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BIHAR AND ORISSA

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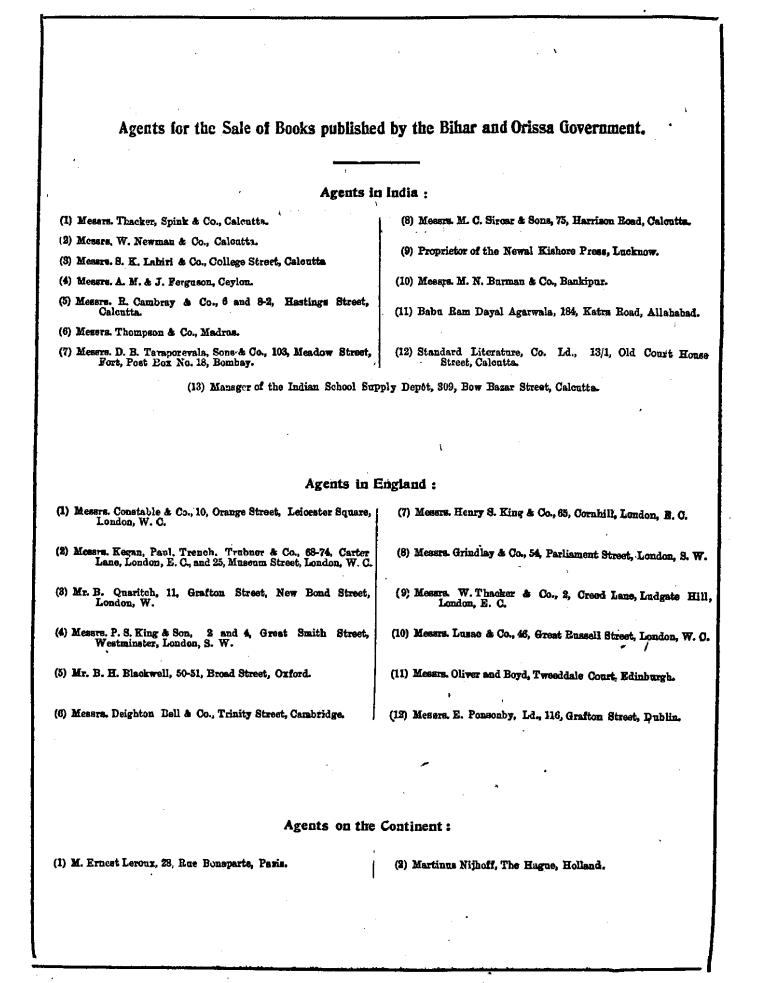
INTRODUCTORY.

In 1906 the Government of India drew the attention of Local Governments to the increasing importance of the cattle question owing to the restriction of grazing grounds, the extension of cultivation and the steady rise in prices, and to the desirability of placing on record full information regarding the economic conditions prevailing by the gradual completion of a cattle survey throughout India. It was proposed on the recommendation of the Inspector-General of the Civil Veterinary Department that the work of survey should be entrusted to the Superintendents of the Provincial Civil Veterinary Departments, each Superintendent taking up a portion of his charge, say two districts annually, and recording the principal data ascertainable in those districts in connection with the breeds of cattle, their improvement, their diseases, the facilities for grazing, prices and so forth.

2. This proposal was accepted in principle but was found by Local Governments to be generally impossible of execution owing to the lack of funds or staff or both. It was recognised that the original scheme was too ambitious and in 1910 the Government of India suggested that partial surveys of specific tracts where conditions are, or were in the past, favourable to cattle-breeding might give valuable results. About this time some progress in the codification of information regarding the cattle question had been made in certain provinces by means of a conference in the United Provinces and the publication of a note on the cattle of the Central Provinces and of the Punjab and in 1911 the Government of India decided that any detailed surveys ought, where possible, to be preceded by a general survey of the cattle question somewhat on the lines followed in the report prepared under the orders of the Punjab Government.

3. This general survey was to be of a non-technical nature and mainly of an economic character and was to be prepared by an officer not belonging to the Civil Veterinary Department.

4. In accordance with these instructions the Director of Agriculture in the end of 1911 issued a series of questions to district officers, based on the questions that had been circulated in the Punjab and in the end of October of the following year an officer was placed on special duty to collate the answers received after visiting the pincipal breeding grounds, cattle fairs and shows in the province and consulting the district officers and the Superintendent of the Civil Veterinary Department. This officer drew attention to the fact that the live-stock statistics hitherto accepted and published by the Agricultural Department in the annual return of Agricultural Statistics were discrepant, incomplete and far from reliable. These figures were based partly on police reports, partly on returns made by Settlement Officers at the time of the Survey and Settlement of a district. The defect of the Police figures was, that no procedure had at any time been laid down for the guidance of thana officers in compiling the returns, that generally speaking no one was responsible for supervising the methods actually employed and that the verbal reports of the chaukidars at a parade and the thana officers' reports were accepted without consideration or check. On the other hand the figures of the Settlement Officers although generally held to be more reliable seldom covered the entire area of any given district, but were nevertheless taken as a complete return of live-stock. They were obtained during the open season in the cold and the hot weather, when large numbers of cattle were absent from their owners' villages in precisely those areas. such as riverain tracts or forest jungles, which were omitted from settlement. Moreover the settlement figures when once accepted were reproduced annually without any attempt at revision during the currency of the settlement so that many of these returns are from 10 to 20 years out of date. For these reasons an attempt was made with the approval of Government to obtain more complete and accurate figures of the live-stock of the province by means of a rough census effected through the agency of chaukidari panchayats. The chaukidar was furnished with a list of the persons in his beat assessed to chaukidari tax and exempted therefrom. He was instructed to obtain the assistance of a literate



person, when he himself was unable to write, preferably the enumerator who had numbered the people at the recent census of humans, and to enter under the recognised classification the cattle, sheep, goats, etc., of each householder in his beat. He then delivered this list to his panchayat, who had ten per cent. of the entries checked by the circle dafadar and handed in the returns for the whole circle to the Sub-Inspector in charge of the thana. This system was employed except in the Chota Nagpur Division where the panchayat organisation is not in use, and no dafadars are employed. For this division the settle-ment figures are either quite new or comparatively recent and can be accepted as fairly correct. These statistics are reproduced in Appendix II and undoubtedly constitute a great advance in accuracy on those previously published. A quinquennial repetition of the census should be made in the same fashion and with further experience and a greater measure of accuracy in enumeration these statistics will form a valuable source of information regarding the resources of the province and the distribution of the live-stock. • . . . la ser a ser a

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PRESENT CONDITIONS OF CATTLE-BREEDING.

It is difficult to estimate the influence of extension of cultivation upon the cattle-breeding industry in the province owing to the absence of reliable statistics previous to the inception of survey and settlement operations. The first serious attempt to show figures of cultivated and uncultivated areas for the districts now in Bihar and Orissa was made by Mr. Finucane when Director of Land Records and Agriculture in 1891 and all that is claimed for them is that, though they are nearer to the truth than any hitherto compiled, yet a close examination shows that they cannot be relied on.' Mr. Finucane's figures are based on estimates framed by the district officers, relying on an examination of selected Wards' and Government Estates which had been cadastrally surveyed, on a consideration of the accepted figures for crop forecasts and of certain statistics prepared in the famine year of 1876. This information was supplemented by the statistics of rail and river-borne traffic and by the officer's local knowledge. According to these returns the cultivated area in 1891 amounted to 271 million acres excluding Angul and Sambalpur; the former district was then included in the Tributary States of Orissa, and Sambal-pur was not transferred to Bengal until 1905. Allowing for the area under cultivation in these districts we may place the total estimated area under cultivation in 1891 at 28 1 million acres. The returns for 1912-13 of cultivated area and current fallows give us 33 a million acres under these heads taken together. 935,336 acres are shewn under Reserved and Protected Forests, as against 4,741,049 acres in the current return. The area irrigated from Government canals was 496,124 acres, against 971, 176 in 1912-13. The population in British territory in 1891 was 32,876,557 and in 1911, 34,490,084.

2. These figures do not point to any great expansion of cultivation but confirm the general opinion that even in Bihar which has been called the Garden of India there has been a steady advance of cultivation encroaching year by year on the waste lands available for grazing. This fact will therefore not alone account for the great rise in the price of cattle that has taken place in the last twenty years, although with any restriction of grazing grounds the price of cattle is bound to appreciate. Three of the most important factors in determining the value of cattle in Bihar and Orissa are operative from outside the province namely the expansion of the tea industry in the Duars, Darjeeling and Assam, the expansion of the jute crop in Eastern Bengal and the great growth in the size and trade of Calcutta. All these conditions powerfully affect this province since it is essentially an exporting tract, providing cattle for carting for the tea industry and for transport, slaughter, and milk-supply in Calcutta, and for the cultivation of jute, the high price of which has of recent years brought large numbers of cattle dealers from the East to the Bihar cold weather fairs with pockets full of rupees, determined to obtain cattle at any cost. It is reported that the great fair at Sonepur in 1913 was completely demoralised by the presence of Eastern Bengal dealers who offered extravagant prices and recently the Bihar Indigo Planters' Association at their General Meeting in January 1914 have put cn record their anxiety at the continued excessive export of cattle and the concomitant rise in prices. What is certain is that the province has nothing to lose by this movement of cattle to the east but a great deal to gain. It is equally certain that the movement will continue and even increase in intensity according as the eastern districts and the metropolis of India prosper. A set-back in prices can only be expected in Bihar as a result of a set-back in trade in the tea and jute industries and possibly of a change in the methods of transportation in Calcutta, which should have the effect of replacing the bullock and buffalo cart by the petrol driven motor-lorry. Meanwhile the Bihar cultivator who is also generally a breeder or a rearer in a small way profits considerably by the strong demand from Bengal. The soil he cultivates is light and easily worked. The inferior small cattle which he retains for the plough enable him to carry out his cultivation in his traditional fashion, while disposing of his young and carefully reared and trained stock at a high price. Breeding and grazing grounds are available along the banks of the

Ganges, Gogra, Gandak, Sone and Kosi rivers, in the Kaimur hills, in the jungles of North Champaran and in Nepal, where large numbers of cattle go annually to graze, as soon as fodder begins to fail in the plains. Another phase of the present keen demand for plough and draught cattle is seen in the increasing importance of the male buffaloes. Thousands of young buffaloes from a few months to two to three years' old are now exported from the Bhagalpur and Purnea Kosi diaras, where formerly they were allowed to die of neglect as being hard to rear and slow and useless beasts. The question whether the cattle of the country have suffered degeneration is one that has been repeatedly debated with various conclusions. About 1831 it engaged the attention of Sir William Bentinck's Government. In 1864 the Government of Bengal consulted the Landholders' and Commercial Associations of Calcutta and the British India Association. The former body held that there had been no deterioration and supported their opinion by the evidence of a number of European zemindars; the latter body thought that there could be no doubt that deterioration to some extent had taken place. In 1887 again the Agricultural and Horticultural Society of India reported that they were satisfied that deterioration was imminent if it had not already taken place. The fact appears to be that where stall-feeding has not taken the place of grazing as in the Chota Nagpur and some of the Orissa districts deterioration of stock is undoubted. In Bihar on the other hand, where cattle are more valuable and are consequently better tended, bullocks, as good as the country has ever produced, are still to be found but at very high prices in comparison with even ten years ago. The confusion of price with quality is responsible for the pessimistic views of many of the older generation, but it is also undoubted that the quality of the Brahmini bull now to be found in these districts is not what it was of old. The pious Hindu who dedicates a bull-calf for the use of the public on the occasion of the death of a relative no longer takes care to select the best calf that can be found but is content with any youngster of low value that comes readily to hand. There is also less tolerance in these days of close cultivation of the depredations of the sacred bull and certain decisions of the High Court have encouraged Muhammadans and Hindus of the lowest class to kidnap and slaughter them for the value of the flesh and hide. Upon this view of the existing conditions the apprehension of degeneracy is certainly justified; on the other hand the enormous rise in the value of hides has introduced a new element into the situation and the poor cultivator is no longer so keen to enquire of the fate of his worn out bullock, when by shutting his eyes to the fact that the animal may be destined ultimately to reach a Muhammadan purchaser, he is enabled to pocket the value of its hide and bones. The average working capacity of the bullock is therefore probably considerably higher than it was thirty years ago.

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CHAPTER II.

SUPPLY AND DEMAND OF DRAUGHT CATTLE.

