
600 "	38	9	10	48	12	0
550 "	35	6	5	44	11	0
500 "	32	2	10	40	10	0

Appendices 31 (i), (ii) and (iii) have been re-prepared correctly as an appendix to this report. The majority of lands in these deltas are assessed at Rs. 8. With the 'minimum scale' of cultivation which the Committee admits to be the

most common of its scales and which is also the nearest approximation of its estimates to facts, the profits, even assuming that the ryot does no work himself and gets no work from his family, are all more than double the assessment and if the ryots' assistance is allowed for, they are three to four times the assessment. These results are achieved by adopting the standard outturns which it has been seen are less than the ryots claim to realize and by further reducing these low outturns by one-tenth, the allowance made in favour of the ryots for vicissitudes of season, and by deducting a scale of cultivation expenses which is without doubt excessive.

In paragraph 76 the Committee has stated that a tendency is noticeable on the part of owner-cultivators to lease their land to members of the labouring classes. The Committee has argued that this is due to inability on the part of the owner-cultivator to make cultivation pay. This assumption is not justified. It is equally possible and more in keeping with the other observed facts that the growth of sub-letting in ryotwari tracts is an indication that the profits of cultivation are now such as to support the owner-cultivator without his being put to the necessity of conducting his own cultivation. The increase in the money income of the ryot which is inevitable under the present resettlement system by which the Government share progressively decreases in real value is likely to foster the development of a non-cultivating-owner class.

Certain items of evidence which will throw light on the actual facts of cultivation have been collected below for comparison with the theoretical views of the Committee.

In the course of the enquiry conducted by the Banking Enquiry Committee in three villages of Ramachandrapur taluk of the East Godavari district, information has been collected concerning the yield and cultivation expenses of twenty ryots with holdings of different sizes. The highest cultivation expenses claimed are Rs. 27-14-0 an acre which incidentally resulted in the highest reported yield of Rs. 87-8-0 an acre. The lowest cultivation expense claimed was Rs. 18-1-3 and the yield was valued at Rs. 71-6-10. The lowest reported yield was valued at Rs. 68-15-5 on which an expenditure of Rs. 22-7-4 had been incurred. The lowest net profit given comes to Rs. 46-8-0 per acre. The assessment rates were Rs. 7 to Rs. 9.

Professor Ranga, the Secretary of the Committee, in Volume I of his 'Economic Organisation of Indian villages' published in 1926, has given the results of his personal investigations into the economic condition of certain villages in the Guntur district which he knew well. In this investigation he claims that 'he was not actuated by any desire to find out useful reasons against the levying of any tax, in favour of raising a protective tariff, etc.' (page 55 op. cit.). He has given particulars of the expenditure on cultivation and income from wet land in the case of thirty ryots in three villages and has calculated the net income per acre and the percentage of land revenue to net receipts in each case. He has explained that by 'net receipts' is meant the sum left after paying cultivation expenses and assessment. If the existing rates of land revenue really represented half the net produce, this percentage would obviously be 100. What Professor Ranga actually found was that there was one case in which this percentage was 19: one in which it was 18, two in which it was 16, and in the remaining 26 cases it was 13 or below. The lowest rate found was 7 per cent. The highest 'net' income per acre was reported to be Rs. 111 and the lowest Rs. 38 this latter being the income of a non-cultivating owner who had leased out his lands. The rates of assessment in Guntur are similar to those in Kistna and the Godavaris and the scheme of settlement is the same and Professor Ranga himself states that conditions in Kistna and the Godavaris are essentially similar to those in Guntur.

The annual report of the Directors of the Circars Agricultural Development Corporation, Limited, Narsapur for the year 1927-28 also affords relevant figures. This Corporation owns a large block of lands at the tail end of the irrigation system in the Bhimavaram taluk of West Godavari. The lands are liable to submersion in the first crop season and are irrigated at present only by pumping.

The area has only recently been brought under cultivation and owing to this fact and the difficulties of its situation the yield is below that realized on lands within the ayacut proper. The Corporation leases its lands to ryots on the sharing system, each party taking half the produce. In the year under report, 250 acres were cultivated in the first crop season and 800 acres in the second crop season. The total taxes (presumably land revenue, water-rate and cess) paid by the Corporation amounted to Rs. 4,882 and its share of the crop came to Rs. 20,266. The expenses of cultivation were met by the ryots and presumably also they made something out of their share. The Corporation's share therefore represented at least the net profits after deducting the costs of cultivation. The total tax demand it will be seen represented only 24 per cent of the Corporation's receipts. This, it must be emphasized, was on land newly brought under cultivation and in the face of great natural difficulties and despite a failure of crop on rather more than one-fifth of the second crop area for which the Directors state that they have applied for a remission of revenue.

These are facts. The elaborate schedules of the Committee are abstractions and represent what it estimates that a ryot might spend on his land. It has been seen that where the Committee's figures were susceptible of check they were found to contain serious errors and discrepancies. It is therefore reasonable to claim that little value need be attached to its elaborate appendices.

It would appear to be the general contention of the Committee that throughout these deltas a paddy crop costs more to rear than it is worth and that lessees not only make no profit but actually lose by renting lands in the delta. This contention to any one who knows these deltas is surprising. Moreover, the Committee has not satisfactorily explained why it is that astute lawyers and experienced traders are prepared to purchase at prices running up to Rs. 3,000 an acre, the privilege of losing further money, nor why the ryot who finds it inconvenient or unprofitable to cultivate his own lands has no difficulty in finding a tenant. The Committee admits that there has been a considerable improvement in the standard of living during the past 30 years. This cannot have occurred unless the people had money to spend. It would appear that the serious agricultural depression which is represented as being prevalent must be a recent phenomenon of the last few years. It is however no new thing for agriculture to be on its last legs. In fact the ease with which it can be proved that agriculture does not pay has become proverbial. There is a Tamil proverb to the effect that if the costs of cultivation are counted up in money, not even the price of a goad will remain. An almost identical picture of the state of agriculture may be found in the memorial addressed by the Committee of the Godavari District Association to Government in 1896 protesting against the proposal to levy the existing rates. Yet during the currency of these rates the population and cultivation of these districts have increased appreciably; trade and communications have shown a marked development and the standard of living among the agricultural population has admittedly improved. The jeremiads of 1896 have proved unfounded and there is little more substance in those of 1929.

17. *Agricultural indebtedness.*—The Economic Enquiry Committee has collected very detailed statistics regarding agricultural indebtedness and has indulged in certain criticisms of the figures furnished by the Settlement Officer. It has complained that his enquiry was irrational and thought of only at the eleventh hour. In Appendix 24 (i) it is also suggested that the figures received were manipulated so as to reduce the total volume of indebtedness. These criticisms are based on a misapprehension which is the more difficult to understand as the Committee had access to all the papers of the Settlement office relating to these statistics. The figures were not collected at the eleventh hour. A beginning was made in March 1925. No special staff was employed to collect the figures and no villages were specially selected for enquiry but to save cost the Special Revenue Inspectors engaged in making enquiries into the registration of holdings were instructed to make enquires at the same time of all resident landholders they met with in the course of their normal duties regarding their debts and their assets. The statements for Vadlapalu, Tapeswaram and Kundopadu which have been noticed

by the Committee as omitted, were omitted because they were received as is shown by the date stamp on them after the statistics had been finally tabulated and worked out for the Scheme Report. On his report regarding Yendagandi, the Special Revenue Inspector reported that the figures supplied were obviously wrong and that he could obtain no reliable information from the ryots. The Special Settlement Officer, therefore, ordered their omission. In the circumstances, there is no ground whatever for the suggestion that other villages were substituted for the four omitted since in the case of three the statistics had already been completed before the reports were received, and in the case of the other the figures were definitely rejected. As regards Gollalakoderu and Chilukur the Committee has stated that original reports were cancelled in favour of subsequent figures showing a lower indebtedness. The original figures were those of the Special Revenue Inspector; the figures actually adopted were those supplied by the Special Deputy Tahsildar whose business it was to overcheck the work of the Special Revenue Inspector and they were naturally accepted in preference to those furnished by the subordinate.

The Committee claims to have conducted enquiries in all the 78 villages investigated by the Settlement party and in ten others. An examination of the Settlement records with the list of its villages given by the Committee in Appendix 24 (i) shows that the Settlement Party made enquiries in 79 villages and the Committee in a nominal 88 of which 58 only were identical with the villages investigated by the Settlement Party, 24 were villages examined by the Committee only and 6 cannot be traced in the alphabetical lists, being presumably only hamlets of some other revenue village.

The Committee's statistics are set out in full in Appendices Nos. 20 to 23 and are summarized and discussed in paragraphs 265 to 239 of the report. According to these figures the ryot in Kistna is indebted to the extent of about Rs. 1,070, in West Godavari to the extent of Rs. 1,236 and in East Godavari to the extent of Rs. 925 per family. At first sight this would suggest that the ryot is more seriously indebted in West Godavari than in Kistna and more seriously indebted in Kistna than in East Godavari. On the other hand when the amount of indebtedness is compared with the reported assets of the indebted ryots, it is found that the percentage of debt to property is 17.07 in Kistna, 19.48 in West Godavari and 23.82 in East Godavari. The one set of figures appears to show that the East Godavari ryot is the least heavily indebted while the other set would suggest that he is the most heavily indebted. Attention is invited to this apparent contradiction since it affords an excellent warning of the possibilities of error in drawing facile deductions from statistics relating to so complicated a matter as agricultural indebtedness. The Committee has pointed out in paragraph 273 that the aggregate debt per head increases as the value of the total assets increases, a fact which neutralizes the inference which the Committee has suggested in the concluding sentence of paragraph 270 that "it is really significant of the condition of the ryots of these districts that the average debt of indebted ryots should be greater than that of even the larger proprietors of the Punjab." Incidentally 'larger proprietors' means only those owning more than 8 acres. Before any deductions can be drawn from such a comparison however, the relative values of the assets of the ryots in the different areas must be examined. If the Committee had gone on to state the principle which is proved in the book (Darling: 'The Punjab Peasant in Prosperity and Debt') from which it took its statistics, it would have seen that the indebtedness figures of the Circars were significant of nothing more than that the property and credit of the Madras ryot was greater than that of the Punjabi.

It is not obvious *prima facie* why there should be any marked difference between the conditions of the ryots of the three districts concerned. The Committee has not suggested that the cultivation expenses are generally heavier in one district than in another or that the yield is inferior. Such special difficulties as do exist are mainly to be found in the Kistna district in which apparently the ryots are better off than elsewhere. The probable explanation of the apparently more serious state of affairs in the East Godavari district may perhaps be gleaned from the figures in paragraph 271 which show that the ryots examined in this

district and belonging to the first two classes, i.e., ryots having property of Rs. 1,000 and less, own on an average less than an acre of land. It is obvious that such a holding is insufficient for the maintenance of a family and that the fortunes of such ryots must be affected more by other factors than by agricultural conditions. It would be fallacious to draw from the circumstances of such cultivators any conclusions regarding the general condition of agriculture.

The Committee has found that only 7.6 per cent of the ryots examined were free from debt and contrasts its figure with the figure of 37 per cent furnished by the Settlement Officer. It is a well known fact that the ryot can usually be trusted to oblige, within limits, with such information as any person in authority may be likely to desire and for that reason the Settlement Officer admitted that he attached little importance to the figures given by his staff. It is however, perhaps, an interesting point that of the 129 ryots examined by the Committee in the Kistna district regarding their leases [Appendix 10 (i)], 47 ryots were not indebted, a proportion considerably above the 7.6 per cent admitted to by the Committee. This proves little, if anything, but it shows that strikingly different results can be achieved by different methods and in different areas.

The Banking Enquiry Committee has recently instituted very careful and searching enquiries in certain districts of the Presidency into all the factors affecting banking and credit. It conducted investigations in three villages of the Ramachandrapuram taluk of East Godavari. In these villages Alamuru, Pedapalla and Penikeru, there are 322, 277 and 201 agricultural families. Of these 30 per cent, 22 per cent and 35 per cent are free from debt. Of the indebted families, the average debt per family is Rs. 685, Rs. 642 and Rs. 367 respectively. These figures are the result of an absolutely complete enquiry and, as far as they go, are more reliable than the less intensive though more widespread enquiries of the Settlement Party and of the Economic Enquiry Committee.

It is obvious that reliable figures for an area of the size of these three districts could not be obtained without the employment of a huge staff and the expenditure of considerable sums of money and once the figures were obtained they would have to be treated with caution. An increase of agricultural indebtedness certainly does not prove a decrease of agricultural profits. It rather proves the reverse. Mr. Darling's study of "The Punjab Peasant in Prosperity and Debt" is not a study of this peasant under two sets of contrasted circumstances but an examination of the truth that the two conditions go together. "It is one of the complexities of the subject", he writes, "that debt may be as much an indication of prosperity as of poverty" and the story of the villager who was too poor to have a debt is well known. The phenomenon that as prices increased and the value of land rose, the volume of agricultural indebtedness increased also is not peculiar to India. It has been observed in Prussia, Switzerland and the United States. It is not suggested that agricultural indebtedness is a good thing: but the point is that an increase in its volume is not a sign of decreased profits or a proof that the peasantry of to-day find it more difficult to exist than those of the previous generation. Agricultural indebtedness is not peculiar to India. It is found in every country where the land is owned by peasant proprietors. It is not therefore connected in any way with the Indian land revenue system and it would be a fatal blunder to suppose that if the present system were abolished and all taxes on land remitted the volume of indebtedness would decrease. On the contrary history shows that the effect would be an increase of indebtedness corresponding to the enhanced value given to landed property by the abolition of land revenue. In Japan where the indebtedness of the agriculturist is less heavy than in the Punjab, the revenue demand amounts to 17 per cent of the *gross* produce, a figure much higher than the demand in any of the districts under examination. In paragraph 276 the Committee has indicated its position in these words: "Surely people need not borrow for maintaining their families and for constructing houses to live in and for the payment of kist and miscellaneous purposes, if agriculture was profitable and if they were able to get big enough net incomes. If, in fact, anything is indicated it is that the income from land is not enough to enable ryots to maintain themselves. It is not unreasonable to claim that ryots whose

cultivation is not unprofitable must usually be able to look forward to saving enough to enable them to celebrate the necessary marriages and funerals, whenever such ceremonies come to be celebrated, with the minimum of pomp, festivity and expenditure. Such expenditure necessarily forms a part of the ryot's family budget." That the ryot's ceremonies are celebrated with the minimum of pomp is contrary to the general opinion of people in these districts. Writing of the Guntur Delta Professor Ranga, the Secretary of the Committee, says: "Usually a ryot who has ten acres of land, two or three sons and one or two daughters is invested with so much social dignity that he spends at least Rs. 4,000 on the marriages and he has to borrow most of this sum." (Page 33, Volume I, Economic Organization of Indian Villages.) However, that may be, the lesson of economic history all over the world negatives the deduction that the Committee seeks to draw. It is particularly notorious that the Indian ryot does not save. This remark conveys no moral reflection; it asserts merely the absence of any machinery for real saving. When the ryot has a surplus he either invests that surplus in land or jewels or lends it out to others at interest. When therefore the whole ryot population maintains no accumulated balance of any sort it obviously must borrow for special occasions and to meet cultivation expenses which have to be incurred before the harvest is reaped; but the fact of such borrowing does not prove that agricultural profits are not made or that the profits made are not large enough for the ryot to meet the necessaries of life. The ryot has to borrow not necessarily because he is poor but because he does not believe in accumulating capital. The Committee has produced figures in Appendix 23 (iv) which show that in—

			ACS.		ACS.
Kistna	74	ryots who started with	1,427	now own	1,493
East Godavari	151	"	2,930	"	3,585
West Godavari	348	"	6,068	"	5,996

These particulars are taken from replies sent in by the ryots to the Committee's questionnaire. It is not to be expected that the ryots who took the trouble to reply to the questionnaire would be those whose fortunes were most rosy. It is not in human nature to go out of one's way to supply information which could be used in support of an enhancement of taxation. It is only reasonable then to assume that the people who took the trouble to reply to the questionnaire were people who felt that the evidence they would furnish might perhaps serve to reduce or fend off an increase in their assessment and to conclude therefore that the figures furnished in Appendix 23 (iv) are not likely to be such as to present conditions in an unduly favourable light.

As was stated by Sir Norman Marjoribanks in the Legislative Council, land revenue is a charge on the land and it would be impracticable to vary it in accordance with the circumstances of individual landholders. It would mean, for example, that the assessment on any given plot would vary with every transfer of ownership and from year to year with the fortunes of the owner whatever might be the factors affecting them. No other form of taxation is varied because the person taxed happens to be in debt. It is no reason for a remission of income-tax that an assessee has had unusually heavy domestic expenditure during the financial year or that prices generally have risen. By the immemorial custom of the country a share of the produce constitutes the land revenue. Since the commutation of grain payments into money rates, the actual share taken by the State has progressively decreased owing to the fact that the assessment has never been enhanced up to the full percentage of the rise in prices. In paragraph 152 of its report the Committee has quoted from Mr. Darling a passage to the effect that a rise in prices is beneficial only to those who have surplus produce to dispose of. Incidentally, Mr. Darling is very seriously misquoted in the second sentence and the dramatic words with which the quotation concludes are apparently the Committee's own. At any rate they do not occur in Mr. Darling's book! A ryot who consumes all he produces must have sources of income other than agriculture. No one can live on the produce of his lands alone. To pay his assessment he must have been driven either to sell part of his crop or must have paid out of wages received in

return for his labour. With rising prices, wages rise and such a ryot must be able now to pay the assessment fixed 30 years ago either by selling only half the amount of his produce that he was forced to sell originally or to draw on only half the proportion of his other income that he had previously to draw on. Though the small holder does not benefit from increased prices as directly as the large holder, he benefits equally in a more indirect way and even if it were practicable to differentiate the incidence of revenue demand according to the area of the total holding, it would be illogical and unfair.

To sum up, the volume or incidence of agricultural indebtedness affords no proof that agriculture is less profitable now than it was 30 years ago or that cultivation expenses have increased faster than prices. Nor does it necessarily follow from the figures given that the ryot population as a whole is less prosperous than before. If there were the least reason for thinking that a modification of the land revenue demand would improve the position, the question of rural indebtedness might be relevant to a resettlement enquiry. As it is, there is no reason why the Government should surrender the legitimate rights of the State in following a course of action which would not improve the conditions which it was supposed to alleviate.

18. *The rise in the cost of living.*—Section 41 of the Committee's report (paragraphs 297 to 306) deals with the rise in the cost of living and the improvement in the standard of living. It may be remarked at the outset that as the Committee has included in its cost of cultivation remuneration for the members of the ryot's family who work on the land the debiting of the full cost of maintaining the ryot's family for a year against the outturn involves a double debit. It is not accurate to charge for the ryot and his family as hired labourers and to charge for their full maintenance as well. From the figures given in this section the Committee has concluded that "a very moderate estimate will indicate a rise of 150 per cent in the cost of the maintenance of an ordinary family of four adults." This conclusion is based on a comparison of the evidence regarding the cost of living in earlier years with the Committee's estimate of the cost of living in 1929. The Committee argues that the cost of maintaining a peasant's family of four adults was, prior to the last settlement, Rs. 96 per annum. The exact date, however, is somewhat doubtful. At the end of paragraph 299, Rs. 96 per annum is given as the figure for 1900 whereas in paragraph 304 it is given as the cost of living in 1890. As it was a period of steadily rising prices it is obvious that the cost of living must have altered between 1890 and 1900 and it is important in view of the Committee's comparisons to establish the dates to which the various pieces of evidence collected in paragraphs 297, 298 and 299 actually refer. The first is taken from Mr. Srinivasa Raghava Ayyangar's "Memorandum on the Progress of the Madras Presidency". The figures quoted by the Committee will be found at page ccxxxv of the Appendices to the Memorandum, where they are described as relating to "the scale of diet in use among the ryot population in a village near Coimbatore". It must be particularly noted that the statement in Mr. Srinivasa Raghava Ayyangar's Appendix runs as follows:—"Among *labourers of the lower castes* the ordinary cost is about Rs. 1-12-6 or one anna per head per diem." The italics are not in the original. They are intended to draw attention to a fact of paramount importance since the present cost of living is estimated not for a "labourer of the lower castes" but for a ryot owning up to five acres of wet land—a very substantial holding.

Paragraph 298 contains information regarding the cost of clothing and here again the Committee has drawn on Mr. Srinivasa Raghava Ayyangar. It must be observed that the evidence relates explicitly to clothing supplied to *farm servants* only, and incidentally it may be noticed that this information which is recorded on pages 140—141 of the Memorandum seems to have been taken from the reports of Collectors submitted to the Board of Revenue in 1872, so that it is not a sound indication of prices and conditions in 1900. The figures, however, such as they are show that the clothing supplied to *farm labourers* varied in value from Rs. 4-8-0 to Re. 1. The original passage in the Memorandum relates solely to farm labourers and contains no reference to Brahmans at all. There is not the least justification,

therefore, for the Committee's bland assumption that Rs. 4 would be the cost of the clothing needed by Brahmans and Rs. 2 the cost of the clothing required by a labourer. The figures quoted vary considerably and are not therefore conclusive except of one fact that referring as they do exclusively to labourers, they do not justify the Committee's estimate of the cost of living in an ordinary *ryot's family* as being Rs. 23 per annum per adult which would rather seem to be, if anything, an underestimate of the cost of living of labourers.

The evidence in paragraph 299 consists of quotations from Mr. Foster and Mr. Stuart written in 1872, or 28 years prior to the beginning of the resettlement period, regarding the wages paid at that time to agricultural labourers and showing that they received approximately Rs. 23-5-4 per head per annum. This fact not only does not support the Committee's estimate of the cost of living in a *ryot's family* as being only Rs. 24 in 1900, it actually disproves it, since the only legitimate inference is that if the cost of maintaining a farm labourer in 1872 amounted to Rs. 23-5-4 per adult per annum, it would cost in 1900 or 28 years later, considerably more than Rs. 24 per head per annum to maintain the standard of living in an ordinary *ryot's family*. The Committee also professes to quote from Dr. Maclean to the following effect: "The total monthly expenditure of a prosperous shopkeeper family consisting of five persons would be about Rs. 8." The passage quoted is found on page ccv of the Appendices to Mr. Srinivasa Raghava Ayyangar's Memorandum. It is necessary to note this fact since the Committee's quotation is garbled. What Dr. Maclean wrote was the "total monthly expenditure of a prosperous shopkeeper's family consisting of five persons would be about Rs. 14 and that of an ordinary peasant about Rs. 8." Dr. Maclean's work was published in the year 1885. It is, therefore, no authority for the cost of living in 1900.

Mr. Srinivasa Raghava Ayyangar on page 135 of his Memorandum written in about 1890 to 1892 has, however, left on record the following opinion: "There is, therefore, left for subsistence about Rs. 106 or Rs. 9 a month and this sum will enable the *ryot's family* to subsist according to the standard of living in force among the *ryot* population. Probably the family will make also something by growing vegetables, keeping a cow for dairy produce for consumption, etc., all of which will leave a margin above the cost of subsistence."

The evidence, therefore, when fairly examined suggests that the absolute minimum of expenditure in a small *ryot's family* was about Rs. 106 a year in 1891, a rise of Re. 1 per mensem over the figure given by Dr. Maclean some eight years earlier, and it is reasonable to assume that by 1900 the figures had risen by another Rs. 10 or Rs. 116 per annum. This estimate, it must be emphasized, represents the absolute minimum of subsistence, whereas the budgets for 1929 given in paragraph 301 contain a number of luxuries such as soap-nuts, cosmetics, and tobacco. The Committee has estimated that the cost of living in a *ryot's family* to-day ranges from Rs. 261-12-0 in the deltas to Rs. 236-12-0 in the uplands. It has given the details of its evidence in Appendix 33 and it will be observed that the Committee's estimate is considerably in excess of the figure obtained by the Committee's own investigators from an inventory of the budgets of a number of *ryots* examined. The Committee has explained this at the end of paragraph 306 on the ground that "many labourers' budgets which show lower figures also were included in them." This remark is surprising in view of the fact that practically all the evidence on which the Committee based its estimate of Rs. 96 as the cost of living in 1890 (1900?) related to the living expenses of labourers only.

The average cost per family in 1929 delta and uplands is according to the Committee about Rs. 250 per annum. We have seen that there is good evidence for taking the cost in 1900 to be Rs. 116. The rise is, therefore, Rs. 134 or 116 per cent—a figure similar to that of the rise in prices.

19. *The economic enquiries made in selected villages.*—In Appendix 18 of Volume II of the Committee's report certain criticisms are levelled against the detailed investigations conducted by various members of the Settlement Party in individual villages in these districts. It is impossible without becoming tedious

to traverse all these in detail. As an example the Committee's treatment of the report for Likhitapudi, Narsapur taluk, which is the first report discussed may be examined. In the second paragraph there is the usual arithmetical mistake. The Committee then goes on to argue that the fact that 21 pattadars sold their holdings because they left the village to settle elsewhere proves that these ryots were unable to make both ends meet on the ground that no ryot will leave his village so long as his financial circumstances are satisfactory. This dictum requires more than a mere assertion to prove it. The village of Likhitapudi is by no means an attractive place. It is some distance from the more civilized parts of the delta, surrounded by gloomy drainage channels and an obscure village of no importance. It is extremely probable that a ryot might be tempted to sell his land there merely with a view to securing a more attractive environment. That the landholders in this village do to a very marked extent live outside is evident from the budget given in Appendix No. 34 B-6, which shows that about half the produce of the village goes to non-residents. It is surely not 'surprising' or 'complacent' on the part of the Settlement Officer to argue that the fact that 21 ryots left the village to live elsewhere, has no economic significance. The Committee further insists that all sales for marriage and medical expenses and the payment of debt are proof of a low economic condition. It has been seen in connection with the question of rural indebtedness that so long as the Indian ryot is not prepared to invest or bank his surplus but prefers to sink it in the purchase of new lands, it will be necessary for him either to sell land or to borrow on it as security when he has to meet unusually heavy expenditure like a marriage or a severe illness. It is, therefore, reasonable for the Settlement Officer to refer to sales of land in such circumstances as a realization of assets to meet emergencies. It is not, as the Committee seems to think, "a fundamental fact that land is not like a deposit in the bank" since in the case of the Indian ryot the purchase of land is practically the only form of deposit which he practices.