According to the returns in the Agricultural Statistics for 1912-13 the area cropped and double cropped in the Province was 33,178,400 acres and according to the latest statistics available the number of ploughs is 3,222,554 giving an average of 10 acres per plough. The area falling to each plough differs enormously from district to district and in the three divisions of the province. In Muzaffarpore and Darbhanga the duty required of one plough is 19 and 15 acres respectively. These are districts with light and easily worked soil and the amount of double cropping is very great. In the Patna Division the average duty is 13-3 acres per plough. In Chota Nagpur the average appears to be 10 acres, but here the statistics are somewhat doubtful, while in the Orissa districts it falls as low as 6 acres, owing doubtless to the fact that a large number of almost useless animals are kept more for the manure they afford than for the labour they yield. Making allowance for ploughs not fully or efficiently worked we may put the provincial average at 11 acres per plough. On this basis, taking the cropped area as above, we require 3,017,127 working ploughs for cultivation purposes, and for these 6,034,254 working bullocks would be required. Now according to the most reliable statistics revised through a recent census made by Panchayats, there are 6,524,281 bulls and bullocks in Bihar and Orissa. From this figure a deduction must be made to account for non-working bulls, for inefficient animals, especially in Orissa, for those working exclusively in carts, of which 457,073 were enumerated and for those employed partially on well irriga-tion, which is common particularly in Patna, Gaya, Shahabad, Saran and Hazaribagh. On the other hand a certain proportion of the male buffaloes 781,974 in number, are employed in cultivation and in carting particularly in Gaya, Patna, South Monghyr, South Bhagalpur, the Santal Parganas and throughout the Chota Nagpur Division which imports largely from the north young males for ordinary field work. In parts of Purnea, in Chota Nagpur and in Orissa dry cows are also pressed into service for ploughing. All deductions and allowances made, the figures seem to indicate that there is at present no shortage of draught animals for the plough, but within the last year or two complaints have been heard that the standard of cultivation is no longer as high as it used to be in certain parts of Bihar, that the cost of carting and the loads imposed on carts have risen together in a very high degree and apprehensions are expressed that the drain on the resources of the province for the supply of Bengal and Assam is beginning to make itself felt. That there is some truth in this view may be inferred both from the great rise in prices of late and from the fact of the growing utilisation of male buffaloes. The great source of supply in the Province is the tract in North Bihar lying immediately along the Nepal frontier from Bettiah sub-division in Cham-paran district to Kishanganj in Purnea. The reason for this pre-eminence in production lies in the geographical position of this tract which allows of grazing in Nepal where cultivation is by no means so intense as in British territory. In addition the northern thanas of Champaran are still full of grass jungle; almost one million acres out of a total of 21 million are uncul-tivated. North Bhagalpur affords much fine grazing ground. There is a high sandy tract running north and south through the district along the line of the Mansi-Baptiahi section of the Bengal and North Western Railway, In Purnea again there are many high maidans in the west of the district from Purnea Čity northwards to the frontier-while in both these districts the vast areas known as the Kosi diaras furnish good grazing from November to the break of the rains in June. Thus besides its proximity to Nepal this tract has natural advantages for cattle-grazing and breeding. The relations of the cultivators with Nepal are intimate. It will be remembered that except in Champaran the foot hills nowhere approach the British boundary but that a tract of plains land intervenes between them. The people on both sides of the artificial boundary line are of the same stock, and frequently oultivate both in British and in Nepalese territory. In Bachhaur pargana

of Darbhanga district the practice is to keep the cows and young stock in the plains until the *khesari* or pulse broad-casted on the moist paddy fields in September or October has been eaten and fodder and grazing become scarce in the early hot weather. Then the flocks are driven off across the frontier where water and grazing are more plentiful and are kept in Nepal in *batkans* until the break of the rains. Many graziers, however, remain all the year round in Nepal sending down their stock from October to March during the period of the great cattle fairs. In 1911-12, 57,000 cattle were imported from Nepal into Bihar and Orissa.

The district of Morang in Nepal lies north of the Purnea district from the Kosi to the borders of Darjeeling district and cattle from this tract known as Morangias are well known and eagerly sought after in Purnea and North Bengal markets. They are light in build, but very active and spirited, well suited for quick work in shamponies as trotting bullocks. They are either grey or red in colour, the two types being otherwise in appearance very much alike. In other portions of this tract the cattle of the Sitamarhi Subdivision have a name of their own. It was here that the Honourable East India Com-pany obtained their early supply of bullocks. But the best work-cattle are those of the Bachhaur pargana in the north of the Darbhanga district. Many young calves are exported in the cold weather from Bhagalpur and even from Purnea and after careful feeding and rearing these are sold as the produce of Bachhaur, fetching a higher price. The cattle of the Saraisa pargana in South Darbhanga have also a local name as milkers and vast numbers of buffaloes are pastured in Bhagalpur and Purnea on the Kosi diaras and also in the low lying Pharkiya pargana in Monghyr. From this sub-montane area Bengal and South Bihar draw supplies of bullocks and milch cows to supplement their local stock. Throughout the cold weather cattle are found proceeding eastward by road in a steady stream to the North Bengal fairs in Rangpur, Dinajpur, Pabna, Bogra and Malda. Dealers from districts as distant as Sylhet and Cachar are met with, while Mymensingh, Dacca and Faridpur take their quota. On the other hand Bihari dealers familiar with these districts and with those of the Assam valley as far as Sibsagar and Dibrugarh are often to be found picking up at the fairs cattle for export to the east. South Bihar and to some extent Chota Nagpur draw on North Bihar principally through the Bihta and Barrahpur fairs. But Chota Nagpur obtains mostly high priced milk cows for the towns and low priced young male buffaloes for work in the paddy fields and in sagars—the local solid—wheeled carts. Large numbers of the latter pass through Palamau and Ranchi and enter Singhbhum and the Native States and penetrate even to Sambalpur on the borders of the Central Provinces. Chota Nagpur also draws on the remoter western hill-states such as Sarguja and Jashpur where jungle is still thick and a better stamp of animal is maintained on account of the more plentiful grazing. In the Palamau district, many fairs are held in which besides local and Gaya and Shahabad cattle importations from the west are on sale. Manbhum and Singhbhum also draw on Bhagalpur and on the Central Provinces through Sambalpur and Chakradharpur. Orissa obtains practically no cattle from outside except a few from the nearer Garbjat states. In Sambalpur besides the wretched local cattle some importation from the better class Central Provinces cattle are to be found among the cattle used by merchants for carting. South of the river Ganges no area has any reputation for good cattle save Shahabad where on the diaras between the Sone and Buxar an excellent quality of milch cow can be found. The same type of animal is also obtained in the neighbouring districts of Ghazipur and Ballia,

GENERAL BREEDING ARRANGEMENTS.

In Bihar breeding is dependant entirely on the so-called Brahmini bull -an animal dedicated by a pious Hindu and released for public use on the occasion of the death of a relative. No bulls have any where been provided by Government although in towns a few district boards and municipalities have occasionally maintained a bull of a good milking strain for the benefit of the local milkmen and private persons owning milch cows. The effect of such action on the cattle of the country is negligible. The Brahmini wanders at will among the village crops, helps himself with a great degree of impunity and is therefore usually in high condition. Unfortunately the class of animal dedicated in these days is no longer so good as it was and many wretched specimens are seen that are unworthy to be the sires of the young stock. It appears to be the case that the poorer members of the Hindu community in imifating their betters are statisfied with the cheapest yearling calf they can obtain. Such action has its influence on the wealthier classes and there is a general complaint of deterioration in the quality of animal now found to .be selected. Questions of colour also often influence selection with the result that inferior white animals are seen in larger numbers than their merits should allow. In short, in these days cheapness and a perfunctory performance of a re-ligious obligation decide the selection of the animal and little regard is had to its capability for breeding. Nor is this unnatural since the price of cattle has risen very greatly of recent years, while the principles of breeding are apparently unknown to the ordinary Bihar cultivator. A further reason is that the sanctity of the Brahmini is no longer unimpaired. Hindus have learned since the High Court ruling recorded in Indian Law Reports, Calcutta XVII, page 853 that it is no crime to kill a Brahmini bull for the sake of its flesh and the value of its skin; and that "the fact that such a bull receives some attention from the cowherd of the persons who set it at liberty and is daily fed by him by direction of his employers and is not used for breeding purposes without their permission being asked, is not inconsistent with a total surrender by those who set it at liberty of all their rights as proprietors." This decision has had far-reaching effects in Bihar and has undoubtedly contributed to the decline of the Brahmini bull. For people, when they are aware that the courts are powerless to help them to protect it, are not inclined to spend much money or care in dedicating an animal that may at any time be the subject of unpunished larceny.

The result has been that Muhammadans and Hindus of the lowest castes or aboriginals such as Mushahars and Doms are able to, and do, pounce upon straying Brahminis, emasculate them and sell them to Muhammadan cultivators. Such animals bearing the trisul mark may be found in the fairs where Muhammadan purchasers predominate and on the way to Eastern Bengal, and Magistrates are often called upon to help to recover missing sacred bulls by executive measures through the police. Where the population is preponderatingly Hindu the Brahmini has a fair chance, but evenhere the defect of the system is that a bull once dedicated remains in the herd long after he is unfit for work, since the religious sanction attached to him prevents any steps being taken for his removal when worn out. In-and-in breeding therefore results, the hull covering his own stock for several years. Apart from these defects the system in the past has produced good results since in Bihar it is the practice to castrate early, usually at the age of 12 to 18 months, so that the cows of the herd are not covered by immature bulls as is the case in both Chota Nagpur and Orissa. Scarcely anywhere in Bihar is it possible to find signs of corporate action on the part of villagers to provide a good breeding ball. One instance that came under my notice was in Monghyr in a village of Babhans—a caste well-known for their power of combination. These people kept a fine bull not bearing the sacred sign for the use of the village generally. In Bankipore town, too, where cross-bred stock of European strain are found, a Goala keeps a half-bred animal at stud and charges a fee of Rs. 2 per service. In Muzaffarpore and Darbhanga some villages of Goalas also maintain for

common purposes up-country buffalo-bulls of a good milking strain. But these are isolated instances of enterprise and intelligence. In Chota Nagpur among the aborigines sacred bulls are non-existent and in Orissa they are not common although the population is Hindu. In both areas late castration is the rule. The young entire bullocks run with the village herds and cover the cows promiscuously as they come in heat—immature animals being thus the sires of the young stock. A casual examination of herds shows that the weaker and less developed a bullock is the later it is castrated. This practice coupled with the almost total want of good grazing for nearly six months of the year sufficiently accounts for the stunted cattle on the plateau and in the Orissa districts. Conditions of breeding in these tracts are therefore much more unfavourable than in Bihar and here little progress can be looked for until more fodder is available. It would be useless to introduce larger bulls until proper provision for feeding the young stock and the cows is possible.

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CHAPTER IV.

BIHAE, INCLUDING THE PATNA, TIBHUT AND BHAGALPUB DIVISIONS EXCEPT-ING THE SANTAL PAEGANAS DISTRICT.

In this section, which is the most important in population, agriculture and live-stock, have been included all the districts of North and South Bihar except the Santal Parganas, which do not properly belong to this tract, but in their physical, ethnical and agricultural features form an integral part of Chota Nagpur. The extreme southern portions of the Monghyr and Bhagalpur districts as well as small portions of Gaya and Shahabad bordering on the plateau also have the characteristics of Chota Nagpur and not of the Gangetic valley. It has not, however, been thought worth while even were it possible to endeavour to treat these small areas separately.

The area dealt with is bounded on the east by the Bengal districts of Jalpaiguri, Dinajpur and Malda, on the North by Nepal, on the south by the Chota Nagpur plateau and the Santal Parganas and on the west by the United Provinces' districts of Mirzapur, Ghazipur, Ballia and Gorakhpore. The dominating feature of the tract is the river Ganges with its tributaries especially the Kosi, Gandak, Gogra and Sone rivers. It covers an area of 36,898 square miles and supports a population of 21,869,996 persons.' Variations in temperature are considerable. There is a long cold weather from October to March, but in the hot season the heat is very great. The ground retains little moisture and the hot west wind parches up all vegetation and renders pasture scarce. From November to April the weather is fine and dry and the rainfall for these months rarely exceeds two inches. The average annual rainfall varies from 42.96 inches in Gaya to 72.76 inches in Purnea. The heaviest fall is recorded in July and August when the numerous rivers and streams which intersect the greater part of Bihar are liable to overflow rendering it subject to innundation in years of exceptionally heavy rainfall.

Bihar is divided into two parts-north and south-by the Ganges. North Bihar is a level plain falling very gradually from the foot of the Himalayas and with a belt of higher land along the Ganges. Between these two extremes the general elevation is lower and considerable areas are liable to damage by The soil consists mainly of the older alluvium or bangar, a yellowish floods. clay, with frequent deposits of kankar or nodular limestone, but in many parts this has been cut away by the torrents that rush down from the Himalayas and the low land through which these torrents have at one time or another found an exit to the Ganges is composed of more recent deposits of sand and silt brought down by them when in flood. The surface of the country is almost a dead level without hills or natural eminences except a few tracts of undulating country on the borders of Nepal where the alluvial plain gives place to a broken hilly region of which the range of low hills about 20 miles long in the north and north-west of Champaran known as the Dim or Ramnagar Dim still con-tains large stretches of jungle and forest. Innundated tracts near rivers are often under tamarisk. Village shrubberies, except on abandoned sites, are scanty. The most common tree is the mango-Saran and Champaran however are diversified with bamboos and palms. The universal presence of lime in the soil is favourable to the production of bone in cattle.

In South Bihar the recent fluvial action is less marked especially towards the east where the outlying hills and undulations of the Chota Nagpur plateau trench more and more on the Gangetic plain until at Monghyr they extend as far as the river itself. South Bihar also is mostly a level plain with a ridge of hills winding in a serpentine form along the southern boundary whence the country falls with a gentle slope towards the Ganges in the North. The Kaimur hills of Shahabad which occupy about 800 square miles in the south of the district constitute part of the great Vindhyan range. They are important as a grazing ground. At the beginning of the rains cattle are driven long distances from the intensely cultivated canal area, where no grazing is available to pass the wet season on the open park-like plateau stretching from Rhotas to the Karamuasa river. Beyond the Rajgriha hills which form part of the boundary between Patna and Gaya there is a break in the ridge but further on in Monghyr district about Shaikhpura the rock crops up again to the surface. There are also isolated hills here and there, seldom exceeding 1,000 feet in height. The larger ones are covered with low scrub jungle and coarse grass and the others are rocky and bare. Village sites are, for the most part, devoid of trees except for occasional mango groves and the trees on the steeper hills and along some of the main roads. There is very little vegetation when the crops are off the ground.