In paragraph 264 the Committee has analysed the results of these village investigations as indicating that 65 per cent of the pattadars of 1900 have failed to maintain their positions. The investigations were conducted in 24 villages but it was in only 21 villages that a complete analysis of the details showing the causes for the partial or entire alienation was made by the investigators. The results are as follows :—

	Partial alienation.		Total alienation.	
	Number of cases.	Percentage.	Number of cases.	Percentage.
Nominal	5	1	83	5
Gift	23	5	28	4
To purchase other lands or cattle elsewhere.	77	16	207	29
Partition	16	3	12	2
Loss in trade, litigation, etc.	107	22	131	18
Marriage and medical expenses	73	15	64	9
Family expenses	183	38	235	33

It is obvious that the first five classes of cases had nothing to do with the question whether agriculture was profitable or not. These account for 639 out of the 1,194 cases or 54 per cent of the cases in which a holding was totally or partially lost. It is clear therefore that the number of cases in which there is no particular reason for the sale except an inability to make both ends meet is not 65 per cent of the whole but 46 per cent of 65 per cent or 30 per cent.

It is difficult to draw from these figures any conclusion regarding the pressure of the land revenue. There are many factors that must be considered. The subdivision of holdings down to a limit where they become too small to be adequately worked: the attempt to maintain too large a family for the property possessed: extravagance of living or in building houses: the weight of ancestral debt are all factors that account for individual failures. The situation in this respect is much the same as that in respect of indebtedness, that no reduction of the assessment which is a minor item as compared with the cost of living and of cultivation combined would make any difference to the fortunes of those who

owing to ill-luck or extravagance have to dispose of their lands. If it can be shown that the proceeds of agriculture are such that the assessment constitutes only a small fraction of the net receipts there is no reason why Government should revise the whole principle of land revenue because certain ryots have for some reason or another failed to adjust their expenditure to their income and have consequently lost their property.

20. *The Committee's village budgets.*—Section 42 of the report contains comments on the village budgets prepared for eleven villages set out in Appendix 34 (b). There are several arithmetical errors in the preparation of these budgets and certain mistakes in the data on which they are calculated. They depend, moreover, on such very vague and general assumptions that little reliability can be placed on the results. The Committee has selected a set of villages in which while a considerable proportion of the land belongs to non-residents the inhabitants own, with one exception, absolutely no land outside the village. Some 29,000 bags of paddy valued at Rs. 1 lakh and three-quarters are assumed to be drawn annually from these villages by non-residents and only 437 bags come to the selected villages from outside. There must therefore be other villages in which the receipts exceed the outgoings but the Committee has not investigated any such village. Its selection cannot, therefore, be considered as representative. It would appear that the eleven villages were carefully selected so as to yield striking results. The results are, however, too striking. Statistics which purport to show that in the Kistna and Godavari deltas the population generally goes short of about a quarter of the food required cannot possibly carry conviction to any one who has actual experience of these areas.

21. *The lankas and water-rates.*—In section 45 the Committee has advocated a reduction of the rates on lanka and padugai lands. Proposals in this connection are already before Government. In section 46 the Settlement Officer's proposals regarding the rates of irrigation cess are discussed. The Committee has not altogether understood the scope of these proposals. From the current fasli consolidated wet assessment will be charged on all ryotwari lands under regular wet cultivation in all the deltas, under the Muniyeru and under all tanks. The only ryotwari lands on which a separate irrigation cess in addition to dry assessment will be levied will be those under the Divi Project and in the Colair-Upputeru region together with dry lands under the other systems and the upland tanks whenever the cultivator chooses to take water. This latter class of cases will be few. Thus the rates of water-cess proposed in the case of the deltas, the upland tanks and the Muniyeru Project will be applied only in rare cases where lands on the fringe of the ayacut do at the option of the cultivator and when the prospects of the season are favourable take water for the irrigation of an occasional wet crop. In Divi the ayacut is dependent on an extremely artificial system and it is advisable to retain the greater elasticity of the water-cess system over the consolidated wet rate system. The above lands have always hitherto paid water-rate in addition to dry assessment and there is therefore no radical change of system proposed. The only difference is that previously the water-rate in the deltas was that known as the differential water-rate, i.e., the charge for water was the difference between the dry assessment and the corresponding wet assessment. In place of this a fixed water-rate will be charged in future, as has always been charged under the Divi Project, the Colair-Upputeru, the Muniyeru system and the upland tanks. In addition to the differential water-rate the lands so charged paid hitherto an extra fee of Re. 1 per acre known as the "inducement fee". This fee is now to be remitted with the result that the resettlement enhancement is correspondingly reduced. Under the Muniyeru system the whole regular ayacut has been classified wet and will hereafter pay a consolidated wet assessment, and under the upland tanks the 'dry' lands under regular wet cultivation will be transferred to consolidated wet up to the irrigational capacity of the source. In Divi, if the resettlement proposals are given effect to, the total revenue from the lands under the project will be enhanced only by 15.95 per cent as against an enhancement of 18.27 per cent in the Kistna delta where the consolidated water-rate system is in force. It is obvious, therefore, that the Committee's suggestion at the end of

paragraph 340 that "the main reason why the Settlement Officer proposes to charge separate enhanced dry rates and enhanced water-rates . . . is merely the consideration that by this proposal a larger revenue would accrue to the State than by the adoption of the consolidated wet rate system" is unjustified. It is on the face of it impossible to impose consolidated wet rates on lands that are only occasionally cultivated wet and although it would have been practicable to have imposed wet rates on the Divi regular ayacut, the enhancement realized by the adoption of the Settlement Officer's proposals is less than that accruing in the Kistna delta where the consolidated wet rate system is in force.

Only two areas remain—the Colair-Upputeru and the non-Government, i.e., dry inam and zamindari, lands in the deltas. In both these cases the fixed water-rate system has always been in vogue and the Settlement Officer has proposed no change of system. It would be impossible to charge consolidated wet assessments in these cases as the Colair-Upputeru cultivation shifts annually in accordance with the fluctuations of the Colair lake and in the latter case the lands have been settled as dry in title-deeds or sanads. In the Colair-Upputeru tract the water-rate hitherto levied has been Rs. 3 less 12 annas for baling. In future it is to be Rs. 4 less Re. 1 for baling. In other words the actual enhancement is only 12 annas per acre which, in view of the heavy crops yielded by this area as a result of its annual submersion from July to November, is extremely moderate.

Prior to the resettlement the water-rate on all dry inam and zamindari lands in the deltas was Rs. 5 irrespective of the class of source. The Settlement Officer has proposed to raise the water-rate to Rs. 6-4-0 on sources of the first and second class and to retain it at Rs. 5 on sources of the third and fourth classes. The Committee has recommended a different rate for each of the four classes. The provision of four rates of cess would further complicate the accounts and in view of the extreme moderation of the rates proposed as compared with the rate which the ryotwari lands have been paying during the past 30 years under the differential system, the rate of Rs. 10-8-0 payable under the Polavaram Project, or the rate of Rs. 15 which will be levied under the Mettur Project, further refinements are clearly unnecessary.

It is for Government to decide whether the interpretation of their Order No. 2712, Revenue, dated 18th July 1918, referred to in paragraph 347, is correct or not.

22. *The relevance of the Excise Revenue.*—In paragraph 374 the Committee has given certain figures regarding the Excise Revenue. These figures as used by the Committee are irrelevant to the point at issue, which is to determine the value of Government share of the crop and the proportion of that value which it can take without interfering with the economic condition of the district. That revenue is also realized from liquor is no reason why Government should reduce its land revenue demand below the figure justified by the principles of assessment. If any inference is to be drawn from the figures of Excise Revenue, it is that they afford another indication of the fact that money is plentifully available for the purpose of luxuries and suggest that the picture of agricultural distress painted by the Committee is overcoloured.

23. *Conclusion.*—In concluding its report in paragraph 389 the Committee has made certain recommendations. Its first recommendation is that the basis of assessments in future should be 25 per cent of the net produce instead of 50 per cent as at present. The Committee has given no reason for proposing to change the time-honoured ratio which has prevailed for so many years and in view of the fact that the present rates of assessment are demonstrably so much lower than the theoretical 50 per cent of the net produce, it seems unnecessary to revise a principle which is of purely academic interest. Its third recommendation is that there should be no resettlements till the value of the net produce exceeds by four times the present assessments. There are numerous indications to show that this is the position at present. The rates of rent realized by the ryots, whatever may be said to the contrary, do represent an approximation to the net profits. The normal rate is 10 bags to the acre worth Rs. 60 to Rs. 65 on moderate paddy land. The highest rate of assessment in these districts is Rs. 12 which is one-fifth of the rent of

ordinary land. These are facts which the Committee cannot dispute, and it is scarcely possible to regard as a serious challenge the Committee's sweeping and unsupported assertion that the rents agreed on are in excess of the tenants' means and involve widespread loss of land. The conditions postulated by the Committee as a necessary precedent to a resettlement are present to-day in these districts and there is no reason why the proposed enhancement of the assessment should not be given effect to. The fifth recommendation of the Committee, in which it contemplates with equanimity empowering local bodies to raise cesses up to 25 per cent on the land revenue, further weakens its main case. The rate of cess levied at present in most of the taluks of these districts is 1 anna 3 pies in the rupee or 8 per cent on the land revenue. If this were raised to 25 per cent of land revenue, there would be an increase in cess equivalent to 17 per cent of the land revenue which is almost exactly that recommended in the Scheme Report. This recommendation suggests that the Committee is conscious that the arguments by which it attempted to prove that the districts could bear no increase of taxation were exaggerated and that its objection to the resettlement enhancement was not so much to the amount proposed as to the method of assessment and the crediting of the revenue to the General Administration of the Presidency.

In the last paragraph of its report the Committee has expressed its confidence that its conclusions will in the main be found unassailable and expressed the hope that its data and conclusions will be received with an open mind. It further claims that it has set out conditions "as it found them as the result of careful studies." Whatever may be thought of the Committee's conclusions, the above examination of its report proves that its data are far from unassailable, and it is impossible to accept as valid conclusions which are based on evidence which has in most particulars crumbled away on examination.

APPENDIX I.

Statement showing the prices of white paddy per garce for 20 years of the ryots' selling months in the East and West Godavari districts (including the years 1919-20 to 1921-22).

Years.	Average.	Reduced by 15 per cent.		Price per bag of column (3) at 69 Madras measures a bag.	
		RS.	RS. A.	RS.	A.
(i) <i>Delta.</i>					
1909-10	219	186	2	4	0
1910-11	208	176	13	3	13
1911-12	273	232	1	5	0
1912-13	300	255	0	5	8
1913-14	297	252	7	5	7
1914-15	275	233	12	5	1
1915-16	301	255	14	5	8
1916-17	292	248	3	5	6
1917-18	297	252	7	5	7
1918-19	382	324	11	7	0
1919-20	489	415	10	8	15
1920-21	495	420	12	9	1
1921-22	442	375	11	8	2
1922-23	372	316	3	6	13
1923-24	415	352	12	7	10
1924-25	429	364	10	7	14
1925-26	358	304	5	6	9
1926-27	381	323	14	7	0
1927-28	355	301	12	6	8
1928-29	341	289	14	6	4
Total ..	6,921			126	14
Average ..	346			6	6
Deduct 15 per cent for cartage and merchants' profits ..	52			..	..
Net commutation price per garce.	294			..	..
(ii) <i>Upland.</i>					
1909-10	237	201	7	4	5
1910-11	208	176	13	3	13
1911-12	271	230	6	4	15
1912-13	283	240	9	5	3
1913-14	307	260	15	5	10
1914-15	277	235	7	5	1
1915-16	289	245	10	5	5
1916-17	276	234	10	5	1
1917-18	285	242	4	5	4
1918-19	384	326	6	7	1
1919-20	508	431	13	9	5
1920-21	474	402	14	8	11
1921-22	393	334	1	7	3
1922-23	347	294	15	6	6
1923-24	400	340	0	7	5
1924-25	401	340	14	7	6
1925-26	331	281	6	6	1
1926-27	375	318	12	6	14
1927-28	346	294	2	6	5
1928-29	300	255	0	5	8
Total ..	6,692			122	10
Average ..	335			6	2
Deduct 15 per cent for cartage and merchants' profits ..	50			..	..
Net commutation price per garce.	285			..	..

Statement showing the prices of white paddy per garce for 20 years of the ryots' selling months in the Kistna district (including the years 1919-20 to 1921-22).

Years.	Average.	Reduced by 15 per cent.		Price per bag of column (3) at 60 Madras measures a bag.	
		RS.	RS. A.	RS.	A.
(i) <i>Delta.</i>					
1909-10	261	221	14	4	13
1910-11	228	189	9	4	1
1911-12	272	231	8	5	0
1912-13	285	242	4	5	4
1913-14	243	206	9	4	7
1914-15	241	204	14	4	7
1915-16	252	214	8	4	10
1916-17	274	232	14	5	0
1917-18	261	221	14	4	13
1918-19	324	275	6	5	15
1919-20	416	353	10	7	10
1920-21	432	367	3	7	15
1921-22	412	350	3	7	9
1922-23	344	292	6	6	5
1923-24	353	300	1	6	8
1924-25	388	329	13	7	2
1925-26	329	279	10	6	0
1926-27	376	319	10	6	14
1927-28	364	309	6	6	11
1928-29	340	289	0	6	4
Total ..	6,890			117	4
Average ..	320			5	14
Deduct 15 per cent for cartage and merchants' profits ..	48			..	..
Net commutation rate per garce.	272			..	..
(ii) <i>Upland.</i>					
1909-10	240	204	0	4	6
1910-11	217	184	7	4	0
1911-12	250	212	8	4	9
1912-13	290	246	8	5	5
1913-14	262	222	11	4	13
1914-15	247	209	15	4	8
1915-16	255	216	12	4	11
1916-17	264	224	6	4	13
1917-18	281	238	14	5	2
1918-19	348	295	13	6	6
1919-20	455	386	12	8	5
1920-21	402	341	11	7	6
1921-22	369	313	10	6	12
1922-23	322	273	11	5	14
1923-24	322	273	11	5	14
1924-25	321	272	14	5	14
1925-26	301	255	14	5	8
1926-27	374	317	14	6	14
1927-28	323	274	9	5	15
1928-29	290	246	8	5	5
Total ..	6,133			112	4
Average ..	307			5	10
Deduct 15 per cent for cartage and merchants' profits ..	46			..	..
Net commutation rate per garce.	261			..	..

Statement showing the prices of white paddy per garce for 20 years of the ryots' selling months in the East and West Godavari districts (excluding the years 1919-20 to 1921-22).

Years.									Average.
									Rs.
	(i) <i>Delta.</i>								
1906-07	..	..	..	..	..	..	..	..	265
1907-08	..	..	..	..	..	..	..	..	277
1908-09	..	..	..	..	..	..	..	..	300
1909-10	..	..	..	..	..	..	..	..	219
1910-11	..	..	..	..	..	..	..	..	208
1911-12	..	..	..	..	..	..	..	..	273
1912-13	..	..	..	..	..	..	..	..	300
1913-14	..	..	..	..	..	..	..	..	297
1914-15	..	..	..	..	..	..	..	..	275
1915-16	..	..	..	..	..	..	..	..	301
1916-17	..	..	..	..	..	..	..	..	292
1917-18	..	..	..	..	..	..	..	..	297
1918-19	..	..	..	..	..	..	..	..	382
1922-23	..	..	..	..	..	..	..	..	272
1923-24	..	..	..	..	..	..	..	..	415
1924-25	..	..	..	..	..	..	..	..	429
1925-26	..	..	..	..	..	..	..	..	358
1926-27	..	..	..	..	..	..	..	..	381
1927-28	..	..	..	..	..	..	..	..	355
1928-29	..	..	..	..	..	..	..	..	341
									Total .. 6,337
									Average .. 317
									<i>Deduct 15 per cent for cartage and merchants' profits</i> .. 48
									Net commutation price per garce .. 269

	(ii) <i>Upland.</i>								
1906-07	257
1907-08	270
1908-09	301
1909-10	237
1910-11	208
1911-12	271
1912-13	283
1913-14	307
1914-15	277
1915-16	289
1916-17	276
1917-18	285
1918-19	384
1922-23	347
1923-24	400
1924-25	401
1925-26	331
1926-27	375
1927-28	346
1928-29	300
									Total .. 6,145
									Average .. 307
									<i>Deduct 15 per cent for cartage and merchants' profits</i> .. 46
									Net commutation price per garce .. 261

Statement showing the prices of white paddy per garce for 20 years of the ryots' selling months in the Kistna district (excluding the years 1919-20 to 1921-22).

Years.									Average.
									Rs.
	(i) <i>Delta.</i>								
1906-07	244
1907-08	239
1908-09	341
1909-10	261
1910-11	223
1911-12	272
1912-13	285
1913-14	243
1914-15	241
1915-16	252
1916-17	274
1917-18	261
1918-19	324
1922-23	344
1923-24	353
1924-25	388
1925-26	329
1926-27	376
1927-28	364
1928-29	340
Total ..									5,954
Average ..									298
<i>Deduct 15 per cent for cartage and merchants' profits ..</i>									45
Net commutation rate per garce ..									253

	(ii) <i>Upland.</i>								
1906-07	248
1907-08	237
1908-09	278
1909-10	240
1910-11	217
1911-12	250
1912-13	290
1913-14	262
1914-15	247
1915-16	255
1916-17	264
1917-18	281
1918-19	348
1922-23	322
1923-24	322
1924-25	321
1925-26	301
1926-27	374
1927-28	323
1928-29	290
Total ..									5,670
Average ..									284
<i>Deduct 15 per cent for cartage and merchants' profits ..</i>									43
Net commutation rate per garce ..									241

Commutation prices per garce (including the years 1919-20 to 1921-22) in the East and West Godavari districts.

Particulars.						White paddy. RS.
(i) <i>Delta.</i>						
Present commutation price	..	..	..	..	..	294
Old commutation price	..	..	..	..	..	118
					Increase	176
					Percentage	149
(ii) <i>Upland.</i>						
Present commutation price	..	..	..	..	..	285
Old commutation price	..	..	..	..	..	118
					Increase	167
					Percentage	142

Commutation prices per garce (including the years 1919-20 to 1921-22) in the Kistna district.

Particulars.						Paddy. RS.
(i) <i>Delta.</i>						
Present commutation price	..	..	..	..	..	272
Old commutation price	..	..	..	..	..	118
					Increase	154
					Percentage	131
(ii) <i>Upland.</i>						
Present commutation price	..	..	..	..	..	261
Old commutation price	..	..	..	..	..	118
					Increase	143
					Percentage	121

Commutation prices per garce (excluding the years 1919-20 to 1921-22) in the East and West Godavari districts.

Particulars.						Paddy. RS.
(i) <i>Delta.</i>						
Present commutation price	..	..	..	..	..	269
Old commutation price	..	..	..	..	..	118
					Increase	151
					Percentage	128
(ii) <i>Upland.</i>						
Present commutation price	..	..	..	..	..	261
Old commutation price	..	..	..	..	..	118
					Increase	143
					Percentage	121

Commutation prices per garce (excluding the years 1919-20 to 1921-23) in the Kistna district.

Particulars.	Paddy.
	Rs.
(i) <i>Delta.</i>	
Present commutation price	258
Old commutation price	118
Increase ..	135
Percentage ..	114
(ii) <i>Upland.</i>	
Present commutation price	241
Old commutation price	118
Increase ..	123
Percentage ..	104

APPENDIX II.

The Committee's Appendices 31 (i), (ii) and (iii) correctly calculated.

(i)

Owner's labour is not taken into account.

Particulars.	Standard cost of cultivation per acre.	Rs. 81-4-0	Rs. 72-2-0	Rs. 66-0-0	Rs. 56-14-0	Rs. 48-12-0	Rs. 44-11-0	Rs. 40-10-0
<i>Maximum.</i>		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
5 acres and less.	64 8 2	16 11 10	8 9 10	0 7 10	- 7 10 2	- 15 12 2	- 19 12 2	- 23 14 2
10 "	63 7 6	17 12 6	9 10 6	1 8 6	- 6 9 6	- 14 11 6	- 18 12 6	- 22 13 6
15 "	60 11 4	20 8 8	12 6 8	4 4 8	- 3 13 4	- 11 15 4	- 16 0 4	- 20 1 4
20 "	60 3 3	21 0 9	12 14 9	4 12 9	- 3 5 3	- 11 7 3	- 15 8 3	- 19 9 3
25 "	63 8 11	17 11 1	9 9 1	1 7 1	- 6 10 11	- 14 12 11	- 18 12 11	- 22 14 11
30 "	56 0 1	25 3 11	17 1 11	8 15 11	0 13 11	- 7 4 1	- 11 6 1	- 15 6 1
<i>Medium.</i>								
5 acres and less.	47 0 10	34 3 2	26 1 2	17 15 2	9 13 2	1 11 2	- 2 5 10	- 6 6 10
10 "	55 5 1	25 14 11	17 12 11	9 10 11	1 8 11	- 6 9 1	- 10 10 1	- 14 11 1
15 "	53 13 7	27 6 5	19 4 5	11 2 5	3 0 5	- 5 1 7	- 9 2 7	- 13 3 7
20 "	51 12 0	29 8 0	21 6 0	13 4 0	5 2 0	- 3 0 0	- 7 1 0	- 11 3 0
25 "	53 9 8	27 10 9	19 8 9	11 6 9	3 4 9	- 4 12 2	- 8 14 2	- 12 15 2
30 "	51 4 4	29 15 8	21 12 8	13 11 8	5 9 8	- 2 8 4	- 6 9 4	- 10 10 4
<i>Minimum.</i>								
5 acres and less.	41 12 10	39 7 2	31 5 2	23 3 2	15 1 2	6 15 2	2 14 2	- 1 2 10
10 "	48 11 2	32 8 10	24 6 10	16 4 10	8 2 10	0 0 10	- 4 0 2	- 8 1 2
15 "	48 13 10	32 6 2	24 4 2	16 2 2	8 0 2	- 0 1 10	- 4 2 10	- 8 3 10
20 "	47 9 8	33 10 4	26 8 4	17 6 4	9 4 4	1 2 4	- 2 14 8	- 6 15 8
25 "	46 1 2	35 2 10	27 0 10	18 14 10	10 12 10	9 16 10	- 1 6 2	- 5 7 2
30 "	44 9 0	36 11 0	28 9 0	20 7 0	12 5 0	4 3 0	0 2 0	- 3 15 0

(ii)

The labour of the owner is taken into account.

<i>Maximum.</i>								
5 acres and less.	55 6 10	25 13 2	17 11 2	9 9 2	1 7 2	- 6 10 10	- 10 11 10	- 14 12 10
10 "	66 3 1	26 1 11	16 15 11	8 12 11	0 11 11	- 7 6 1	- 11 7 1	- 16 8 1
15 "	66 9 8	24 10 4	16 8 4	8 6 4	0 4 4	- 7 12 8	- 11 14 8	- 15 16 8
20 "	60 2 3	21 0 9	12 14 9	4 12 9	- 3 5 3	- 11 7 3	- 15 8 3	- 19 9 3
25 "	63 8 11	17 11 1	9 9 1	1 7 1	- 6 10 11	- 14 12 11	- 18 12 11	- 22 14 11
30 "	56 0 1	25 3 11	17 1 11	8 15 11	0 13 11	- 7 4 1	- 11 6 1	- 15 6 1
<i>Medium.</i>								
5 acres and less.	37 4 10	43 15 2	35 13 2	27 11 2	19 9 2	11 7 2	7 6 2	3 5 2
10 "	47 7 4	33 12 8	25 10 8	17 8 8	9 6 8	1 4 8	- 2 12 4	- 6 12 4
15 "	50 4 11	30 15 1	22 12 1	14 11 1	6 9 1	- 1 8 11	- 5 9 11	- 9 10 11
20 "	48 1 9	33 2 2	26 0 2	16 14 2	8 12 2	0 10 2	- 2 6 9	- 7 7 9
25 "	53 9 2	27 10 9	19 8 9	11 6 9	3 4 9	- 4 12 2	- 8 14 2	- 12 15 2
30 "	51 4 4	29 15 8	21 12 8	13 11 8	5 9 8	- 2 8 4	- 6 9 4	- 10 10 4
<i>Minimum.</i>								
5 acres and less.	32 14 2	42 5 10	40 3 10	32 1 10	22 15 10	15 12 10	11 12 10	7 11 10
10 "	42 1 2	39 2 10	31 0 10	22 14 10	14 12 10	6 10 10	2 9 10	- 1 7 2
15 "	45 11 2	35 8 10	27 6 10	19 4 10	11 2 10	3 0 10	- 1 0 2	- 5 1 2
20 "	44 10 0	36 10 0	28 8 0	20 6 0	12 4 0	4 2 0	0 1 0	- 4 0 0
25 "	45 1 2	36 2 10	27 0 10	18 14 10	10 12 10	2 10 10	- 1 6 2	- 5 7 2
30 "	44 9 0	36 11 0	28 9 0	20 7 0	12 5 0	4 3 0	0 2 0	- 3 15 0

(iii)

Labour of the owner and the dependent is taken into account.