There are only 44 towns of 5,000 inhabitants or over. The vastly great majority of the population lives in villages and is dependent on agriculture. But of $17\frac{1}{3}$ million workers and dependents engaged in pasturage and agriculture, $12\frac{1}{2}$ millions were returned in the recent census as ordinary cultivators, while over $4\frac{1}{3}$ million more are given as farm servants and field labourers. The density of population per square mile is in the Patna Division 505, in Tirhut 792 and in Bhagalpur 441. The highest density per square mile is 1,037 found in the Sitamarhi sub-division of the Muzaffarpur district.

The soil is everywhere very fertile and a great variety of crops is grown particularly in the Tirhut division which is often spoken of as the "Garden of India." In addition to the Sone canal system in the Patna Division, irrigation is practised by lifting water from wells particularly in Saran and by block-ing or "bunding" rivers and carrying off the water in channels. The *ahara* or embankment system is largely employed in South Bihar, the object being to catch the surface drainage by throwing an embankment across the natural slope of the country and so impounding water for distribution on rice fields. Appendix I shows according to the Agricultural Statistics for 1912-13 the areas under different crops. More than one-third of the total area is under rice and one-fourth more is under other food crops, oil seeds and cotton. There are 2,689,203 acres of cultivable waste not yet brought under the plough and an area of 3,480,914 acres returned as not available for cultivation. Much of this however consists of river beds, village sites, water, roads and railway lines. There is no Government forest but a large tract of forest jungle belonging to the Bettiah Raj exists in the extreme north-east corner of the Champaran district. Grazing land, though scarce, is not altogether absent. The thinly cultivated stony lands in the south of Monghyr, Bhagalpur, Gaya, and in Shahabad the Kaimur plateau afford sufficient pasturage in the narrow valleys and depressions between the higher ridges during the rainy season, but from the early hot weather are practically bare of grass. During the cold and the hot weather the grass lands of Pharkiya Pargana in north Monghyr provide good and abundant pasturage for large herds of cattle. The largest tract due north of Monghyr is about 200 square miles in area. During the rains the country is so deeply flooded that no more than half the land is ever cultivated. It is covered chiefly by a rank pod grass and pampas grass together with a scanty undergrowth of the more succulent sorts such as *dub*. Buffaloes naturally thrive here better than other cattle and large herds of them are sent to these flats from the surrounding higher lands and sometimes from the south of the Ganges. They graze here from January till the rising water forces them to retire in June.

In Bhagalpur and Purnea, portions of the country are naturally adapted for grazing. In both districts high sandy tracts exist running generally north and south from the Ganges to the hills. These high lands form the grazing grounds of great herds of cattle and buffaloes during the rains. During the rest of the year these herds graze in the Kosi diaras. The Kosi river has three separate main branches in Nepal and is fed from an enormous catchment area. Its three branches unite before leaving the hills and pour a tremendous volume of water into the plains, with the result that the river splits into a large number of channels which change from year to year and vary in position over a large tract in both districts. Cultivation is therefore precarious and the area described in both districts is covered with high coarse reeds and grass which provides a sufficient amount of grazing to maintain large herds of buffaloes and cattle from October to June. The Morang district in Nepal is also resorted to by large numbers of local cattle breeders. On

the diaras the fee per head for the season is said to be four annas for a cow. and ten annas for a buffalo and similar fees are charged in Nepal, where the grazing rights are leased to contractors who send out their agents to the cattle breeders in British territory and tout for the patronage of their herds. The grazing revenue of Morang district is said to be as much as .Rs. 10,000 per annum. During the cold and the hot weather grazing on the high lands is free but on the break of the rains free pasturage comes to an end and leases of the Purnea " ramnas " or maidans are given running to the Devali festival in October, when a fee of four or eight annas is charged for every cow or buffalo placed upon a given "ramna". The low lands along the Ganges in Purnea also form a grazing estate called the Charai mahal and mostly belonging to the Darbhanga Raj. Grazing was formerly free in this area but at present a fee of two to eight annas per head is charged. The Banaili Raj takes grazing fees only from persons other than its own raiyats. The cattle in North Darbhanga and North Muzaffarpore where cultivation is intense depend for grazing areas almost entirely on the Nepal Jungles. While at home the cattle are stall-fed and get little but exercise when driven out to graze on the rare waste lands or the recently cleared rice fields. In Champaran there is abundant pasturage in Bagaha and Shikarpur thanas which attracts great herds of cattle from the southern thanas of the district and also from Saran and Muzaffarpore. In this area most of the graziers are Tharus, an aboriginal people of Mongoloid stock and still semi-migratory in their habits. They keep many of their cattle in the Nepal jungles except during the rains. The charge for grazing is reported to be 12 annas for a buffalo and five annas for other cattle for the season from October to May. Apart from these areas grazing land is scarce and with the advance of cultivation is becoming still more scanty. The practice of stall-feeding is fully in vogue in such congested areas as Saran, Muzaffarpore, Darbhanga, North Monghyr and in the Patna division, especially in the canal areas. Only 11,900 acres are returned as under fodder crops, but this is misleading, many crops being utilised partly as cattle food while green and partly as genuine food crops. In the neighbourhood of large towns it is now the custom to grow heavy crops of maize and juar specially for cattle food and there is little doubt that this practice will spread gradually to the remoter villages, as the value of cattle rises. The crops providing fodder are paddy, wheat, oats, barley, maize, juar, bajra, kurthi, bhirgi, mothi, urid, gram, masur and other pulses. The food of the cattle throughout the year in a district like Saran is somewhat as follows :- September to November : kodo and maize stalks with bajra and grass chopped up. In December and January rice straw is available with sugarcane tops. In February latra or pulse straw. In March comes the straw of rabi crops generally. In April the wheat straw is ready. May, June and July are the difficult months when efforts must be made to get as much sustenance as possible by grazing the cattle and digging grass for them. In August bajra stalks are again available. Throughout the year the huskings of rice and other grains and the water in which rice has been boiled are added to the stall-fed animals' trough. Bullocks in hard work also often get a little oil cake and pulse mixed with water and fodder and called soni. The cows when out of milk and the young stock invariably fare hard and have to pick up a living for themselves as best they may—a short-sighted policy which affects their condition very seriously and militates against their producing strong calves.

Cart bullocks are treated best of all and tended as a European has his horses tended. There are signs however that the great rise in prices of cattle will eventually have an influence on the treatment of the cows and young stock since it has become evident of recent years that it will pay to rear animals for sale at the age of 4 or 6 teeth, *i. e.*, from 3 to $4\frac{1}{3}$ years old after they have been broken and done a year or so of light work. Generally speaking 'the Bihar raiyat treats his cattle as well as his circumstances permit him to do, which is more than can be said of the other sections of the province. Shelter is provided for the rains and cold weather either in mud or wattle huts, but the large grazing herds in North Champaran and in Bhagalpur and Purnea spend the whole of the cold and hot weather without any roof over them. They are merely driven to an enclosure at night. For this reason untimely winter rains is frequently the cause of considerable mortality. Water-supply is generally sufficient throughout Bihar and in the reports of the last severe famine of 1897 no mention is made of loss of cattle by starvation, although a certain amount of loss must have occurred. For North Bihar generally the Nepal jungles constituted a refuge until the season of drought was over.

From time to time proposals have been put forward in the Press or in Legislative Councils that Government shall do something to increase the area of pasture land available for the cultivators' cattle. It has been suggested that considerable tracts should be acquired and devoted solely to pasturage. Not only would the expense of any such scheme be entirely prohibitive, but it cannot be shown that the advantage to be gained would be in any way proportionate to the expense. In Bihar where stall-feeding is fully established the line of progress lies along the road of cultivation of fodder crops by improved methods, the introduction of better implements to permit of deep cultivation, where such is proved to be advantageous, and the use of chemical manures to produce the maximum possible of fodder off a given area.

VARIETIES OF CATTLE IN BIHAR.

It is somewhat doubtful if Bihar can claim to possess any distinct breeds of cattle clearly distinguishable one from another. Persons familiar with the notable breeds of Upper India contemptuously lump the cattle found in Bihar together, describing them as deshi or dehati and refusing to recognise among them any breed true to type and constant in characteristics. The Superintendent of the Civil Veterinary Department is inclined to share this view and there is much to be said for it when one considers the great turnover of cattle at the numerous fairs. On the other hand the animals brought to the fairs are mostly castrated stock so that their transference from one portion of the country to another in no way affects the breeds. Whatever may be the decision on this point it is certain that no district shews an absolutely uniform breed, universal over a given area but rather that in any such area a certain percentage of animals can be picked out which shew typical features common to their number and which we must consider to be the survivals of a breed which presumably was more pure and more widely distributed in former times, but which with the continuance of haphazard methods of breeding and the neglect to provide good bulls has fallen off in quality and in numbers and is on the point of disappearing altogether. The people of the country, however, and the older European residents who have learnt their views from intimate association with them promptly discriminate between the cattle of (1) Purnea and Morang, (2) Bachhaur, (3) Sitamarhi, (4) Shahabad, and (5) Bankipore.

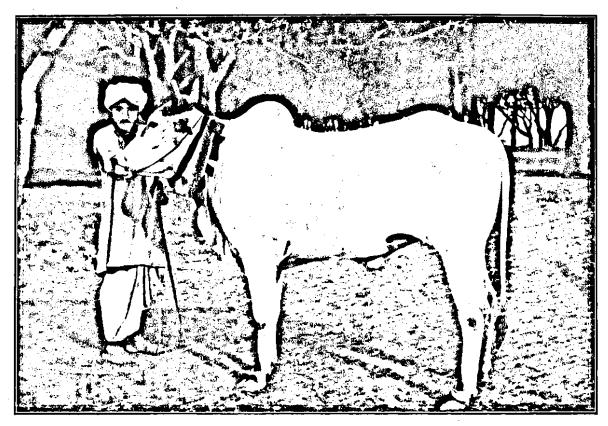
I. Purnea or the Kosi diara cattle .- The general conditions under which grazing and cattle-breeding are carried out in this tract have already been described. It is only the western portion of the district along the various courses of the Kosi that is important; in the Kissengunge or eastern sub-division, the land is low and swampy and no cattle-breeding is carried on. Baniganj and Forbesganj thanas and the whole of the Dharampur pargana are the localities in which the best animals are found. In these areas the Purnea breed of red cattle are found to the extent of about 60 per cent. in any grazier's herd. Their characteristics are as follows :-- Colour red; and this colour is much preferred; the face is triangular in appearance; the muffle is usually black; body short; quarters fall off very rapidly i. c. are very rounded; hump small; bone medium; dewlap fairly developed; sheath is slightly pendulous; horns short, stumpy and blunt, set in crescent shape to the head ; eyes set deep in the head and rimmed with black skin. The animal is not tall; running from 48 to 54 inches when full grown. One good specimen measured at the Khagra fair in January 1913 gave the following figures :- Height 511 inches ; girth 67 inches ; length from back of hump to root of tail 38 inches; bone, circumference of cannon bone 61 inches; length of face from root of horn to point of muzzle 16 inches; the tongue was black. These cattle are smaller and lighter than the cattle of the western districts, but they are active, spirited and well adapted to fast work in pulling light vehicles such as shamponis or the light carts that have been evolved in the district to suit the cattle. The Kissengunj sub-divi-

sion is noted for its manufacture of excellent light cart wheels of sissu wood. These are finer in every way than the coarse heavy wheels of the large Tirhut carts. . The spokes are six in number and consist each of a thin double piece of seasoned sissu wood and contrast strongly with the heavy timbers of the clumsy cart found further west. The people of Purnea and of the districts of Northern Bengal whither these animals are exported in large numbers prize these local cattle highly because they are acclimatised and stand the damper climate better than imported cattle do. The cattle of the Morang district of Nepal are very similar to those found in the Dharampur pargana. Many of these are of the same red breed but beasts of a grey colour, though otherwise identical in appearance, are also found in large numbers. A young Morang bullock of 6 teeths i. e., about 4 to 41 years old gave the following measurement :- Height 48 inches, girth 61 inches, length from back of hump to root of tail 40 inches, circumference of middle of cannon bone 61 inches. The same customs as to breeding and rearing are believed to prevail on the diaras and in Morang. The breeders do not depend on Brahmini bulls but select their own bulls with more or less care. Brahminis are rare but unfortunately when they do intrude from other districts are not excluded, much to the detriment of the herd. Castration is said to be done at the age of 12 to 18 months, but this is not invariably the case. Animals 2 to 3 years old still in entire condition can be seen with the herds. The operation is generally performed in the herds of all Hindus save Brahmins by a class of men known locally as "Chamela " who get their food for the day and one anna or two annas for each operation. Both cutting and "mulling" are resorted to. In the diaras no shelter is provided, the animals wander at will through the day and are driven in at night to a central enclosure where the cowherds have their own huts and where newly calved cows are tied up for some weeks until the young calf is fit to accompany its mother in the herd. The cows on the diaras strike one as in surprisingly good condition in comparison with cows in Bihar generally and this in spite of the fact that throughout the year they subsist on grazing only. Cows are not systematically milked. The theory is that the calf gets the whole of the mother's milk. Their udders are therefore very poor and would not yield more than $\frac{1}{2}$ to $\frac{3}{4}$ seers per day. Both cows and calves are very wild when driven into the ramnas in June, and in October when the herd is being gone over before the new grazing season, when unbranded animals are being marked, when mature calves are castrated and others are picked by dealers for purchase, they have to be treated almost like wild cattle. Each herd has its own brand mark, either a hereditary brand mark belonging to large grazier or a caste brand mark shewing that the owner is a Brahmin, a Koeri, a Dhunia, or a Kanjra and so on. Export from Purnea and Morang is to the east and the south, i.e. to Bengal where Morangias have a very good name. They do not cross the Kosi into Bhagalpur district or only to a very limited extent. The prevailing price for a pair of moderate bullocks is Rs. 80 to Rs. 130, but superior animals fetch as much as Rs. 100 a piece.