Particulars.	Net cost of cultiva- tion per acre.	Rs.							
		81-4-0	73-2-0	65-0-0	56-14-0	48-12-0	44-11-0	40-10-0	
<i>Maximum.</i>	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	
5 acres and less.	49 9 2	31 10 10	23 8 10	15 6 10	7 4 10	- 0 13 2	- 4 14 2	- 8 15 2	
10 "	45 8 10	36 0 2	27 14 2	19 12 2	11 10 2	3 8 2	- 0 8 10	- 4 9 10	
15 "	46 9 8	34 10 4	26 8 4	18 6 4	10 4 4	2 2 4	- 1 14 8	- 5 15 8	
20 "	58 2 4	28 1 8	19 15 8	11 13 8	3 11 8	- 4 6 4	- 8 7 4	- 12 8 4	
25 "	56 1 8	23 2 4	15 0 4	6 14 4	- 1 3 8	- 9 5 8	- 18 6 8	- 17 7 8	
30 "	51 9 10	29 10 2	21 8 2	13 6 2	5 4 2	- 2 12 10	- 6 14 10	- 19 15 10	
<i>Medium.</i>									
5 acres and less.	32 4 2	48 15 10	40 13 10	32 11 10	24 9 10	16 7 10	12 6 10	8 5 10	
10 "	37 9 7	43 10 5	35 8 5	27 6 6	19 4 5	11 2 5	7 1 5	3 0 5	
15 "	40 4 11	40 15 1	32 13 1	24 11 1	16 9 1	8 7 1	4 6 1	0 5 1	
20 "	41 0 10	40 3 2	32 1 2	23 15 2	15 13 2	7 11 2	3 10 2	- 0 6 10	
25 "	48 2 0	33 3 0	25 0 0	18 14 0	8 12 0	0 10 0	- 3 7 0	- 7 8 0	
30 "	46 13 3	34 6 9	26 4 9	18 2 9	10 0 9	1 14 9	- 2 2 3	- 6 3 3	
<i>Minimum.</i>									
5 acres and less.	29 4 0	52 0 0	43 14 0	35 12 0	27 10 0	19 8 0	15 7 0	11 6 0	
10 "	31 15 2	49 4 10	41 2 10	33 0 10	24 14 10	16 12 10	12 11 10	8 10 10	
15 "	35 11 2	45 8 10	37 6 10	29 4 10	21 2 10	13 0 10	8 15 10	4 14 10	
20 "	37 9 1	43 10 11	35 8 11	27 6 11	19 4 11	11 2 11	7 1 11	3 0 11	
25 "	40 9 11	40 10 1	33 8 1	24 6 1	16 4 1	8 2 1	4 1 1	0 0 1	
30 "	40 2 6	41 1 7	32 15 7	24 13 7	16 11 7	8 9 7	4 8 7	0 7 7	

II

**Remarks of the Chief Engineer for Irrigation, dated 9th June 1930
and 30th June 1930.**

In the Report of the Economic Enquiry Committee, section 11, relating to 'Irrigation' and section 47, relating to 'Irrigation and drainage improvements' have been dealt with seriatim with the following remarks:—

SECTION 11—Paragraph 50.—Extension of irrigation has been due to improvement of supply and better distribution brought about by the remodelling of channels and piping of irrigation outlets, the available supplies being found to be quite adequate.

Paragraph 51.—No remarks.

Paragraph 52 assumes that the progress of transplantation is bound up only with the canal supplies as given in any year. This is not correct. Early arrival of freshes in river coupled with the usual rainfall will enable sufficient supplies to be given to enable the ryots to go on with transplantation as vigorously as possible and progress is bound up with the supply of seedlings, labour, cattle.

Paragraph 53.—The relatively higher canal duties noticed in the Godavari Western delta, point to the fact that good supplies are realized from Rallamadugu and Yerracalva both of which drain an area of over 1,000 square miles and enter the Main and Venkayya and Weyyeru canals respectively. The transplantation in Godavari Western delta is not generally backward unless it be in a year when the river arrives in freshes rather late in the season and the rainfall is rather low. It is only in such years, transplantation runs well into August and not in other years. In the experiments made in 1914 or so in Undi canal, it was clearly proved, that under normal conditions, the ryots are able to complete transplantation in six weeks' time counting from the date the river arrives in freshes and that it is not within practical politics to attempt to complete it in a shorter period. As regards second crop, the area grown is the largest in the Godavari Western delta, while in the other two sections, viz., Eastern and Central, where the supply is reported to be good, the area grown is very much lower proportionately owing presumably to a greater area under garden crops. This being so, the duty figures worked out give no fair criterion as regards sufficiency of the supply for the ayacut, and I do not think the second crop suffers badly in Godavari Western delta.

Paragraph 54.—The fitting up of 6 feet shutters over the Kistna anicut has certainly improved supplies during transplantation season considerably, so much so, that areas outside the registered ayacut in the delta are being irrigated freely owing to favourable conditions. If there is still delay in transplantation in any year, it must be due to other conditions such as want of seedlings, labour and cattle as has been noted already under paragraph 52. It will not be out of place to state here that extension of irrigation is contemplated as a result of increased supplies made available and it is, therefore, futile to contend that the supplies are inadequate to enable transplantation being completed soon.

Paragraph 55.—The absence of supply in June is due to river condition. The inference drawn about the unsatisfactory conditions of water supply by a comparison of duty figures is not entirely correct. It is no doubt true that with the late arrival of freshes in river coupled with a poor rainfall, the progress of transplantation is hampered and it runs into September in the Divi system. Otherwise, it is completed before the end of August which is what can be expected to be provided in a pumping system like Divi.

Paragraph 56.—No remarks.

Paragraph 57.—The fixing of the second crop zone has solved many of the difficulties referred to and if the ryots will take advantage of the rotation

system of closure of channels for second crop and concentrate the area cultivated in that season, the difficulties as regards soakage in contiguous lands will be removed.

Paragraph 58.—It is admitted that a satisfactory piping system would lead to great satisfaction and do a great deal of good. It is equally admitted that the anxiety of the ryots to transplant their fields as early as possible owing to their belief that earlier transplantation means better yield, is responsible for the universal interference with the piping system and the general practice of taking supplies surreptitiously by means of open cuts. It has also to be admitted that such irregular practices do not increase the available supply but only mean misappropriation of it by some at the expense of others. It should also be admitted that transplantation cannot be done within a very short period after canals are opened as there is the question of supply of seedlings, cattle and labour. In all normal years when the river also arrives in freshes early in the season, there is no difficulty at all as regards supply, and transplantation is completed within six weeks. It is delayed slightly in bad years; but this cannot be helped. If the canals are to be made bigger, the larger supplies may not be useful in all years while there will be difficulty as regards command when the supply gets low. I do not think that any action is called for.

Paragraph 59.—The improvements to Vizeswaram head sluices have been sanctioned and will when carried out, afford greater supplies than at present. The necessity for higher shutters in the Godavari delta is not proved; but means should be provided to lift up the shutters more quickly—please see paragraph 349, section 47.

Paragraph 60.—No remarks.

Paragraph 61.—The drains designed on the principles enunciated in P.M.G. Nos. 3572, dated 19th December 1874 and 3528, dated 22nd December 1876 have answered well so far and recent observations made in Gonteru drain of the Godavari Western delta have shown clearly that no improvements are required. The tentative section adopted for clearance is with a view to prevent silting during times of low flow which occurs for long periods, while the flood flow which occurs occasionally during rains, spills freely on both sides and is fairly rapidly discharged into the sea. Certain low-lying areas are affected here and there; but on the whole there is no submersion on a large scale for such periods as are likely to injure the paddy crop. Lands which are found to be difficult of being drained are rightly included in the second crop zone for cultivation and this solution is certainly more effective and economical than spending large sums to improve their drainage.

Paragraph 63.—The disposal of the full floods estimated from the upland drainages has been provided for as far as possible so as to convey the floods rapidly without damaging the delta and the principles referred to in paragraph 61 are not applied to these.

Paragraph 64.—I do not think the principle laid down in the passage quoted from P.M.G. No. 3572, dated 19th December 1874, is followed now. The improvements of the Yenamaduru drain which are approaching completion at an expenditure of 10 lakhs and the provision of flood weirs at several places in the delta point to the fact that works relating to the disposal of upland drainages have been constructed in the past and charged to the capital account of the system. Such works as are required to prevent damages caused by upland floods entering the delta will, I think, be carried out if the cost is justified.

Paragraphs 65 and 66.—The village drainages, which are entirely local, are hitherto left in the hands of ryots and in many places drainage takes place by field to field flow. Drains serving a number of villages are generally looked after by Public Works Department and if any instances of such drains, which are not in charge of Public Works Department are brought to notice, they will be examined and taken over for maintenance.

Paragraph 85.—No remarks.

SECTION 47—Paragraph 348.—No remarks.

Paragraph 349.—The question of increasing the height of falling shutters was considered fully when the question of extension of irrigation in the Godavari delta was investigated in detail and it was decided then that it will be sufficient (1) to adjust the pivots of shutters so as to make them fall with a larger depth of flow on top of them, (2) to provide machines for the rapid lifting up of the shutters when once they fall down. The former has been and is being carried out and the provision of the latter will be arranged for shortly.

Paragraph 350.—I do not think the time has yet come for the provision of a reservoir to increase the supplies in the second crop season. The percentage of second crop irrigation is fairly high in the Godavari Western delta while in the other two sections, there is a greater percentage of garden crops. There seems therefore to be no likelihood of a large increase in the area of second crop and without such an increase, the necessity for a reservoir does not arise.

Paragraph 351.—An officer is investigating the question of extension of irrigation in the Kistna delta and the question of adequacy of supplies for transplantation will be examined by him though the belief is that they are quite adequate.

Paragraph 352.—There is now a proposal to extend the East Bank canal and carry water to the Divi island by constructing an aqueduct across the Puligedda arm of the Kistna river. When this matures, adequate supplies will be provided for irrigation in the Divi island.

Paragraph 353.—As explained by me already, the drains have answered requirements and no widening will be required. As regards their maintenance, the difficulty has been mostly in securing labour for doing the work within the closure period more especially when the drains take a good deal of time to dry out to enable excavation being done. Measures will be taken to overcome the difficulty by enlisting the co-operation of the village panchayats and the interested ryots and a more systematic maintenance of drains will be arranged for.

Paragraph 354.—The floods due to Yerracalva are disposed of by the Yenamaduru drain which has been improved recently at a cost of 10 lakhs. A regulator will have to be constructed for shutting out the floods from entering the Venkayya and Weyyeru canal and when this is done, there will be no difficulty as regards Yerracalva floods doing damage to the delta. As regards floods from Rallamadugu, the flood weir at Velpur disposes of most of it and it is carried down to the sea without doing damage to the delta.

The proposal to divert them into the Godavari river below the anicut will not only be prohibitively costly but also impracticable and of doubtful utility for many reasons, the chief of which is the provision to be made to carry them across the main canal by a syphon which is likely to give trouble when discharges of varying quantities will flow down it and there is the added trouble due to the backing up of floods in Godavari. I am therefore inclined to recommend that the proposal might well be abandoned without further consideration.

Paragraph 355.—The remarks of the Superintending Engineer are awaited as I have no personal knowledge of the Collair and Upputeru. The diversion of the Budameru into the Kistna below the anicut will be as impracticable as and more costly than the proposals referred to in the previous paragraph, leave alone the difficulty of negotiating the town of Bezvada which will come in its way.

Paragraph 356.—All works found necessary have been and are being carried out and whatever expenditure has to be incurred will have to be devoted for the most part in increasing the pace of remodelling of channels so as to ensure proper and equitable distribution and proposals relating to other questions will also be considered on their own merits and disposed of.

SECTION 49—Paragraph 366.—The large areas of poramboke lands comprising the banks and margins of canals, channels and drains are being utilized as far as possible to grow babul trees. But the trees so grown in the canal banks are reserved for the use of the department to help the manufacture of bricks, lime and the river conservancy operations for which there is a large

demand of brushwood. As regards the trees grown in the banks of drains and some suitable channels they are allowed to be utilized to meet the demands of others including the ryots; but in the majority of cases, the question of transport has been found to be very difficult and costly as these drains and channels are not navigable and useful cart-tracks are not available in most cases, with the result that they have not all been utilized so far. The ryots themselves have recognized the necessity of growing babul trees in some of their waste lands which are found to be easily accessible and so the problem is not as difficult as it is represented.

Besides the works carried out in the Kistna delta and Divi Pumping system during the period covered by the settlement and shown in the list printed with the Report, some additional works were carried out. Seven lists of such works now received from the Superintending Engineer, Bezwada Circle, are herewith sent for information.

APPENDIX.

BEZWADA CIRCLE.

Kistna Central Division.

Additional list of works sanctioned under Capital, Kistna Delta System.

Serial number.	Name of work.	Amount sanctioned.	G.O. number and date.
		RS.	
1	Constructing an iron punt with fittings for lifting iron falling shutters of the Kistna anicut.	3,560	387 I., dated 31st February 1903.
2	Constructing upstairs rooms for the quarters of the Executive Engineer, Kistna Eastern Division.	3,530	1445 I., dated 24th December 1904.
3	Constructing rough stone drains under the flood bank below the new head sluice, Bezwada.	2,800	106 I., dated 2nd February 1906.
4	Improvements to the Kistna Eastern Division office.	4,526	1024 I., dated 30th October 1905.
5	Providing a motor launch for use on the Kistna river.	33,500	504 I., dated 11th May 1906.
6	Acquiring land along Public Works Department road to Buckinghampet.	2,240	477 I., dated 6th November 1912.
7	Restoring the Bezwada Headworks ..	1,05,000	245 I., dated 15th May 1915.
8	Improvements to the Kistna Eastern Division office at Bezwada.	2,400	452 I., dated 11th October 1916.
9	Providing an additional lifting machine for the 6 feet falling shutters on the Kistna anicut and housing the same.	66,625	Mis. 1612 I., dated 26th July 1927.

Additional list of works sanctioned under Capital, Divi Pumping System.