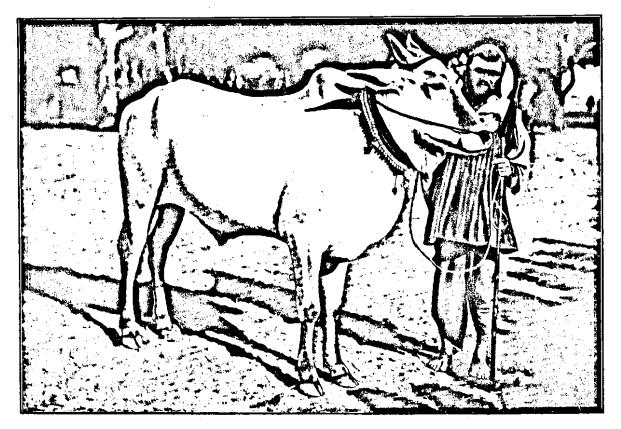
Nothing has been done by the District Board or by Government to maintain the breed and indeed it is difficult to suggest what measures could be adopted in dealing with cattle that in their early stages are in a semi-wild state. Only two shows are held in the district at Purnea and Khagra and both these are outside the cattle-breeding area proper. Prizes offered for bulls of the best local type would not reach the breeders who sell mostly to dealers in their villages and do not necessarily visit the fairs. Nor would they bring in bulls to compete for any prizes that have hitherto been offered. The Forbesgunj and Dharamgunj fairs are nearer the breeding centres and small shows organized there might have more chance of doing good work, but the great drawback will always remain that ordinarily the prizes given go not to breeders but to dealers who have no particular interest in the improvement of stock and who are present at a fair primarily to effect the sale of the animals in their drove. Even they do not readily bring up animals for exhibition but have to be hunted up by the veterinary staff or even the Police and persuaded to bring up selected animals to the show ground.

II. Bachhaur cattle.—The Bachhaur pargana is situated in thana Khajauli of the Madhubani sub division of the Darbhanga district. It is bounded on the

north by the frontier line, separating British territory from Nepal. The name is locally believed to be derived from bacha in the sense of "young bull calf" as this area has long been famous for the excellent quality of its bullocks which are said to be the best draught animals in Bihar. The neighbouring pargana of Jabdi farther to the east produces the same class of animal, as well as the Supaul subdivision in the north of the district of Bhagalpur whence a large number of yearlings are annually exported to fairs in Bachhaur and after careful rearing are sold as genuine Bachhaur animals. The plains land in Nepal and the Terai also produce animals of the same variety. The country generally is closely cultivated and contains little waste land suitable for grazing. There is much more waste in North Bhagalpur than in Bachhaur proper, where a very large proportion of the country is under rice. The rice lands, however, in years when there are late rains are broad-casted in September and October with khesari and other pulses before the winter rice is reaped and yield a luxuriant fodder crop, which nourishes the cattle so long as it lasts after which they set out for the grazing grounds in Nepal. The existence of these grazing grounds is of course the secret of the quality of the Bachhaur animals at the present day, although at the time of the permanent settlement the country is known to have been very much less thickly populated and less closely cultivated and was then so far as its agricultural stock is concerned more nearly self-sufficing. The grazing season in Nepal lasts from October to June. In September and October the local people dispose to itinerant dealers of their surplus stock and drive off cows, buffaloes and young calves to graze in Nepal where the fee is said to be annas 8 per head for a buffalo and nothing for other animals. Later on in the season when the fodder from the rabi crops is getting no more than sufficient for the cart and plough bullocks the remainder of the stock is taken. to Nepal. The cultivators on both sides of the border are of the same stock ; most big men have property in Nepal as well as in British territory and the coming and going is constant. Many people from Darbhanga district are said to have settled permanently in Nepal on account of the pressure of the population on the soil. The management of cattle is good according to the lights of the people; a grave defect is that they acquiesce in the presence in their villages of inferior Brahmini bulls, although well aware of the advantage of a good sire for their young stock. The higher class Hindus in this district—the ancient Mithila—are extremely bigoted and would on no account connive at the removal of a Brahmini however unsatisfactory as a breeding sire. Com-plaints on the other hand are general throughout this area that Brahminis are no longer of as good quality as formerly, and the principal reason given is that Hindus no longer take care to dedicate the best available animal because Muhammadans have learnt that it is no crime to carry off a sacred bull. Certain villages are known in Madhubani, the Muhammadan inhabitants of which are reported to make a regular trade of kidnapping Brahminis. So common has this custom become that some Hindus are now proposing to keep stud bulls of their own without branding them with the sacred mark and if this practice becomes general there is little doubt that it will have a beneficial effect on the class of the stock, since the sense of property and possession will tend to induce the selection of a really good animal. Another serious defect in management is that the dry cows are neglected and left largely to fend for themselves even while far gone in calf which brings them down in condition and prevents the best results being attained. The observer is at once struck in Bachhaur with the fact that the mothers of fine young calves are themselves miserable creatures and this appears to be due to the periodical recurrence of periods of semi-starvation from which they escape only when on the Nepal grazing grounds. If the dry cows are neglected the young male calves on the other hand are exceptionally well tended. A cow with a male calf is not usually milked at all; if the calf be a female, half the milk is taken and the calf is not weaned throughout the milking period, unless previously sold. In addition care is taken to provide as much fodder as possible when the calf is able to digest such food. The cows as milkers are, owing to this procedure, very poor and would not produce more than half a seer or three quarters of a seer a day, their udders being very small and ill developed. Castration is usually by cutting and is effected at 11 years old, if the calf is not previously disposed of. The highest castes—Brahmins,



A Bachhaur bullock, District Darbhanga, height $54\frac{3}{4}$, girth 72 inches.



A Sitamarhi bullock, District Muzaffarpur, height $55\frac{1}{3}$, girth 77 inches.



Bajputs and Kayesths object to castration and resort to various devices. They either exchange an entire animal for one of equal value on which the operation has been performed or make a fictitious sale to a Muhammadan or a low caste Hindu, subsequently repurchasing the emasculated animal at the same price, plus a rupee more. The Chamar's ordinary fee is 2 to 4 pice per head. There is a great export trade in Bachhaur calves from all the fairs and weekly hots in North Darbhanga; cultivators and dealers come from Saran, Patna, Shahabad and other districts and take them away for rearing or for resale. Calves of the Bachhaur type are to be found in all the important melas of Behar. They fetch at 1 year old as much as Rs. 40 for a good specimen and it is obvious that at this price where it is secured by the breeder himself, without the intervention of the middleman dealer, the breeding of stock must be profitable. Female calves do not fetch more than Rs. 15 to Rs. 20 at the outside. It must be understood that the general level of the stock in Bachhaur is not high, but that only some 8 to 10 per cent. of the cows present typical Bachhaur points which shews that the breed is degenerating and that there is great need of some system of distribution of good bulls which will preserve it from gradual disappearance. The points of the Bachhaur type are as follows:-The head is short; forehead narrow and convex; the muffle black and small; horns are quite black, short, thick and blunt at the point; ears short and well set back from the head; neck short and thick; the hump is large and heavy in the male; the dewlap fairly developed; the back is level behind the hump; tail thick and short, hardly reaches the hocks; the legs are short, with good flat bone and placed well apart; The hoofs are black; the typical colour is iron grey with black points. the height of a good cow is 45 to 46 inches and the girth 58 to 61 inches. A good bull stands 50 to 52 inches behind the hump and is 70 to 72 inches in girth.

III. Sitamarhi cattle.—The Sitamarhi sub-division of the district of Muzaffarpore adjoins the Madhubani sub division of Darbhanga in which the Bachhaur pargana lies. The conditions of cattle-breeding are identical in every respect in both areas except that in Sitamarhi the population is even more intense. In each of the 4 thanas of the sub-division over 1,000 persons per square mile were recorded at the last census; and the average for the subdivision is 1,037. In Madhubani the corresponding figure is 844 only. Sitamarhi now enjoys the distinction of being the most densely populated area in the province displacing in this position the sadr subdivision of Saran district which in 1891 alone in Bihar shewed 1,000 inhabitants to the square mile. It is obvious that with this immense population to support stall-feeding of cattle is universal and that cattle-breeding would be impossible but for the facilities obtained across the border in Nepal. The prevailing practice is as in Bachhaur and need not again be described.

In this area something has been done for cattle-breeding in a small way by the local zemindars.

The sub-division has always been noted for the quality of its cattle and for the great cattle fair held in early April of each year at the headquarters town, Sitamarhi. The local people are proud of the fact that the cattle are of recognised excellence and several of the small zemindars of whom there are many, the district being one of small estates, have imported bulls from up country for the improvement of their own and their tenants' stock. Locally the cattle of the villages of Koili Nanpur, Bhitha, and Sursand are recognised as better than the ordinary. Similarly some Hissar bulls were imported in 1897, by the then Subdivisional Officer and these have left their mark on the cattle of the immediate neighbourhood of Sitamarhi. Bulls kept by Indigo Planters have also done a good deal to improve the quality of the stock. The District Officer is of opinion that export and import of cattle are about evenly balanced and that large numbers of cattle estimated at between 70,000 and 80,000 per annum are imported from Bachhaur, Gorakhpur, Saran, Bhagalpur and Champaran in addition to the imports from the Nepal Terai. Surplus stock when not sold in the village is disposed of after cultivation is over mostly at the Sonepur, Hardi, and Sitamarhi fairs while there are other important fairs at Sheohar, Parsauni and Bhairoasthan. In addition the system of

weekly hats or markets is a great feature of the life of the agriculturist in this district —the list of villages at which cattle are weekly brought for sale being a very long one as may be seen in Appendix V. It is thought that the local cattle are degenerating owing to the lack of sufficient pasture, the want of good Brahmini bulls and the practice in some places of weaning calves too early, so much so that the opinion is expressed that cattle imported from outside are better than those bred locally. This opinion, however, I find it hard to accept entirely, unless the Nepal bred and grazed cattle belonging to the local cultivators are excluded from the category of local cattle which they should not be. The Superintendent of the Civil Veterinary Department is inclined to say that the Bachhaur and the Sitamarhi cattle are the same breed and has so expressed himself in the red-letter chapter on cattle in the General Administration Report for Bihar and Orissa. This opinion was not shared by Col. Raymondformerly Superintendent of the Bengal Civil Veterinary Department-who spent some time studying the local cattle in camp in Muzaffarpur and Darbhanga in 1902 and whose brief printed notes on the cattle of Bengal I have examined and utilised. In those notes he distinguishes the cattle of Sitamarhi and Bachhaur but does not describe them. The local cultivators and traders and the European planters of the district also distinguish the breeds and the following brief description gives the points of the animal most commonly met with in Sitamarhi.

The prevailing colour of the bulls is creamy white, while the cows are generally white or light grey and not steel-grey as in Bachhaur. Good bulls stand 48 inches to 50 inches behind the hump and are 70 to 72 inches in girth. Cows are much smaller, varying from 40 to 46 inches in height at the shoulder and 60 to 62 inches in girth. The head is small; forehead flat; horns short and white in colour, but not so short as the horns of the Bachhaur type. The dewlap is only slightly developed. The back is slightly dipped and not level. The quarters are short and rounded. The tail is long, reaching below the hocks. The legs are short and sturdy with strong bone. The hoofs again are white.

There is certainly not very much difference between the Bachhaur and the Sitamarhi types, but the fact remains that they are locally differentiated and that the white animal is common in the latter area while the steel-grey type predominates in the former. Of course also large numbers of Bachhaur bull calves are imported into Sitamarhi to be reared and worked there and sold after having given a year or so of light labour. But the calves of the Bachhaur type are not bred in Sitamarhi.