1	Constructing quarters for the three engine drivers at Divi.	3,100	210 I., dated 27th May 1908.
2	Constructing quarters for 4th driver at Divi.	3,130	378 I., dated 17th October 1908.
3	Constructing store shed for Divi Pumping station.	2,260	411 I., dated 5th November 1908.
4	Rebuilding quarters for driver of steamer <i>Wenlock</i> at Puligadda, Divi Headworks.	1,600	428 I., dated 18th November 1908.
5	Constructing fourth block of lascars quarters at Divi Headworks.	2,440	206 I., dated 11th May 1909.
5	Constructing a fifth block of lascars quarters at Divi Headworks at Puligadda.	2,660	Do.
7	Constructing an upper storey to the Sub-division office at Divi for use as a rest-house.	6,650	366 I., dated 8th September 1909.

Additional list of works sanctioned under Capital, Divi Pumping System—*cont.*

Serial number.	Name of work.	Amount sanctioned.	G.O. number and date.
		RS.	
8	Fixing demarcation stones along the distributory channels in Divi.	2,900	1161 I., dated 30th August 1912.
9	Widening the foot bridge at 0/3 miles of the Main canal, Divi Pumping Project.	3,530	151 I., dated 3rd March 1913.
10	Providing a third oil tank for the Divi Pumping station.	6,700	171 I., dated 8th April 1914.
11	Improvements to the former quarters of the Assistant Superintendent, Divi Pumping station.	1,610	267 I., dated 31st May 1915.
12	Excavating Siddayacodu branch channel, Divi Pumping System.	3,080	Mis. 85 I., dated 28th February 1918.
13	Acquiring and demarcating margins along North channel, Divi Pumping System.	1,720	Mis. 50 I., dated 19th February 1919.
14	Acquiring and demarcating margins along channels in Divi delta.	8,700	173 I., dated 27th May 1920.
15	Improvements to the lascars' quarters at Divi Pumping station.	2,380	Mis. 26 I., dated 24th January 1921.
16	Constructing quarters to the motor launch driver in Divi Pumping System at Puligadda.	2,830	244 I., dated 6th May 1926.
17	Constructing quarters for the Storekeeper and maistri in the Head works compound at Puligadda.	2,500	Do.
18	Constructing a telephone and regulating lascars' shed at Bhavadevarapalli.	1,900	Do.
19	Installing a pumping set at Repalli and a pipe line from Repalli to Chatragadda.	71,000	1368 I., dated 24th June 1927.

Kistna Eastern Division.

Additional list of works sanctioned under Capital, Kistna Delta System.

Serial number.	Name of work.	Amount of estimate.	G.O. number and date.
		RS.	
1	Excavating Pedana branch of Lingayacodu of Dammalacodu main branch of Mamillacodu.	1,350	537 I., dated 26th June 1899.
2	Excavating Tummacodu Right side channel at 28 miles 2 furlongs of Pedalanka channel.	2,550	822 I., dated 28th September 1899.
3	Revised estimate for constructing rest-house and outhouses at Vadali.	4,962	821 I., dated 28th September 1899.
4	Excavating Penjendra channel, Pulleru canal.	4,920	983 I., dated 20th November 1899.
5	Improvements to old Malapalli channel, Masulipatam canal.	1,380	114 I., dated 5th February 1900.
6	Extending Nakkalacodu branch of Gudivada channel.	1,570	590 I., dated 10th July 1900.
7	Excavating right and left side channels to the Salt Factory canal at Pandraka.	1,055	665 I., dated 13th August 1900.
8	Constructing wharf superintendent's shed and wharf lascars' shed at Chintaguntapalem.	1,470	792 I., dated 22nd September 1900.
9	Constructing a wharf wall and wharf superintendent's and wharf lascars' sheds at Ellore.	8,170	246 I., dated 11th March 1901.
10	Constructing Gunadala escape, Ellore canal.	2,500	257 I., dated 13th March 1901.
11	Converting old Bhumicodu into an irrigation channel known as Unikili channel.	2,000	343 I., dated 22nd April 1901.

Additional list of works sanctioned under Capital, Kistna Delta System—cont.

Serial number.	Name of work.	Amount of estimate. RS.	G.O. number and date.
12	Constructing rest-house with outhouses on Dosapad channel, Ryves Canal at Ventrapragada.	4,770	Not traceable.
13	Constructing Wharf superintendent's and lascars' sheds at Ellore.	13,800	525 I., dated 2nd July 1901.
14	Excavating minor distributaries to Medur channel, Masulipatam canal.	18,600	868 I., dated 15th November 1901.
15	Improving and extending Boddapad Zamindari channel and excavating a branch from it.	44,800	992 I., dated 18th December 1901.
16	Extending the Daggumalli main channel from 0 mile 5 furlongs to 2 miles 4 furlongs 146 feet, Masulipatam canal.	4,800	72 I., dated 18th January 1902.
17	Constructing a wharf wall at Ellore near the Railway goods shed.	3,600	197 I., dated 11th February 1902.
18	Constructing six lascars' sheds at Akumarru lock, Masulipatam canal.	3,140	310 I., dated 10th March 1902.
19	Constructing a fender bridge in front of the Chataparru escape.	4,240	534 I., dated 12th May 1902.
20	Improvements to Gunadala escape ..	1,439	572 I., dated 20th May 1902.
21	Raising the lock bridge of head lock, Polraz canal, at 39 miles and 27 chains.	1,500	630 I., dated 4th June 1902.
22	Raising the lock bridge of Bantumalli canal.	1,860	Do.
23	Providing counterweighted lift shutters for the West Tammileru escape.	24,000	660 I., dated 12th June 1902.
24	Opening the first reach of the East Bank canal.	4,150	1309 I., dated 27th November 1902.
25	Constructing an undertunnel at 0 mile 6 furlongs 450 feet of Kondongi channel, Pulleru canal.	1,200	1455 I., dated 15th December 1902.
26	Constructing quarters for the Traffic Superintendent and lascars at the West Tammileru escape, Ellore canal.	3,330	1470 I., dated 17th December 1902.
27	Extending the Chintaguntapalem wharf, Masulipatam canal.	4,170	1488 I., dated 22nd December 1902.
28	Constructing a wharf at Cowtaram ..	5,560	113 I./A, dated 31st January 1902.
29	Constructing an undertunnel at 2 miles 8 chains of the North Side channel of the Dosapad channel.	1,410	313 I., dated 12th March 1903.
30	Improvements to inlets of Ellore canal ..	2,520	474 I., dated 2nd May 1903.
31	Constructing bridge over Bandar canal at Pamarru.	10,880	494 I., dated 6th May 1903.
32	Reconstructing a bridge over Junction canal at Pamarru.	8,650	1043 I., dated 7th November 1903.
33	Providing double gates to Pamarru lock, Pulleru canal.	6,440	1096 I., dated 26th November 1903.
34	Constructing inspection bungalow with outhouses at Tadinada, Polraz canal.	7,550	705 I., dated 30th June 1904.
35	Constructing inspection bungalow with outhouses at Veeranki lock at 24 miles 44 chains, Masulipatam canal.	6,830	1426 I./A, dated 21st December 1904.
36	Constructing bridge across Mamillacodu at 2 miles 1 furlong, Pulleru canal.	2,200	1433 I., dated 22nd December 1904.
37	Constructing wharf superintendent's shed at Cowtaram, etc.	1,630	204 I., dated 23rd February 1905.
38	Improvements to West side channel, Masulipatam canal.	2,120	172 I., dated 15th February 1905.

Additional list of works sanctioned under Capital, Kistna Delta System—*cont.*

Serial number.	Name of work.	Amount of estimate.	G.O. number and date.
		RS.	
39	Reconstructing Boddapad dam on Pulleru canal at 14 miles 2 furlongs 190 feet.	2,750	426 I./A, dated 4th May 1905.
40	Constructing an undertunnel on Mallavole main channel at 2 miles 4 furlongs, Masulipatam canal.	2,090	454 I., dated 12th May 1905.
1	Constructing a combined store and lime shed at Veeranki lock, Masulipatam canal.	1,030	484 I., dated 22nd May 1905.
42	Constructing regulator to Bantumalli South side channel, Pulleru canal.	1,590	1055 I., dated 4th November 1905.
43	Improvements to Nadimicodu branch of Pedalanka channel, Pulleru canal.	3,300	1183 I., dated 1st December 1905.
44	Revised estimate for improving and extending the Boddapad Zamindari channel and excavating a branch from it.	11,760	43 I., dated 11th January 1906.
45	Constructing quarters for four lascars at Tidal lock, Masulipatam canal.	2,240	107 I., dated 1st February 1906.
46	Constructing establishment sheds at Atukur, Ellore canal.	2,000	478 I., dated 5th May 1906.
47	Constructing establishment sheds at Kesarapalli on the Ellore canal.	1,900	Do.
48	Constructing a surplus sluice on the left bank of the Pandraka Salt Factory channel.	1,550	180 I., dated 17th June 1907.
49	Constructing an office building for Sub-division office at Cowtaram.	2,630	505 I., dated 23rd November 1907.
50	Constructing quarters for the Subdivisional Officer at Cowtaram.	3,670	168 I., dated 14th April 1908.
51	Acquisition of land and construction of sheds for wharf establishment at Pamarru, Masulipatam canal.	2,540	337 I., dated 21st September 1908
52	Improvements to Jalipudi under tunnel at 39 miles 3 furlongs 89 feet of Ellore canal.	2,550	81 I., dated 23rd February 1909.
53	Raising the bridge of head lock of Bantumilli canal at 36 miles 5 chains at Cowtaram.	1,780	229 I./A, dated 2nd June 1909.
54	Raising the lock bridge of Vinjaram lock, Polraz canal at 53 miles 28 chains.	1,820	229 I. A, dated 2nd June 1909.
55	Improvements to Kotimerakacodu branch of Mallavole main channel, Bandar canal.	4,440	163 I., dated 27th August 1910.
56	Constructing a retaining wall at Perikeed bridge at 27 miles 0 furlong 330 feet of Ellore canal.	2,350	305 I., dated 14th September 1910.
57	Constructing a store shed at Akumarru lock, Bandar canal.	1,550	411 I., dated 19th December 1910.
58	Constructing a store shed at West Tammi-leru escape, Ellore canal.	1,530	Do.
59	Improvements to lock bridge at Ellore ..	1,370	51 I., dated 2nd February 1912.
60	Revised estimate for constructing a bridge at Movva crossing 8 miles 7 furlongs of Medur channel, Masulipatam canal.	1,120	141 I., dated 12th April 1912.
61	Revised estimate for constructing a syphon sluice across Budameru new cut at Savaragudem 8 miles 4 furlongs on the left bank of Ellore canal.	1,250	284 I., dated 30th July 1912.
62	Compensation for land taken up at Kaza for excavating Manageroodu Main channel.	1,229	427 I., dated 8th October 1912.

Additional list of works sanctioned under Capital, Kistna Delta System—cont.

Serial number.	Name of work.	Amount of estimate.	G.O. number and date.
		RS.	
63	Raising the Mudenepalli bridge at 43 miles 5 chains of Polraz canal.	1,950	81 I., dated 31st January 1913.
64	Constructing an undertunnel at 3/0 of Kunderu channel.	1,520	364 I., dated 24th June 1913.
65	Constructing a goods shed at Pamarru wharf, Masulipatam canal.	2,400	522 I., dated 8th September 1913.
66	Constructing an undertunnel at 17 miles 6 furlongs of Dosapad channel, Ryves canal.	3,700	694 I., dated 12th December 1913.
67	Improvements to the road culverts on Ellore-Sreeparru Road.	3,820	170 I., dated 8th April 1914.
68	Improvements to the Gunadala escape, Ellore canal.	2,500	515 I., dated 10th November 1916.
69	Converting the Boddapad dam into a regulator at 14 miles 32 chains of Pulleru canal.	3,350	153 I., dated 16th May 1921.
70	Constructing a combined head sluice and aqueduct for the new Tamaraboka channel at 52 miles 2 furlongs right bank of Polraz canal.	3,720	141 I., dated 24th April 1922.
71	Constructing a bund across the Endapalli swamps.	2,832	77 I., dated 17th March 1924.
72	Constructing a bridge at 17 miles 24 chains of the Ramarajupalem channel.	4,500	19 I., dated 6th January 1925.
73	Constructing combined head sluices and aqueducts for the new Syamalambapuram channel at 51/2 and new Tamarakollu at 52/2 of Polraz canal.	3,700	Mis. No. 2 I., dated 3rd January 1925.
74	Remodelling Polraz canal 2nd reach ..	12,100	617 I., dated 21st March 1927.
75	Excavating the Manimeswaram channel branch of Bantumilli canal.	10,762	2014 I., dated 12th September 1927.
76	Remodelling Pamarru channel, branch of Pulleru canal.	12,033	L. Dis. 4431-26, dated 13th May 1927.
77	Regrading the Ponukumad channel, branch of the Ellore canal.	8,800	532 I., dated 22nd February 1928.
78	Improvements to Gunadala escape at 4/3, right bank of Ellore canal.	5,590	1078 I., dated 11th April 1928.
79	Remodelling Kaldindi right side channel of Mantumilli canal.	6,530	Mis. 1138 I., dated 26th April 1928.
80	Constructing a lock weir at Akumarru lock at 43 miles 8 chains of Masulipatam canal.	12,660	1123 I., dated 6th April 1929.
81	Remodelling and extending the Watlur main channel, branch of Ellore canal.	15,590	Mis. 1515 I., dated 17th May 1929.
82	Constructing a surplus weir at 59 miles 25 chains, right bank of Bantumilli canal.	8,660	1728 I., dated 12th July 1928.
83	Remodelling the Kaikalur channel, branch of Polraz canal.	24,650	1805 I., dated 24th July 1928.
84	Constructing a surplus weir at 5 miles 59 chains of East side channel.	4,264	2570 I., dated 17th October 1928.
85	Constructing wharf superintendent's quarters and telephone room at Perikeed.	1,600	1701 I., dated 10th July 1928.
86	Constructing a Delta lascars' quarters at 35 miles 24 chains, right bank of Ellore canal near Watlur.	1,060	898 I., dated 18th March 1929.
87	Reconstructing the sweepers' quarters at Ellore wharf at 38 miles 46 chains left bank of Ellore canal.	1,060	Do.