IV. Shahabad cattle.-The Shahabad district is bounded on the north by the Ganges, on the east and south by the Sone, and the Mirzapur district, on the west by the Mirzapur and Ghazipur districts of the United Provinces. In the south of the district the Kaimur hills afford good grazing during the rains and cattle from long distances are driven thither in the month of June to remain in bathans until September or October. A large number of buffalocows are to be found here subsisting at this period entirely on grazing. The owners prepare ghi from their milk and dispose of it in Sasaram, Bhabua, Chenari and other centres of trade. The great bulk of the district is irrigated by the Sone canals system and is closely cultivated, being almost entirely under winter rice. In this area grazing is very limited in quantity. Only the inferior high sandy lands, which cannot be reached by the canal water are left uncultivated and they afford very poor pasture. On the other hand the practice of broad-casting a crop of pulse on the moist paddy lands in September and October is universal and the straw and cheap grain thereby obtained together with the plentiful supply of paddy straw provide a large amount of fodder for stall-feeding. A third area, distinct in character, consists , of the Ganges diaras known locally as the Khadir Zamin representing the bed of the Banas or old Ganges and it is in this tract that the so-called Shahabad cattle are to be found. These riverain tracts are outside the irrigated area. They are subject to innundation during the rains and are fertilised by a rich deposit of silt. In most parts they are intensely cultivated with rabi crops of all descriptions, which give an outturn of the highest class. In some portions the elevation is too low for the water to drain off quickly enough for cultivation and

here grazing of an excellent quality is obtained. The raiyats are very wellto-do and very independent, often defying their landlords to collect rent from them. They are largely Ahirs, Rajputs and Babhans by caste. They have excellent cattle and what with grazing and with the plentiful fodder from the cold weather crops are able to feed and care for their stock well and pay particular attention to their cows, which have a reputation as good milkers. The breed that will be briefly described below is however by no means confined to the *diara* area in Shahabad but may be found also on the *diaras* on the opposite side of the river in Saran and particularly in the Doab between the Ganges and the Gogra rivers in Ballia district and in the Ghazipur district. In these areas the same conditions obtain as in Shahabad especially in Ghazipur where grazing is even more plentiful. The majority of the cows selected for the Pusa and Siripur herds of *desi* breeding cattle were brought from these districts. The main facts regarding cattle management are identical with those of North Bihar. Brahminis are the only bulls. People realise the value of good sires but are not strict in excluding inferior animals from the village herds. The population here is almost entirely Hindu. The people have a reputation for their handiness with a *lathi* and there is no complaint that Brahminis are interfered with by Muhammadans. Castration is effected as in ether areas,

The prevailing colour of this strain is dark grey. The head is carried fairly erect, is long and tapers to the nose. The forehead is about 8 to 9 inches broad between the eyes and is slightly convex. The eyes are deep set and mild, surrounded by a rim of blacker tinged hair. The muffle is black. The horns are short, thick and blunt at the point, set somewhat erect to the head. The dewlap is of medium development. The neck is short and thick. The back rises a little towards the loins ; the quarters are sloping. The shoulders are well defined; legs short with good bone and carried well apart. In the cows the udder is well developed with teats properly separated and the milk vein is distinctly prominent. The tail reaches just to, or a little below, the hocks, and the hoofs like the horns are black. The animal presents a well-bred appearance and a good cow is strikingly different from anything that can be seen in North Bihar. The measurements of two cows seen at the Barahpur mela and show near Raghunathpur are given below :-- The first was a cow of 8 years old which had had four calves and had received the prize for the best local cow on several occasions. The owner demanded Rs. 100 for her but she would probably have been got for Rs. 70 to Rs. 80. 'Her height was 48 inches; her girth 67 inches; length 42 inches, from behind the withers to root of tail. A young cow of four teeth or about $3\frac{1}{2}$ years old from the same village of Gaighat measured 46 inches in height, 62 inches in girth and was 40 inches long and promised to be equal, when full grown, to that first described. The owner claimed that, when in full milk, the older cow gave as much as 12 seers pucca per day at two milkings. This of course is exaggerated, but there is no doubt that the cows of the area are the best indigenous milkers in Bihar and that the average product is about three to four seers per day while many cows can be found giving as much as 6 to 8 seers. In other parts such as Bachhaur, Sitamarhi, Purnea and Champaran milk from cows is negligible, the yield being ordinarily from $\frac{1}{3}$ a seer to $\frac{1}{3}$ or 2 seers per day. Buffaloes are there relied on as milk producers. In Shahabad on the other hand the cows are properly tended and pride is taken in them, with the result that there is here a nucleus from which an improved strain of valuable milch cows can be developed by breeding and selection. The male stock of this breed is also quite suitable for draught purposes and there seems no reason why this stock should not form the basis of a dual purpose animal for this province. Many of the cows are sold to the Calcutta market for milking purposes and prices have risen considerably of recent years while people complain that good cows are scarcer than they were, as is only natural, since all animals that go out of the district to Calcutta are lost for good since it does not pay to keep them there after the milking period is over and they are either slaughtered or exported to Rangoon and the Straits Settlements also for slaughter.

V. Cross-bred Bankipore' cattle or Tayler breed.-* In 1856 Mr. Tayler, Commissioner of the Patna Division, started an industrial institution in connection with which there was to be a breeding establishment with English bulls, pigs and sheep. Four English bulls were obtained one of which costing Rs. 600 is described as a magnificent animal and this animal is supposed to have been the progenitor of the present race of cross-bred cows kept by the professional milkmen of Bankipore. The troublous time of 1857 shortly supervened. The institution came to grief; the money collected by Mr. Tayler was returned to the public and the enterprise as a public insti-tution came to an end. The "magnificent" bull however remained the private property of Mr. Tayler who settled in Patna, used it for breeding on his own account and hired its services at large fees said to have been originally Rs. 20 to any who cared to ask for them. The local milkmen (Ahirs) did not of course appreciate the services of so costly a sire, but in course of time a number of cross bred animals passed into their hands. They promptly recognised the advantage from their point of view of the vastly increased milk yield and from then onwards they have been very eager to maintain the cross-bred strain in which they have been assisted by the Patna District Board, which on several occasions has imported Australian bulls of a milking strain with great benefit to the breed. At the present time there is no imported bull belonging to the the Board ; the latest importation having unfortunately died a few days after his arrival and before this there had been no pure-bred bull in the town for several years. But one of the Ahirs possesses a young half-bred English bull purchased at a cost of Rs. 101 from a Planter in Behar. This animal stands for service at a fee of Rs. 2, the only instance, to my knowledge, in Bihar where a fee for service is successfully realised. At the time of my visit, within three and half months of its introduction, it had already covered 30 cows. The cattle now to be seen in Bankipore are mongrel and degenerate in appearance, except the older cows bred from the Australian bulls imported about 1900, which are distinctly better than the younger stock. The calves of these cows again are poor creatures being mostly off Brahmini bulls. The mixture of blood can be understood when it is explained that although they realise the value of a good sire, the Ahirs nevertheless allow a number of old and inferior Brahminis of the ordinary country type to graze with their cattle. They also utilise the Montgomery bull kept at the Veterinary dispensary. If this socalled breed is to be maintained at all, the sooner new blood is obtained the better.

The results of cross-breeding at Bankipore may be summarised in the statements that the hump characteristic of the Indian zebu is bred out; the females have improved greatly in milk-producing capacity, giving from 8 to 14 seers of milk. Mr. Banerjee says that the best of them give as much as 20 seers. but this is certainly an extravagant estimate or at least is more than is now obtained by the Goalas from their present race of cows. On the other hand the male stock, although powerful animals, able in spite of the absence of the hump to draw heavy loads on good roads, are delicate and cannot stand the sun or labour in deep water and mud on the paddy fields. They are therefore not popular as draught animals. Another drawback is that they are much more susceptible to epidemic disease than the pure-bred country cattle. This will remain the great danger of cross-breeding until such time as a cross is established that combines the disease-resisting qualities of the Indian zebu with the milking capacity of a European stock. There is no record among the Ahirs at Bankipore of the maintenance of a cross-bred bull of their own stock. On the whole the cross-bred animals at Bankipore justify their existence as milking stock and it is worth while for the District Board to pursue its policy of maintaining a pure Australian or English bull for the benefit of the milkmen and the public generally.

[·] See Bengal Agricultural Department Bulletin No. 1 (Veterinary series) of 1895 by Mr. N. N. Banarjee, Captain Gunn and others.

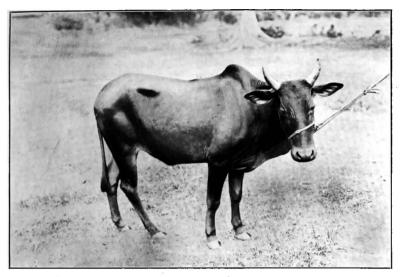
CHAPTER V.

CHOTA NAGPUE WITH THE SANTAL PARGANAS, ANGUL AND SAMBALPUE.

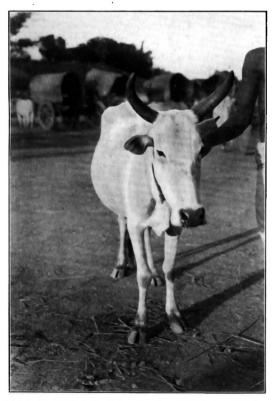
The Chota Nagpur Division includes the five districts of Hazaribagh, Ranchi, Palamau, Manbhum and Singhbhum. The Santal Parganas district which is similar to them in its hilly and rocky conformation runs as far north as the river Ganges. The five districts of Chota Nagpur are separated from that river by the Patna Division and those portions of Monghyr and Bhagalpur districts that lie south of the river. On the west they border on the States of Jashpur and Sarguja in the Central Provinces, on the south lie the Orissa States of Gangpur, Bonai, Keonjhar and Mayurbhanj, while on the east is the province of Bengal. The two inland districts of Orissa viz., Angul and Sambalpur also belorg to the same geological formation as Chota Nagpur and have the same characteristics in climate and agriculture. The whole area, except Angul and Sambalpur, forms part of a chain of highlands with the level rising generally towards the north and west but some of the highest peaks are in the south, a tangled mass of rock and forest as in the Singhbhum district. There are three plateaus in the strict acceptation of the term, one in Ranchi and two in Hazaribagh. Elsewhere the country is a rugged tract often much broken, with numerous ranges or groups of steep hills intersected by deep ravines and occasionally by open valleys, as that in which Chakradharpur lies, through which the Bengal-Nagpur Railway makes its way to Central India. Singhbhum forms the southern fringe of the plateau of Chota Nagpur partly very hilly, partly flatter in pargana Dalbhum, while Manbhum is the first step of a gradual descent from the table-land to the delta of lower Bengal. Palamau is in strong contrast to the rolling uplands of the plateau being essentially a district with few level. stretches of any extent excepting the alluvial tract in the north along the Sone and in the valleys of the Koel, Amanat and Banka, where the land is largely under rice cultivation and the fields abound in marshy spots and water plants. The Santal Earganas fall into three distinct divisions (a) the alluvial tract of flat land lying along the Ganges in Pakaur subdivision, (b) the hilly country of Rajmehal where are the last spurs of the Chota Nagpur hill system and (c) a rolling country of long ridges with intervening depressions resembling the general features of the adjacent districts of Manbhum and Hazaribagh but with less pronounced undulations." The high central plateaux of Ranchi and Hazaribagh have generally an undulating surface with many fairly prosperous villages and a fair extent of cultivation. On the lower plateau, the true table-land, the soil is well cultivated and there is little rock or jungle. The numerous rice fields lie in the valleys which are carefully terraced to retain as much moisture from the uplands as possible. The uplands are dry and arid, being little cultivated except for bhadoi crops. Spring crops are notably rare. There is usually a lack of moisture after October which prevents germination and the soil is also sandy and would require more manure for successful cultivation than the raiyat could spare from his winter rice and autumn crops.

Angul, with two separate sub-divisions—the Khondmals and Angul proper, —lies back in the hills, and is separated from the deltaic districts by a number of the smaller tributary states. It is a hilly tract intersected in all directions by streams. The surface is much broken up and there are few level stretches of any great extent.

Sambalpur, the great feature of which is the Mahanadi river which divides it into two, lies still farther to the west and is again separated from Angul by intervening states. It also is a broken hilly country, but its features are on a larger scale than those of Angul. It consists of an expanse of fairly open country fringed by forest-clad hills on the west, north and east. It is generally an undulating upland tract much broken up by rugged ranges of low hills and traversed in all directions by drainage channels leading from the higher lands to the principal river. The Bargarh subdivision is an open plain with very little forest in it, while the Barasambar zemindari, farther to the west, is again hilly and jungle-clad.



A bullock from Chandbali District Balasore, Orissa, 4 teeth, height 46, girth 47 inches.



A Chota Nagpore bullock, District Ranchi, height 42, girth 53 inches.

The soil throughout the area is gneissic in origin as contrasted with the old alluvium of North Bihar. Laterite soils are also found in the overlying part of the plateau. These soils are very poor in plant food.

The climate is dry, the variations in temperature great and the summer very hot. The extremes of temperature are found in Sambalpur and Angul which are notoriously hot in April and May. The average usual rainfall is 53.90 inches of which about 45 inches fall from June to September. It varies from 48.17 in Palamau to 58.50 in Sambalpur but rainfall is frequently capricious and unevenly distributed. The division is thus very dry indeed from October to May which renders grazing poor and scarce for more than half the year.

The total area of the eight districts is given in the Agricultural Statistics of 1912-13 as 24,257,373 acres. Of these 9,131,300 acres are cultivated 5,427,400 acres being under rice. Of the remainder 4,299,372 acres are Government and private forest, 5,201,724 are not available for cultivation, i.e., rivers, roads, village sites, rocky hills and ravines while 4,801,520 acres are returned as culturable waste other than 'fallow, but much of this is probably the barren crests of the slopes. There are forests in every district. The area of Government forest amounts to 1,028, 113 acres reserved forest and 1,039, 344 protected forest. Most of the protected forests and a portion of the reserved forest in Palamau and Singhbhum are open to all animals for grazing. But grazing is poor in the forests as elsewhere. In zamindari forests no restrictions are known. The best grazing tracts are in the south and southwest of the Palamau district in which cultivation is very sparse, but nowhere is pasturage good and plentiful except during the rains. From the cessation of the rains to the month of January there is still some sustenance in the grass. From that time onward to the break of the next monsoon the cattle in the jungles subsist on the leaves and young shoots of trees rather than on grazing proper. . Water also is at times scanty on the plateau during the hot weather and cattle have to be driven long distances to large tanks or water has to be dug for them in the sandy beds of dried up streams. In years of short rainfall the plight of the cattle is pitiable. They have to come to the labour of the paddy fields after a period of semi-starvation, which has greatly reduced them in condition. They get at no time any concentrated food while grazing is also short in quantity except where there is a large area of jungle or waste land near the village. They thus fail to pick up during the rainy season and are apt to succumb during the ensuing cold weather, especially if there be unseasonable rainfall. In Angul the whole of the protected forest is open to all animals and pasturage is abundant in area, but poor in quality. In many parts of Angul grazing is considered to be likely to be insufficient in a year of severe drought and the only resource would be to open the reserved forests In view of such an emergency five tanks have been excavated for grazing. to provide water for cattle in the reserved forests.

Except in the closely cultivated plain of Bargarh grazing is plentiful in Sambalpur though of not better quality than in Angul or in Chota Nagpur. generally. In Bargarh cultivation has spread to such an extent that the animals have to be stall-fed on paddy straw during the hot weather months. In the rest of the district they have ample areas for grazing and exercise but find little on them except during the rains. The Settlement Officer of Sambalpur reported as follows :- " Doubtless the cultivator finds that his undersized bullocks are strong enough for his light plough and light soils but their starveling condition cannot be a gain. No fodder crop is grown, ensilage is unknown and after the month of November the grazing grounds of the open tract yield the minimum fodder. In the hot months the cattle, getting as they do a bare subsistence from these and from the remains of the stored rice straw, present a pitiful appearance and are saved from actual starvation only by the mahua crop of March and April. It is not surprising that the hides of cattle form the third most important article of export. Government forests are not taken advantage of except by villages in their immediate neighbourhood and these need help much less than open villages because a fair amount of attention is paid, and they are stall-fed with rice husks in the hot weather ."

Appendix I shows the quantity and variety of the crops in this area. It will be seen that more than half the total cultivation consists of rice in which is included both winter rice and autumn rice. Jowar, bajra, maize, gram are little grown but there is a considerable area under miscellaneous pulses. Oilseeds shew only a total of 816,900 acres. Fodder crops are returned at 5,000 acres only in Manbhum, 300 acres in the Santal Parganas and 4,900 acres in Sambalpur, other districts shew a blank under this head. Crops supplying fodder for cattle are thus except for rice very scarce, and in fact the only large supply of cattle food consists of rice straw which is hoisted up into forks of trees or timber platforms and so preserved from casual depredations and from white ants to be doled out in minute rations. Stall-feeding is indeed practised only in name in this division. The rice straw is fed as it comes from the store, not chopped or supplemented with any grain except by foreigners possessing valuable cart or milch cattle. In Angul and Sambalpur the Ohota Nagpur and Central Provinces, practice of broad-casting rice and subsequently thinning out with the plough is followed. This system keeps the plough cattle at work till later in the season but is not so hard on them.

There is no system of canal irrigation in the division, but great use is skillfully made of the natural slopes of the country. The Kolarian tribes are born earth workers and spare no pains in constructing large bunds or aharas to impound the drainage of the highest slopes and hold it for use on their terraced paddy fields. Aharas are common throughout Chota Nagpur whereever the tenants are on good terms with their landlords and the security of tenure afforded by the Tenancy Act is expected to have a beneficial effect on the prosperity and agricultural outturn of these districts by encouraging the villagers to combine for the construction of protective irrigation bunds. In Angul and Sambalpur the usual conditions of the hilly country obtain, where the dried up river beds are excavated until sufficient water percolates through the sand. There is no doubt that the cattle frequently go short in seasons when the rains have ceased early and the village bunds and aharas have dried up in the succeeding hot weather.

The general management of cattle is bad throughout the division. The agricultural conditions, above briefly described, are in themselves unfavourable to the production of a strong breed of cattle, but these are aggravated by the fact that no selection for breeding purpose is practised. Cows are universally neglected even when in milk. Their average milking capacity is from 1 to f of a seer per day. When dry they are often forced into service in the plough, a practice which prevails nowhere in Bihar save among the Muhammadans of Purnea and there it has recently been recognised to be injurious. The aboriginal, however, is usually beyond the influence even of his Hindu zamindar and insists on getting the full value of his animal, down to the price of the flayed skin when he kills it for food or it dies of disease. Brahmini bulls are unknown except in areas where Hindus are predominant. In the true aboriginal areas they would not be tolerated at all, but would disappear as fast as introduced. Castration is usually effected at the age of three to four years by "mulling" or breaking up the spermatic cord—a process which is very often incompletely carried out, the animal remaining only half emasculated. Nowhere are bulls kept for breeding purposes. The sires of the young stock are therefore these half emasculated animals and the immature young bullocks which wander indiscriminately with the cows and torment them one after the other when they are on heat. Nowhere in the province are ideas on breeding so hopelessly backward as in Ohota Nagpur and the result in the more highly cultivated parts of semi-starvation of all classes of stock in the cold and hot weather coupled with hard work in the rice fields in the rains and the want of good bulls and of proper methods of breeding is seen in the miserable stunted race of animals common throughout the division. These creatures have nothing to recommend them save their ability to stand a great deal of hard work on very little food. It is futile to speak of any distinct variety in Chota Nagpur. There is no district which stands out pre-eminently as producing excellent cattle. The small bullocks rarely more than 45 inches in height shew every sign of deterioration and degradation. The village herd is of all colours. white, black, grey, red and non-descript. The bone is very poor. The horns are weak, irregular and fantastic in shape—a sure sign of poor breeding. Chota Nagpur naturally exports no good cattle. A number of old cows are however exported from Ranchi, Chaibassa and Manbhum eventually reaching the butcher in Calcutta or in the Jharia coal fields. Buffaloes are regularly exported to Calcutta for cart work from Chaibassa. These are not animals bred in the district but imported as young stock through Palamau from Shahabad and the Ganges *diaras*. The cultivator rears and breaks them, takes some years work out of them and disposes of them when they begin to go off in strength. There is a weekly market in Chaibassa town which is regularly attended by middle-men from Calcutta.

For frèsh supplies of cattle the division is dependent mostly on cattle locally bred. Not very many bullocks are imported for ordinary agricultural purposes except from the Native States on the West *i.e.* Jashpur and Sarguja. These cattle are of a better type than the local cattle as grazing is more plentiful in the states owing to the small-ness of the population and the sparseness of cultivation. The Palamau district has numerous fairs throughout the cold weather at which these cattle pass into the hands of itinerant traders who later dispose of them in the villages throughout the division. The import of bullocks from Bihar is small, being confined mainly to cart bullocks of the better class kept by foreign traders. Milch cattle, however, are imported from Shahabad and the Ganges diaras for use in the larger towns, where foreign milkmen *i.e.* Biharis, Goalas or Mohammedans, are settled. This import is inevitable as the local cattle are useless for dairy purposes. On the other hand there is a steady import of young male buffaloes principally from the Sonepur, Bihta, Barrahpur and Dadri These animals may be seen in numbers through the cold weather fairs. mostly following the line of the Sone into Palamau and passing thence into pargana Tori and on to Ranchi and Singhbhum on the one hand and even as far as Sambalpur on the other. On the Grand Trunk Road large herds are to be seen moving down through South Gaya into Hazaribagh and Manbhum and beyond into Bengal. The explanation is that while these animals are useless in Bihar, not being put to either plough or cart except very rarely, they are largely used by the aborigines of the plateau both in the rice fields and in carts. Singhbhum and Manbhum also import bullocks from Sambalpur, Raipur and Bilaspur. There are no fairs but the trade is in the hands of itinerant dealers who concentrate at Chakradharpur and scatter from there over the two districts and into Bengal. Manhhum also receives a certain amount of imported cattle, mostly cart bullocks and milch cows from the North i.e., from Bhagalpur through the Santal Parganas and another stream of importation follows the Grand Trunk from Bihar. Lalgunj hat in the Asansole sub-division of the Burdwan district is a favourite halting place on the road and is visited by traders and carters from Manbhum in search of good animals for their carts. In the Santal Parganas the Hiranpur weekly market is the outstanding feature of the cattle trade. The mart is situated. 12 miles from the headquarters of the Pakaur sub-division and on Government Khasmahal land. A system of voluntary registration is in force under the supervision of a European who is paid partly by fixed salary, partly by commission. The fees on sales are graduated according to the price of the animal being 2 annas on a sale up to Rs. 8;4 annas from Rs. 9 to Rs. 16; 6 annas from Rs. 17 to Rs. 24 and 8 annas on transactions above. Rs. 24. It is thought that a very large proportion of sales are actually registered as the dealers value the receipt obtained as a proof that their property has been honestly obtained. The average of yearly sales for the last 5 years has been 44,000 cattle. The market is a great meeting place between dealers from Central and Eastern Bengal and from North Bihar and the West. At the time of my visit dealers from Chapra, Muzaffarpur and Darbhanga, particularly Babhan dealers from thana Mahua in Muzaffarpur, were largely represented, as well as breeders who had collected stock for sale from the Kosi diaras in Bhagalpur and Purnea. These men drove their stock down through Darbhanga along the Ganges as far as opposite Sultanganj, where they cross the river and so on along the south bank to Hiranpur.

Besides local Santals who buy large quantifies of young buffaloes, dealers from Murshidabad, Nadia, Jessore, Khulna, Rajshahi, Pabna, Bogra, and even Backergunj and Sylhet were present. The Northern Bengal dealers do not seem to frequent this market much and probably obtain their requirements from the fairs north of the river. At the time of my visit in early November there were about 2,000 buffaloes in the fair, mostly young stock, but a considerable number of three to four years old animals were also present for which large prices *e. g.*, Rs. 75 each were paid. The bullocks were both the stunted hill cattle of the Santal Parganas as well as larger animals from the west. The Bihari cattle were inferior, obviously the rejections of the cultivator after the completion of the *rabi* sowings. Later on after the Sonepur, Dadri and other big fairs in Bihar a better sort of animal is said to be obtainable.

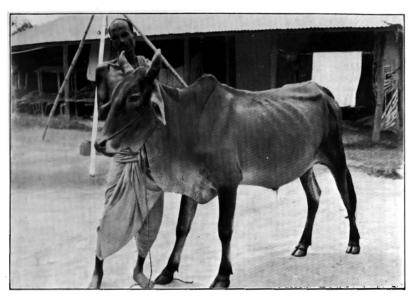
Angul, which is thought by the Deputy Commissioner to be short of cattle for cultivation and manure, draws on the neighbouring estates of Baud, Athmallik and Daspalla. Sambalpur imports both bullock and buffaloes for ploughs and cart work. The buffaloes come chiefly from the Jashpur State in the Central Provinces and from Rewa in Central India, and also to some extent from Bihar through Palamau and Ranchi districts and the Gangpur State. The inferior class of bullocks used in the plough come from the states of Patna and Kalahandi and also from the Raipur and Bilaspur districts of the Central Provinces. High class cart bullocks are got from Ganjam in Madras and from Raipur, Bhandara and Nagpur in the Central Provinces and also to some extent from Berar.

In Angul only two marts are known at Phulbaria and Khejuripara in the Khondmals, where the following number of cattle were sold in 1910, and 1911.

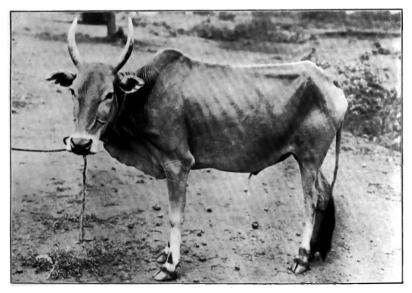
			Year.	Cows.	Bullocks.	Buffaloes.	She-buffalces.	
Phulbaria.	•••	•••	1910	214	214	63	14	
,	-	-	1911	821	885	103	37	
Khejuripara			1910	400	463	122	100	
			1911	400	468	161	100	

In Sambalpur the principal markets are at Bargarh and Bhukta in th^e Barhgarh sub-division and at Sambalpur and Talpatia in the Sadr sub-division. The figures of sales for 1908-1909 and the two following years, were 11,991, 9,631 and 7,249 respectively, but a large number goes unregistered and here again most of the trade is done by itinerant men who halt in the different villages, and dispose of many cattle before their droves reach the markets.

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A Purnea red bullock, height 52, girth 59 inches.



A bullock from Khurda District Puri, Orissa, height 42, girth 51 inches.

CHAPTER VI.

ORISSA, INCLUDING OBISSA PROPER VIZ., CUTTACK, PURI AND BALASORR.