Additional list of works sanctioned under Capital, Kistna Delta System—*cont.**Kistna Western Division.*

Serial number.	Name of work.	Amount sanctioned. RS.	G.O. number and date.
1	Compensation for land for distributaries of Bapatla branch channel. 1899-1900.	4,000	765 I., dated 4th October 1898.
2	Extending and improving No. I Branch of west side channel extension. 1900-1901.	1,330	193 I., dated 20th February 1900.
3	Constructing wharf establishment sheds at Tenali, Chebrole and Sitanagaram to Nizampatam canal, Commamur canal and Main canal.	8,050	467 I., dated 18th May 1900.
4	Constructing a cattle crossing at Pedapulivarru 28 miles 3 furlongs of Bank canal.	1,410	918 I., dated 1st November 1900.
5	Constructing a cattle crossing at Pidapartipalem and Bommavaripalem of Bank canal 10 miles 4 furlongs and 13 miles 4 furlongs. 1901-1902.	4,130	4 I., dated 7th January 1901.
6	Constructing a Fender pile foot bridge in front of Commamur canal head sluice.	3,190	424 I., dated 23rd May 1901.
7	Constructing a double lascars' shed at Aremanda and Alavala regulators at 11 miles 7 furlongs of Tungabhadra side channel.	1,650	402 I., dated 13th May 1901.
8	Constructing a bridge at 1 mile 6 furlongs of Kollipara channel.	2,530	396/A, dated 10th May 1901.
9	Excavating Pedaravur side channel ..	1,900	709 I., dated 17th September 1901.
10	Excavating branch channel at 2 miles 3 furlongs 300 feet left bank Vankapuram channel.	2,000	932 I., dated 4th December 1901.
11	Excavating and constructing masonry works on Pundla channel.	20,200	665 I., dated 2nd September 1901.
12	Constructing lock establishment sheds at Pedaparru 11 miles of Bank canal.	2,240	252 I., dated 24th February 1902.
13	Excavating Karenchedu new channel .. 1902-1903.	1,920	312 I., dated 10th March 1902.
14	Improving the east side channel of Kistna Western Division.	45,318	1307 I., dated 12th November 1902 and 1485 I., dated 22nd December 1902.
15	Constructing side walls to Revendrapad lock at head of Bank canal.	4,674	168 I., dated 10th February 1903.
16	Improving and extending to Potumeraka channel to Nawab tank No. 7 channel.	1,820	286 I., dated 7th March 1930.
17	Improving the Potumeraka west branch taking of at 2 miles 0 furlong 500 feet of Potumeraka channel Bank canal.	2,841	350 I., dated 21st March 1903.
18	Constructing a 6 feet girder bridge across the Aremanda, Minor branch of the Tungabhadra side channel.	4,863	477 I., dated 2nd May 1903.
19	Constructing a cattle crossing below bow string girder bridge over Tungabhadra drain at Aremanda.	4,551	619 I., dated 18th June 1930.

Additional list of works sanctioned under Capital, Kistna Delta System—cont.

Serial number.	Name of work.	Amount sanctioned. RS.	G.O. number and date.
1903-1904.			
20	Improvements to Vellatur side channel and its branches.	49,689	840 I., dated 3rd September 1903 and 1154 I., dated 8th December 1903.
1904-1905.			
21	Constructing lock establishment sheds and wharf office at Vellatur lock 26th mile of Bank canal.	4,366	414 I., dated 14th April 1904.
22	Excavating Kasukurru No. 2 Branch channel at 11 miles 400 feet of the right bank of Sri Rangapuram channel.	4,991	736 I., dated 6th July 1904.
23	Constructing a Fender pile foot bridge across weir channel above Vellatur lock, Bank canal.	3,567	836 I., dated 3rd August 1904.
24	Constructing lock establishment and mile coolies' sheds at Tail lock, Bank canal.	6,933	941 I., dated 24th August 1904.
25	Raising the right bank of the Bank canal and the left bank of the Razu channel and connecting both the banks.	2,497	1144 I., dated 20th October 1904.
26	Improving and extending the Mannava channel.	11,229	1200 I., dated 31st October 1904.
27	Constructing a cattle crossing at 32 miles 2 furlongs of Bank canal.	1,350	163 I., dated 13th February 1905.
28	Constructing two sheds with compound walls for tappal lascars at Karemchedu at 32 5 left bank of Commamur canal.	1,316	494 I., dated 24th May 1905.
29	Reconstructing the kitchen, godown and stables attached to the inspection bungalow at Intur lock, Nizampatam canal.	1,906	886 I., dated 20th September 1905.
30	Improvements to inspection bungalow at Pallapatla with outhouses.	1,894	105 I., dated 1st February 1906 and 399 I., dated 9th April 1906.
31	Improving and extending Jumala tank channel.	2,564	535 I., dated 16th May 1906.
32	Fixing mile, furlong and demarcation stones along Tungabhadra, Kopalli and Konderu affluents.	1,574	644 I., dated 13th June 1906.
33	Fixing mile, furlong and demarcation stones along the irrigation channels of Ponnur section.	2,128	646 I., dated 13th June 1906.
34	Fixing mile, furlong and demarcation stones on the distributaries of the Commamur canal in upper section.	2,214	656 I., dated 14th June 1906.
35	Fixing mile, furlongs and demarcation stones on the Tungabhadra side channels and its branches in Aremanda section.	4,797	Do.
36	Improvements to inspection bungalow with outhouses at Sodayapalem 47 miles 77 chains, Bank canal.	3,600	127 I., dated 18th March 1907.
37	Replacing the steel girders to the masonry arch below Kollimerla lock bridge.	2,200	184 I., dated 21st June 1907.
38	Improving the Chinapalem channel at 8 miles 70 chains of Main canal.	2,100	28 I., dated 21st June 1907.
39	Sluicing Gullapalli channel at 27 miles 2 furlongs east side channel of Main canal.	3,063	426 I., dated 1st October 1907.

Additional list of works sanctioned under Capital, Kistna Delta System—*cont.*

Serial number.	Name of work.	Amount sanctioned. RS.	G.O. number and date.
1909-1910.			
40	Improvements to Karumur branch of Vellatur side channel, Bank canal.	2,183	726 I., dated 19th March 1909.
• 1910-1911.			
41	Resluicing Jagarlamudi channel from its head sluice.	3,106	120 I., dated 22nd April 1910.
42	Excavating a side channel at 15 miles of east side channel, Main canal.	2,209	123 I., dated 25th April 1910.
43	Remodelling the Bethapudi channel of Vellatur side channel, Bank canal.	3,690	208 I., dated 29th June 1910.
44	Constructing pipe sluice on Tungabhadra side channel, Commamur canal.	2,200	213 I., dated 30th June 1910.
45	Constructing a cattle crossing at 2 miles 3 furlongs 330 feet of the Bapatla east drain.	430	19 I., dated 6th January 1913.
46	Excavating a new Velicherla channel . .	2,300	108 I., dated 11th February 1913.
1914-1915.			
47	Constructing three bridges on Tungabhadra side channel.	7,600	213 I., dated 12th May 1914.
48	Raising the body wall of Emileru outlet.	2,100	52 I., dated
49	Excavating Palliconda branch at 2 miles 2 furlongs 248 feet of Bethapudi channel.	3,962	459 I., dated 8th September 1914.
1915-1916.			
50	Constructing a trip crossing at 13 0 of Bank canal.	2,223	117 I., dated 13th March 1916.
1916-1917.			
51	Improvements to the Goparaju channel of the east side channel extension.	1,300	304 I., dated 13th July 1916.
52	Improving the Thotapalli north branch channel of the Vellatur channel, Bank canal.	1,550	299 I., dated 7th July 1916.
53	Excavating Ponnappalli branch of the Gollapalli channel.	14,703	430 I., dated 25th October 1916.
54	Fixing pipes in masonry in Kollipara channel supplemental to improvements to Kollipara channel sanctioned in G.O. No. 454 I., dated 5th September 1914.	3,800	425 K.W., dated 2nd November 1916.
55	Providing head walls to pipe sluices in Edlapalli channel.	2,855	559 K.W., dated 4th January 1917.
56	Fixing pipes in masonry in Chivalur channel.	1,250	451 I., dated 2nd April 1917.
57	Closing the outlet at 50 miles 47 chains of Commamur canal.	19,585	577 I., dated 15th December 1917 and 441 I., 26th October 1917.
58	Providing revetment to the towpath in the Main canal.	1,580	78 I., dated 21st February 1918.
59	Improvements to Burripalem channel branch of Nandinelugu channel of east side channel.	4,464	48 I., 1918-19 and 379 I., dated 20th November 1918.
60	Fixing pipes in masonry on Kollipara channel.	2,976	133 I., dated 2nd May 1919.
61	Providing means of irrigation for Mannava lands cut off by Doppalapudi affluent.	2,034	181 I., dated 11th June 1919.
62	Constructing a bridge at 8 miles 1 furlong 200 feet of Tungabhadra side channel.	3,300	268 I., dated 9th September 1919.

Additional list of works sanctioned under Capital, Kistna Delta System—*cont.*

Serial number.	Name of work.	Amount sanctioned. RS.	G.O. number and date.
1919-1920.			
63	Improvements to Murkondapadu block under the Commamur canal revised estimate.	13,200	249 I., dated 19th August 1919.
64	Resluicing Yerikalapudi channel	1,972	289 I., dated 4th October 1919.
65	Fixing pipes in masonry in the Alaparru channel.	2,728	290 I., dated 4th October 1919.
66	Fixing pipes in Kollipara channel	2,620	81 I., dated 1st March 1920.
67	Revised estimate for fixing pipes in masonry of Ullipalem channel, branch of Isukapalli channel.	2,150	160 I., dated 11th May 1920.
68	Providing means of irrigation for Mannava lands cut off by Doppalapudi affluent.	1,890	258 I., dated 3rd September 1920.
69	Revised estimate for constructing sheds for two mile coolies and one watchman at the Inspection Bungalow, Firangidibba.	2,080	62 I., dated 17th February 1922.
70	Improvements to East side channel extension.	2,160	237 I., dated 23rd September 1922.
71	Constructing a paved ramp over the Tungabhadra cut on Tsandole-Bapatla road.	2,200	102 I., dated 3rd May 1923.
1923-1924.			
72	Constructing cattle crossing at 22/3 of Bank canal.	..	173 I., dated 7th June 1922.
73	Fixing pipes in channels in the Kistna Western Division.	6,200	176 I., dated 22nd April 1925.

Additional list of works sanctioned under "Capital" for Drainage,
Divi Pumping System.

Serial number.	Name of work.	Amount sanctioned. RS.	G.O. number and date.
1	Improvements to the drainage of the Mangaleru basin, Divi Pumping system.	4,200	417 I., dated 14th September 1916.
2	Improvements to Sitapati tank drainage basin.	7,964	415 I., dated 14th September 1916.
3	Excavating Hamsaladivi drain	4,257	Do.
4	Excavating Yabanna drain, Divi Pumping sytem.	2,850	29 I., dated 26th January 1921.
5	Improvements to the drains in the Divi subdivision.	15,000	882 27, C.E.P., dated 14th February 1928.
6	Acquiring and demarcating margins along drains in Lingayyacodu basin.	1,190	271 I., dated 11th September 1919.
7	Acquiring and demarcating margins along drain in Divi delta.	2,500	173 I., dated 27th May 1920.

Additional list of works sanctioned under "Capital" for Drainage,
Kistna Delta System.*Kistna Eastern Division.*

1	Excavating Edavalli drain	1,770	Not traceable.
2	Improving Palacodu drain	2,360	1018 I., dated 30th November 1899.
3	Supplying stoneware pipes for undertunnel under Sivaganga drain from pipe sluice at 47/1.	2,320	124 I., dated 9th February 1901.
4	Excavating Kallicodu drain	3,230	422 I., dated 23rd May 1901.