This section of the Province comprising the three coast districts of Balasore, Cuttack and Puri is a narrow belt of new alluvium formed from the silt deposited by the rivers which find their way through the hills to the sea, The principal of these are the Mahanadi, the Brahmini and the Baitarani. The plains of Orissa are a flat alluvial tract of which the centre and south are the delta of the Mahanadi and the north has been formed by the fluvial action of the rivers that drain the southern flank of the Chota Nagpur plateau. Behind these plains rises a belt of hills which gradually merge in the rocky uplands of the tributary states. Cuttack, Balasore 'and Puri are each divided into three belta of country almost parallel to each other and rising slowly as they recede from the sea. The first is the salt tract along the sea coast, generally a narrow strip, in many places impregnated with salt and unfit for cultivation, but useful for grazing. In Cuttack this strip, 3 to 30 miles in breadth, abounds in swamps and marshes and is intersected by innumerable winding channels with a coarse jungly growth of canes, brushwood and reeds or grass and is subject to innundation by sea water rendering cultivation impossible in many parts. In Balasore the strip is only 2 to 6 miles broad and is traversed by sluggish brackish streams. Towards the beach there are sandy ridges covered. with a growth of scrubby vegetation and further inland there are prairies of coarse long grass and jungle:—there are only rare patches of rice cultivation and scarcely any villages. In Puri the belt is narrower still, in some places, as on the borders of the Chilka lake, dwindling down to a mere spit of land separating the lake from the sea. These salty lands form a refuge for the cattle of the central plain in the hot weather. The next belt, the deltas of the Mahanadi and the other rivers which cover the greater portion of the three districts in a closely cultivated and fertile plain, devoted to rice and teeming with inhabitants. The third section on the west is an undulating and hilly region separating the plains from the semi-independent tributary states. It has a red laterite soil much broken up into ravines along the foot of the hills. Cultivation is sparse and lies mostly in the bottom of fertile valleys. The uplands and hills are covered with sal and bamboo jungle and in Puri district there is 485 square miles of forest where the timber is of a better class. The total area of the division is 8,238 square miles and the total population is 4,188,109 souls. Puri, Cuttack, Balasore lie distinctly in the route of the cyclonic storms that frequently pass across Orissa in the monsoon, while floods caused by heavy precipitation in the catchment areas of the rivers and their very sudden rise render these districts, especially Cuttack and Balasore, liable to occasional loss of life, cattle and crops. The average rainfall is 59.29 inches, varying from 56.68 in Puri to 60.78 inches in Balasore. The bulk of the rainfall is confined to the months from June to September. Ordinarily the rainfall is sufficient for all agricultural purposes but in Cuttack and Balasore it is supplemented by an irrigation system extending to 3261 miles of main and branch canals and 12461 miles of distributary channels. These canals have not been a financial success and the policy of Government is to grant long leases for irrigation on the most favourable terms. They nevertheless safeguard the staple crop of the two districts above mentioned.

The total area of this division of the province is 5,272, 288 acres of which 2,889,600 acres are the net cropped area or about 54 per cent. In this division 310,691 acres are under Government and zemindari forest in Puri, 407,657 acres are cultivable waste other than fallow, 413,176 acres represent the current fallow and 1,251,164 acres are returned as not available for cultivation, *i. e.*, river beds, roads, canals, railways, embankments, village sites, etc. The Agricultural Statistics of 1912-13 (Appendix I) shew that of the total area cropped and double cropped viz., 3,223,600 acres, no less than 2,646,900 acres are under rice or not less than 82 per cent. This shows how extraordinarily one-sided the agricultural scheme of the division is and a further examination of the statistics brings to light that, wheat, barley, millets, maize, marua and gram—the rabi crops the straw of which affords so much cattle food in Bihar

are almost entirely absent. "Other pulses" are found in small quantity only in Cuttack. Even oilseeds are scarce covering an area of 47,800 acres only. Sugarcane again is almost unknown whereas vegetables and fruits *i.e.*, cocoanuts and other fruits cover over 200,000 acres. It is regrettable that in the canal irrigated area no catch crops of pulses are taken. The cattle of the division according to Appendix II amount to 3, 131,099, and it can be seen at once that the conditions of agriculture which render them almost entirely dependent for fodder on the surplus paddy straw are not favourable for the production of a vigorous breed. For paddy straw is at the best a poor fodder and in Orissa particularly in the thickly populated central plains all the paddy straw is by no means available for the cattle. A great deal of it is utilised in making up cow-dung cakes for fuel, since wood is scarce, and more of it goes to the thatching of the houses; for the use of tiles is practically unknown to the Oriya and thatching grass is unfortunately not available. Paddy straw is not a very durable thatch, the houses require annual repairs and I have met well-informed Oriya gentlemen who are of opinion that less than an 8 annas share of the straw reaches the cattle in the shape of fodder. Fodder then for stall-feeding is both poor in quality and short in quantity throughout the division. Grazing also is unsatisfactory both in quality and in quantity and distribution. In the central plain of the Orissa coast districts the area reserved for grazing or "gochar" at the last settlement of 1892 to 1900 amounted to only 3 per cent. of the total area and this small percentage consisted of land of the poorest quality incapable of affording pasturage from December to June. These grazing-grounds were in short the lands which were in quality least suitable for cultivation and were found lying waste by the Settlement Officers. There is reason too to believe that much even of this poor land has been encroached upon by the plough and an endeavour has recently been made as a result of the investigations of the Revision Settlement Officers to effect the relinquishment of grazing lands wrongfully taken up for cultivation. The late Maharaja of Balasore, a gentleman who was much interested in a practical manner in the improvement of cattle, stated in a note that he was good enough to supply me with that in Balasore district the total amount of sarbasadharan or common land was no more than 3 per cent. in all, including in this term roads, burial grounds, cremation grounds, tanks, grazing grounds etc, and that grazing ground properly so called would be found to be no more than 1 per cent. or 1.5 per cent. of the total area. In these circumstances it is obvious that the central plain where the majority of the cattle is concentrated is very poorly supplied with cattle food whether from agricultural produce or from grazing. The salt lands on the sea coast form a resource on the one hand and large herds of cattle graze there in the hot weather especially in the Kujang and Kanika estates and the Chandbali and Basdeopur thanas in Balasore. There are also areas in pargana Tisania and Kalamatia in the Jajpur sub-division in Cuttack where grazing is more plentiful than elsewhere and where consequently cattle of a slightly better stamp are to be found. On the other hand cattle are sent in the rains to the higher lands in the west where the country rises to the Garhjats and cultivation is sparse. Usually, however, only the dry cows and calves benefit as the working bullocks are required during the cultivation season and are stall-fed as far as possible during the rains while on hard work. The subdivision of Khurda, the Banki Government estate and other such areas are those most resorted to. In Khurda sub-division there are large areas of reserved and protected forests under the control of Government and the tenantry have the right to graze cattle and take jungle produce on payment of 6 pies per rupee of rent. Village servants such as dhobis, potters, blacksmiths and fishermen are subject to an annual fee of rupee one. Professional graziers pay eight annas per head per annum for buffaloes and four annas for other horned cattle grazed. To a tenant holding 4 acres of land nine cattle are allowed free and calves under one year are exempted altogether. Each householder is allowed 4 goats or sheep free, kids or lambs under six months are not counted. No resident, if landless, is taxed for having three head of cattle on the grazing areas. The free allotment of nine cattle to every owner of 4 acres was raised from seven to nine specifically to allow of cattle being kept for the supply of

manure which is much required to give tone to the infertile laterite soil of the sub-division. It is thought locally that two animals per acre is the least that is required for that purpose only. The privilege of grazing in the Khurda subdivision is one that is greatly prized and much protest was raised over a recent proposal to create a new reserve of 100 square miles in which these privileges would have been restricted. The proposal is still for this reason under discussion. The District Officer was able to show that Government had already as far back as 1900 admitted that the area of the protected forest was already too small for grazing requirements and that apart from outside cattle the proposed reserve would allow of the grazing of only 28,960 cattle as against 1,83,720 beasts actually enumerated. These rules affect the tenants of the estate. The cattle of outsiders from the plains are taken there by professional graziers who make arrangements with a local resident for the hire of an enclosure in which the cattle are penned at night. The owner of the enclosure receives the manure for his fields and the incomer pays the Government kharcharai per head of cattle grazed. In Khurda it is as in Chota Nagpur the practice to plough up the rice fields immediately after the harvest. There is thus nothing to be got off these areas during the hot weather and the cattle are then dependent entirely on the protected forests and suffer considerably before the break of the rains brings up the new grass.

From the above description of the agriculture and grazing in the Orissa division it will be seen that the conditions under which cattle are kept are far from favourable and that the class of animal produced must necessarily be very inferior. The apathy, ignorance and neglect of the people further aggravate the disadvantages under which they labour. In the Orissa coast districts which have been called the Holy Land of Hinduism it is curious to find that the practice of releasing Brahmini bulls is not nearly so common as in Bihar, although it is still in force both in connection with Sradh ceremonies and on recovery from serious illness. Bulls are also occasionally released by pious high-caste Hindus specially for breeding purposes and given up to the use of the community. The number of such sacred bulls is admittedly insufficient. Their quality also is most inferior. They are not chosen for quality but positively because they would make inferior plough bullocks. In examining a large collection of about 1,000 animals in Puri district I found four bulls two of which were old and worn out, the other two were wretched and degenerate creatures, much inferior to a number of castrated bullocks seen at the same place. Castration is effected late at the age of 3 or 4 years when bullocks are usually first put to work. The process is not cutting but crushing or "mulling". It is often incompletely carried out. Cattle are therefore usually covered either by the immature bull-calves or by these half emasculated bullocks to the great detriment of the race. In addition the raivats invariably neglect the cows. Shortly after calving they do, for sometime, get a little extra food but generally speaking, they are not fed in the house at all, but are wholly dependent on what they can pick up for themselves. The result is that both mother and calf are starved. The cows are very poor milkers indeed. One half seer milk per day is estimated as the average amount obtained and the practice is that the calf obtains the whole of its mother's milk for 21 days only, after which the owner for a time takes half. Naturally there is not time for the calf to develop satisfactorily before its mother is dry and it has to survive as well as it may on grass before it is able properly to digest such food. The whole of the raivats' attention is devoted to his plough and cart bullocks to the utter neglect of the dams and the young stock. Nowhere in Orissa is there any sign of the care bestowed in North Bihar on rearing promising young males for sale.

Plough and cart cattle are sheltered in bamboo or mud huts. In some parts of Orissa the front part of the cultivators' house is used as byre and entrance to the main court-yard is through this cattle shed, which is paved with laterite stone and carefully drained. Ordinarily, however, the animals are crowded together in an unventilated hut much too small for their number without any flooring other than rammed earth and the sanitary conditions leave much to be desired. Cows and young stock are not sheltered at all except for a time after calving. In the cold and the hot weather they are allowed to rest at night under trees, in the rains they are usually in the jungle pastures and then are penned at night in an open enclosure more for the sake of obtaining their manure and of protecting them from wild animals than to shelter them. Water-supply is said to be somewhat deficient in Orissa in the hot weather as many of the old tanks have silted up and remain dry in the hot season. There is no doubt that the cattle frequently go short in seasons when the rains have ceased early and the village *bunds* and *charas* have dried up in the succeeding hot weather.

For stall-feeding as I have explained above little is available except rice straw. In addition the cultivators give their plough and cart cattle when on hard work rice husks, the water of boiled rice and such other household refuse as well as husks of oil seeds after pressing and in the hills mahua flowers when available in the spring and when not required for domestic use. Kalai and kulthi are also given but are not grown in any sufficient quantity.

As may be concluded from the foregoing description of the general conditions and of the methods of breeding and management the cattle of the Orissa division are very poor. In my opinion they are, as a whole, the poorest in the province not excepting any district in Chota Nagpur. The reasons have already been indicated and I need only lay stress here again on the practice of keeping large numbers of superfluous and inefficient cattle for the value of their manure. It is impossible to indicate any breed that is true to type and better in all respects than the average. The cattle keep one dead level of inferiority and approximate to those of the lower Bengal districts. Cows average from 36 inches to 40 inches in height. A good bullock would stand as much as 45 inches. Bone is poor and backs appear to be unduly long for height and girth giving the animal a weak appearance. Horns are of all shapes and sizes but generally thin and feeble. In spite of their appearance there is no doubt that these emaciated and starveling creatures get through a great amount of hard work in the rice fields and also that in addition to worn out animals for slaughter there is a steady export to Bengal. to maintain the supply in the western and central districts and for carting in Calcutta. Rice is transplanted almost universally throughout the irrigated area. This practice involves excessive labour in ploughing over and over again the fields covered with two or three inches of water before transplantation but when this is once done the cattle are free for the rest of the season to recuperate. The statistics of rail-borne traffic shew that no less than 37,000 odd animals were exported by rail during 1912-13 but this by no means represents the total export of the division for during the cold weather and up to the beginning of the rains great numbers of animals are driven along the Orissa Trunk Road into Midnapore and so on to Calcutta. This trade is in the hands mostly of Muhammadans of the Bhadrak subdivision in Balasore. The hats or markets in Balasore that are locally reputed for the sale of cattle are besides Bhadrak, Mirzapur hat on the Chandbali road, Ganteswar hat in Chandbali thana and Dhussari hat in Dhamanagar thana. At Singla hat are also to be found cattle imported from Mourbhanj in small numbers. In Cuttack district the principal markets are Birija and Kantar hals to the former of which come cattle from the Tissania and Kalamatia parganas which have some local reputation. The latter hat draws its external supplies from the Keonjhar estate. Between them they are credited with an export trade of 10,000 animals per annum. In Puri are no markets of importance and indeed in the whole of the Orissa Division the weekly markets have not the same importance in the cultivator's life that they have in Bihar as can be seen at a glance from the statement in Appendix V. Large fairs are unknown. The great bulk of the trade whether in old animals or in plough and cart bullocks is in the hands of itinerant traders.