Additional list of works sanctioned under "Capital" for Drainage,
Kistna Delta System—*cont.*

Serial number.	Name of work.	Amount sanctioned.	G.O. number and date.
		Rs.	
5	Excavating Penjendra side drain	1,990	857 I., dated 14th October 1903.
6	Constructing superpassage and drainage inlet at 16 miles F furlong of Masulipatam canal.	5,430	367 I. K., dated 2nd April 1904.
7	Excavating Paidimukkala drain	1,930	368 I., dated 4th April 1904.
8	Improvements to the Polraz drain	44,500	993 I., dated 8th September 1904.
9	Excavating Amaravathi drain	1,140	542 I., dated 5th June 1905.
10	Excavating Arisepalli drain	1,170	1144 I., dated 21st November 1905.
11	Excavating Amudalapalli, affluent of Pedalanka drain.	3,170	721 I., dated 3rd July 1906.
12	Diversion of Bheemarru drain	1,550	89 I., dated 5th March 1912.
13	Excavating Kanderu drain	2,300	262 I., dated 26th June 1917.
14	Excavating Pesaramalli affluent	1,800	189 I., dated 31st May 1918.
15	Excavating Kudaravalli drain below Kudaravilli undertunnel.	1,650	46 I., dated 8th February 1919.
16	Constructing an undertunnel at 4 miles 2 furlongs 250 feet of Kodur channel above Bantumili road and improving the road side drain.	1,780	319 I., dated 18th November 1919.

Kistna Western Division.

1898-1899.

1	Reconstructing a drainage sluice in river bank at Vellatur lock.	9,560	924 I., dated 30th November 1898.
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1889-1900.

2	Bridge over Kopalli drain	7,300	596 I., dated 14th July 1900.
3	Constructing a railway bridge over Peravali drain.	30,100	725 I., dated 30th August 1900.

1901-1902.

4	Providing a second trough to the aqueduct over Repalli Main drain, straight cut to carry Vellatur channel.	2,890	527 I., dated 2nd July 1901.
5	Excavating Pedaravur drain	5,870	709 I., dated 17th September 1901.

1903-1904.

6	Constructing a syphon culvert to Konderu drain at 1 mile 5 furlongs of Repalli drain.	10,135	376 I., dated 27th March 1903.
7	Clearing silt in Repalli Main drain straight out.	20,910	637 I., dated 22nd June 1903. 760 I., dated 14th August 1903.
8	Excavating Moparru affluent	2,085	161 I., dated 10th February 1904.

Serial number.	Name of work.	Amount sanctioned.	G.O. number and date.
1906-1907.			
9	Constructing a foot bridge across Rayakampad affluent at 5 miles 1 furlong and 120 feet.	2,564	535 I., dated 16th May 1906.
10	Extending the Rayakampad affluent ..	1,602	1030 I., dated 27th September 1906.
1911-1912.			
11	Appapuram project drainage scheme ..	38,236	267 I., dated 18th August 1910.
1915-1916.			
12	Excavating Doppalapudi affluent ..	5,353	332 I., dated 5th July 1915.
13	Excavating Palakayagunta drain	4,000	229 I., dated 23rd May 1916.
1916-1917.			
14	Improvements to Pollards channel for converting the Tenali-Jampani channel into a drain.	4,156	454 I., dated 11th October 1916.
1917-1918.			
15	Lowering the floor of Gudlavalli bridge over Repalli Main drain.	5,413	341 I., dated 22nd October 1918.
16	Excavating a straight cut for the Tungabhadra drain near Kottampudi village.	4,344	216 I., dated 17th June 1918.
17	Constructing a masonry arched bridge at 14/4 of Bhattiprolu drain.	5,700	224 I., dated 1st July 1921.
18	Excavating side drains along left outer toe of the Bank canal from 10/2 to 44/2.	2,000	230 I., dated 15th 1923.

III

Remarks of the Director of Agriculture, dated 9th April 1930.

Paragraph 86—Calculation of ploughs with reference to the number of working cattle.—The figures for the working cattle taken at the census held in October 1924 and in January 1930 are appended below :—

District.	Number of working cattle.				Ploughs.	Percentage of column (3) to (2).
	Bulls.	Bullocks.	Male buffaloes.	Total.		
(1)	(2)				(3)	(4)
<i>East Godavari—</i>						
October 1924 ..	107,684	190,634	50,319	348,637	154,016	44
January 1930 ..	80,141	245,789	64,134	390,064	166,086	43
<i>West Godavari—</i>						
October 1924 ..	123,908	70,808	58,165	252,881	113,163	45
January 1930 ..	39,790	151,693	63,527	255,010	111,783	44
<i>Kistna—</i>						
October 1924 ..	83,913	106,077	86,799	276,789	96,307	35
January 1930 ..	54,191	130,631	57,947	242,769	94,552	39

The assumption of the Committee that the number of ploughs has been calculated automatically on the basis of a pair of working cattle for each plough does not seem to be warranted.

Time of cattle census.—The two previous censuses were taken in the third week of October for the reason that village officers had comparatively less work then than in the other times of the year. It has been stated by the Committee that in October-November cattle are taken to the Agency and Hyderabad. But crop reports show that in October first-crop paddy is harvested and that the second crop covers but a small area as noted below :—

District.	Total area under paddy.	Area under second crop.	Percentage.
	ACS.	ACS.	
East Godavari	637,729	104,894	16
West Godavari	658,256	120,406	18
Kistna	562,629	853	0.2

It is unlikely that cattle would be taken at a time when pasture and fodder would be available on account of paddy harvest. The recent census was taken in the third week of January 1930 when the cattle, if any, that had gone out of the district should have returned. But the statistics do not show large disparity. The number of cattle in West Godavari was almost the same while in East Godavari it was more and in Kistna less.

Paragraphs 87 and 88.—If the facts stated herein are true, it seems a large number of ryots are labouring under uneconomic conditions.

Paragraph 89.—The number of ploughs 113,003 in East Godavari noticed by the Committee does not agree either with the census figures of October 1924 or January 1930.

Paragraph 90.—Details of cattle in the East Godavari district are said to have been seriously under-estimated. I have no data to offer my remarks on this observation.

Statistics of the total number of cattle are given below for all the three districts :—

District.	Total number of cattle as per census of	
	October 1924.	January 1930.
East Godavari	944,527	1,066,215
West Godavari	816,726	727,528
Kistna	842,574	898,276

Paragraphs 91 and 92.—The area under cultivation in these two districts Kistna and West Godavari is 1,885,218 acres. Of this, 1,101,707 acres are under irrigation and 723,511 acres are rain-fed.

With a ratio of 1 : 5 :: pairs of bullocks : acres cultivated in the case of paddy and of 1 : 10 for the remainder the total bullock power necessary is 292,692 pairs, say 293,000.

Taking a more conservative figure for the working life of a bullock than that quoted by the Royal Commission 8 years instead of 10 a section through the bullock population will show ten classes—

A	Bullocks in their eighth year of work.
B	„ seventh „
C	„ sixth „
D	„ fifth „
E	„ fourth „
F	„ third „
G	„ second „
H	„ first „
K	Bull calves two years old.
L	„ one year old.

The number of pairs of bullocks to be replaced every year is 36,625.

To allow for wastage about 40,000 pairs of bull calves have to be produced every year.

The Ongole cow will drop her first calf when about four years old and will calve on the average every two years. With an average of four calves per cow, a section through the breeding population will show—

A	Cows about to have their fourth calf	15
B	Cows a year younger than A	15
C	Cows about to have their third calf	15
D	Cows a year younger than C	15
E	Cows about to have their second calf	15
F	Cows a year younger than E	15
G	Cows about to have their first calf	15
H	Heifers three years old	17
K	Heifers two years old	17
L	Heifers one year old	17

With a ratio of one bull to 60 cows likely to come in heat the numbers in each class will run about those quoted alongside each.

Assuming that 60 cows in calf raise only 54 calves, there will be produced 27 bull calves and 27 heifers. Set aside 1 bull calf to keep up the bull strength. This leaves 26 possible bullocks. At least 7 of the heifer calves can be disposed of as soon as fit to leave their dams. For every 26 possible bullocks there are therefore 156 breeding stock a ratio of 1 : 6 which will make a demand on fodder.

The total number of livestock to be maintained each year is therefore 293,000 pairs ; the total number of bullocks classes A to H, plus young stock classes K to L, i.e., $2 \times 40,000$ pairs = 80,000 pairs plus breeding stock $6 \times 40,000$ pairs = 240,000 : in all 613,000 pairs, i.e., 1,226,000 animals. The actual number according to the latest census is 1,610,000 of which about 160,000 will be young calves. The comparable figure with our calculated figure is therefore 1,450,000, i.e., 224,000 more than is necessary for bullocks production.

The position is uneconomic in the extreme in that not only could the Ongole cow provide milk and so make the keeping of she-buffaloes unnecessary, but also it could be used for work and if properly cared for could be induced to calve at a little over three years old and to give a calf once every year. Moreover there is no real reason why the working life of bullock should not be ten years if it were properly treated.

In regard to fodder, the areas of crops in these same two districts are—

1,220,000	acres of paddy	first and second crops.
425,000	„	other cereals chiefly cholam.
170,000	„	pulses.

The yield of paddy straw may be taken at 1 ton per acre, of other cereals half a ton per acre, and of pulses one-fourth of a ton per acre. The total yield of fodder is therefore—

1,220,000	tons
212,000	„
42,000	„

1,474,000 tons

as against the Committee's estimate of 160,000 tons. One pair of cattle fed properly will consume in a year 5 tons of dry fodder, i.e., there is enough fodder for 294,800 pairs of cattle.

Paragraphs 93 and 94.—There are 1,100,000 acres of current fallows and culturable waste in these two districts. According to the Committee this should keep 550,000 pairs of cattle for three months in the year. To my mind this is non-sense. It may allow room for this number of cattle to roam about it, but not to feed them properly. Without a careful examination of the area in question I cannot say what density of stock it could maintain during the monsoon, but I should be inclined to assess it at nearer 10 acres per pair than 2.

It is not known how the Committee's figure 331,006 for the districts of West Godavari and Kistna was arrived at.

Paragraph 95—Sheep and Goats.—The Committee was of opinion that the number was seriously under-estimated. The statement below compares the total number of sheep and goats found in the districts of East Godavari, West Godavari and Kistna during the last two censuses. The last census shows increase under sheep except in West Godavari; a similar increase under goats in East Godavari; and decrease in goats in West Godavari and Kistna.

The decrease under goats in the districts of West Godavari and Kistna is apparently due to the fact that ryots were induced by forest panchayats to give up rearing of goats as they kill vegetation.

						West Godavari.	Kistna.
October 1924—							
Sheep	..	..	..	..	..	70,585	184,943
Goats	..	..	..	..	..	96,919	175,957
January 1930—							
Sheep	..	..	..	..	..	63,884	185,327
Goats	..	..	..	..	..	77,071	116,100

Paragraph 357.—Quite true.

Paragraph 358.—It is true that most work has been done in the deltaic area.

Paragraph 359.—

VI.—AREA UNDER COTTON, OIL-SEEDS, GINGELLY AND CHOLAM.

Years.	<i>East Godavari.</i>			
	Cotton.	Oil-seeds.	Gingelly.	Cholam.
	ACS.	ACS.	ACS.	ACS.
1924-25	.. .. 13,545	110,005	75,934	114,555
1925-26	.. .. 13,306	141,349	81,083	98,329
1926-27	.. .. 9,596	130,652	70,158	101,163
1927-28	.. .. 7,760	136,619	77,618	108,433
1928-29	.. .. 11,200	143,676	83,267	101,665

West Godavari.

Years.			Cotton.	Oil-seeds.	Gingally.	Cholam.
			ACS.	ACS.	ACS.	ACS.
1924-25	..	..	1,238	94,888	64,984	84,717
1925-26	..	..	1,296	109,556	80,759	66,428
1926-27	..	..	1,254	73,692	47,655	73,553
1927-28	..	..	1,165	84,225	59,612	76,213
1928-29	..	..	1,105	82,060	60,503	77,253

Kistna.

1924-25	..	..	64,526	39,201	11,933	238,113
1925-26	..	..	62,958	34,880	9,068	239,713
1926-27	..	..	41,635	31,520	7,724	243,620
1927-28	..	..	43,197	41,534	12,834	253,707
1928-29	..	..	48,519	50,088	9,324	245,599

The Committee is of opinion that the area under the crops is decreasing. This is not warranted by the figures given above except in the case of cotton. The decrease under cotton is due mainly to the fall in prices of cotton owing to the large output of American cotton. The variations in the case of other crops are due mainly to seasonal vicissitudes.

It would be very nice to have a research station in the uplands but there are other areas with more pressing problems.

Paragraph 360.—The incidence of this disease is probably due to the unhealthy conditions under which the coconuts are grown.

Paragraph 361.—See paragraph 360.

Paragraph 362.—Their information may be correct, it may not. There are many lines of work waiting to be taken up, but a reduction in the assessment will not cause this to take place any quicker.

Paragraph 363.—The question of keeping up the fertility of the land is not difficult. The difficulty is to get the cultivator to adopt the proper procedure. We do know that artificial manures exist and we have carried on experiments for years, it is only recently that their price has become reasonable.

Paragraph 364.—Village agricultural associations are needed.

Paragraph 365.—More District Agricultural officers are needed and too much time is taken up in keeping accounts. There is a tendency to assume that the accounts are the work instead of being merely incidental to the work. It can be remedied without any great difficulty if the point of view is changed.