Orissa is, for all practical purposes, self supporting except that there is some import from the hill states that fringe the coast districts on the west while some high class cart and milch cattle are occasionally imported from Ganjam into the Khurda sub-division.

CHAPTER VII.

BUFFALOES.

According to the statistics given in Appendix II there are 781,974 male buffaloes and 1,500,077 female buffaloes in the province, but this is probably under the mark as the statistics for four districts in the Chota Nagpur Division have not been verified owing to the absence of a completely organised panchayati system. The three divisions of the province differ markedly in the distribution of males and females and the figures reflect the agricultural systems of the three sections. Bihar shews one male to five cows. Chota Nagpur two males to one cow. The coast districts of Orissa have one bull to seven cows and Angul and Sambalpur again two bulls to one cow. The explanation is that Bihar and to a less extent the Orissa coast districts export their male animals having no use for them in plough or cart. They retain only selected bulls for breeding. The rest go to the hilly country or to Bengal for working in the rice fields or in carts. In Bihar the buffalo-cow is the great stand-by for dairying whether for milk or for *ghee*. She is highly prized by the professional milkmen, carefully fed, washed and oiled and often adorned with cowries and other ornaments. In Chota Nagpur and the similar districts of Angul and Sambalpur as well as in the south of the Gaya, Shahabad, Monghyr and Bhagalpur districts which border on and approximate in conditions to the hill country, it is the male animal that is of importance. The cow is neglected, not stall-fed except by professional dairy men in or near towns. The Palamau district is to some extent an exception to Chota Nagpur conditions. In the north there are few buffaloes, in the south and south-west where grazing is plentiful they are numerous and here they are kept for the production of ghee which is exported in considerable quantities.

The principal seats of buffalo-breeding are naturally the *diaras* of the large rivers, the Ganges, the Gogra, the Gandak and the Kosi as well as low-lying grazing tracts such as the Pharkiya pargana in Monghyr and the Tal Baraila in Muzaffarpur and Darbhanga.

No breeds are distinguished among the indigenous animals except in Purnea where the semi-wild Aren is differentiated from the domesticated Bhangri. The former has a very wide sweep of horn. A single horn ordinarily measures three feet from root to tip and the spread between the tips is also about three feet. The Bhangri has smaller and shorter horns of about two feet in length with a spread of 14 inches. In brief, the former are almost wild buffaloes and are kept in that state in the jungles subsisting on grazing alone; the other class is kept in a state of domestication and is stall-fed for dairy purposes. There are also in the Kosi diaras in both Bhagalpur and Purnea a number of wholly wild or unclaimed animals. The Goalas consider that these bulls are of a better stamp than their own breeding bulls and often drive their cows to where the wild herd may be met. This is done only when a stock for agricultural purposes is required, since the jungle-bred buffaloe is not as good a milker as that living in domestication. The ordinary Bhangri is said to yield two or three seers of milk per day, while an Aren gives one to two seers only. In the districts most deeply engaged in dairying i.e., Shahabad, Saran, Muzaffarpur and Darbhanga a number of imported up-country buffaloes are to be found. These are known locally as "Murrah" or Delhi buffaloes and are the produce of the Hansi and Rohtak districts of the Punjab where they are known as Kundi, from their short spiral horns. This also is the meaning of the word "Murrah". They are larger and finer animals in every way than the local breed and the cows give much more milk. The value of the bulls for crossing with local cows is fully recognised by the dairying classes. A small number of both cows and bulls are to be seen annually at the Sonepur fair where they are readily disposed of. The Huthwa and Bettiah estates have for some years imported young bulls for rearing and distribution among their tenantry and about half-a-dozen have been imported by Government and sold to District Boards. It is said that a cross bred "Murrah" buffalo-cow gives double the quantity of milk obtained from a good local animal. The buffalo-bulls do better when kept in confinement at stud than up-country Hansi or Montgomery cattle do in similar conditions and are eagerly sought after. They are certainly more popular than the up-country bulls and it may be that the real solution of the difficulty of an adequate pure milk-supply is to be found in the improvement of the buffalo rather than the cow. The Goala in Bihar at present looks upon the buffaloe as *par excellence* the dairy animal, 'repaying well the care and attention he lavishes on it.

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CHAPTER VIII.

SHEEP AND GOATS.

Sheep and goats are kept in every district in the province. The former are much less numerous than the latter, only 1,167,000 sheep being recorded as against 5,374,000 goats. Sheep are valued for their flesh and wool, also for the skin and milk. In Bihar they are kept only by a certain caste known north of the river as Bherihar and south of the river as Gareri. They roam in small herds of two or three hundred at most and are found in greatest numbers in Shahabad and Gaya. In Patna and Saran they are also more numerous than in the other Bihar districts. Outside Bihar the greatest numbers are found in the Santal Parganas where the aborigines use them largely for food on festive occasions. But they are here of very stunted growth like the local cattle. Similar conditions obtain in the Chota Nagpur districts of Manbhum, Ranchi and Singhbhum, and as in the Santal Parganas a sheep-keeping caste has no monopoly. No breeds of sheep are recognised except that the local animals in Gaya and Shahabad are thought to be the best in the province but are admitted to be inferior to those that come in from Gorakhpur in the United Provinces. The value of sheep manure is recognised in the principal breeding districts and landholders are accustomed to pay Gareris for bringing their flocks to graze on their lands. The remuneration, however, is far from liberal amounting to no more than the food of two men per hundred sheep given twice a day with a few pice in addition if there be any local competition for the shepherd's services. Shepherds prefer as grazing grounds lands from which a Khesari crop has been reaped as a considerable proportion of the pulse is apt to fall in the process of reaping and is picked up by the sheep. For this reason the sheep in Gaya migrate north to the Khesari growing lands in Patna in the beginning of the hot weather and return later to Gaya going eventually to the hills in the rains. A ewe pro-duces her first lamb at one year old and thereafter gives annually one lamb for 4 to 6 years. A year old lamb is worth Rs. 2, unfattened. If kept till two years old and partly fattened it is worth as much as Rs. 5 now-a-days; if fully fattened as much as Rs. 8 or Rs. 9 may be got, as sheep are scarcer than they were since an epidemic of disease in 1902 which is well remembered by the Gareris of Gaya who describe it as dysentry accompanied by a swelling or bubo behind the ears and say that in some cases only 5 per cent. of a flock survived, in other * cases as many as 30 per cent. No remedy was known and none was applied. The owners simply sat by and removed the animals as they died. Sheep are exported to Calcutta from Gaya and Shahabad being marched down the Grand Trunk Road in the months of October and November, many being sold in the coal fields before reaching Calcutta. They are clipped three times a year in **Phalgun**, Ashar and Kartik and no more than $\frac{1}{2}$ of a seer of wool is got at each clipping. The wool is extremely coarse, being rather hair than wool. An attempt is being made at Pusa to cross Gorakhpuri sheep with Dumbas and with *Merinos* in the hope of improving the staple. Some success has been obtained in this direction. Wool has risen in price and the supply in Gaya is not equal to the demand, which has to be met by importation. Formerly a maund of wool, uncleaned cost Rs. 18 to Rs. 20; in 1913, the price had risen to Rs. 25. Wool is generally collected by Gareris, cleaned and worked up into blankets, which are woven in very narrow strips of 15 or 16 inches width and sewn together. The work is extremely coarse but durable. Blankets are sold either by measurement or by weight. In Gaya the scale of measurement is as follows :-

				Rs.	▲.	Р.	
4 hath × 6 hath			costs	4	0	0	
5 hath $ imes$ 3 hath				2	12	0 or 0	
				3	0	0	
$3\frac{1}{4}$ hath $\times 2\frac{1}{3}$ hath		н. 1	33	1	4	0	
Ohen in Annan ashad	31-11- 6.0		1.1 77		. 1	11. 7.	

At Obra in Aurangabad sub-division of Gaya district Kalins and blankets of a superior quality are to be got. Weaving is also done to some extent in the Shahabad district. Very little milk is got from the sheep; after leaving a supply for the lamb only about 2 chittaks a day is obtained on an average and this is made into ghee which is highly valued for supposed medicinal properties. Ghee however is only made when specially ordered by a customer; otherwise the milk is used for infants. The proportion of milk to Ghee obtained is said to be 1 chittack of Ghee to $1\frac{1}{4}$ seers of milk which is not very much in comparison with the proportion of Ghee obtained from buffaloe's milk *i. e.* one seer Ghee to 12 seers of milk. The value of a sheep skin is twelve annas in Gaya, but few are exported as they are mostly used up locally in the manufacture of bags, musical instruments, waterskins, etc.

Goats are most numerous in the Santal Parganas district where 673,000 are recorded. The other districts in order of numbers are—Muzaffarpore, Champaran and Purnea, recording 499,000, 479,000 and 419,000 respectively. After these come Saran (360,000), Bhagalpur (339,000) Monghyr (338,000) and Ranchi (334,000). No other districts record as many as 300,000. They are scarce in the Patna Division and rare in all the districts of Orissa. The figures given in appendix II for the Chota Nagpur districts are almost certainly much too low, as they have not recently been verified.

Goats are kept universally by all castes and by Hindus and Mohammedans alike. High caste Hindus are in some districts averse from tending them themselves but ordinarily own a few goats like other people, keeping them in the care of a lower caste neighbour who is remunerated by a share in the young stock. They are not kept in herds, but wander to graze in small numbers along with the village cattle or in the special charge of a small herd-boy. They are not penned out or grazed on land for the value of their manure owing to the manner in which they are owned, only a few belonging to any one cultivator. They feed on leaves as well as on grass and weeds and are most destructive as browsers in forest or scrub jungle. They are excluded as far as may be from state reserved forests. A she-goat produces her first kid at the age of one year and thereafter gives one or two kids every year for three or four years. They are not invariably milked unless the milk is required for the use of children or invalids. They are diminutive in size but never look badly fed owing to their omnivorous proclivities. No stall-feeding, is given by the ordinary cultivator or until the animal reaches the hands of a butcher catering for the flesh supply of a large town. The value of goats has risen notably within the last ten years in sympathy with the general rise in prices as well as on account of the rise in value of the skin. A full grown she-goat is worth from Rs. 3 to Rs. 4. A small castrated kid is valued at Rs. 2-4-0 while a large castrated goat of two years or over, valuable both for flesh and skin, is worth as much as Rs. 9, and batches may be seen selling in most *hats* at an all-round price of this amount. These are the ordinary local goats. The cross-bred Jamnapuri breed which is common in the Saran district in the property of the Hathwa Raj, where buckgoats have for some years been imported by the Estate, sells for 80 to 100 per cent. more than the deshi variety and is highly appreciated by the cultivators. The skins of goats are much more valuable than those of sheep and are exported in large quantities to Calcutta. The export by rail in 1905-6 was no more than 1,706 maunds, since that year it has steadily risen and stood at 76,508 maunds in 1912-13. The trade is mostly in the hands of Muhammadans of the Chik class and the most minute care is taken in the classification of length and quality. Various grades are recognized.

- (1) "Heavies" range from 36 inches in length or over.
- (2) "Mel" are 35 inches to 32 inches.
- (3) "Light or Halka" are 31 inches to 28 inches.
- (4) "Half or kid" are under 28 inches.

Skins are closely scrutinised for scratches due to thorns or wounds and for marks due to the animal lying on rough stony ground and defective skins are classed as No. 2 and fetch half the price of a perfect skin. The prices obtained by the vendor from the Muhammadan dealers are as follows:-----

- (1) "Heavies" Re. 1-8-0 to Re. 1-12-0
- (2) "Mel" Re 1-4-0 to Re. 1-6-0
- (3) "Light" Re. 1-0-0 to Re. 1-2-0

(4) "Half" 5 or 6 annas, and if skins are badly dried or stretched, they fetch 4 annas less a piece. Goat or kid is the favourite flesh food of Muhammadans who prefer it to mutton. The price of the flesh is said not to have risen so much as might have been expected owing to the greatly increased value of the skin. Large numbers of goats are exported to Calcutta and to the coal fields for slaughter, also to Patna and Dinapur and other large towns. The export by rail only from Bihar and Orissa in 1912-13 of sheep and goats together amounted to 340,466 and these are mostly goats, for sheep are few and are largely exported by road. A considerable number amounting to 73,699 in 1908-9 are imported annually from Nepal. In 1911-12 however, only 14,925 were reported. The average importation is about 45,000.

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CHAPTER IX.

THE CATTLE TEADE.

Traders, Fairs and Markels.

The main lines of the cattle trade have been indicated already in the paragraphs dealing with supply and demand and with the various sections of the province. Generally speaking the whole of the trade sets steadily eastwards towards the Bengal districts from Bihar proper while another stream follows the line of the Sone down into Chota Nagpur and beyond. In addition to export by road and by river along the traditional routes the railways are now very largely used and are blamed by many Biharis as the cause of the increased export and the consequent rise in prices. The real causes, however, lie deeper and would have produced their effects had there been no railways in North Bihar. One of the principal of the old drove roads is that which crossing the little Gandak near Muzaffarpur at Akharaghat, passes north of Darbhanga town through Mobbai, where there is a large weekly market, goes on through Sakri and Jhanjharpur following the line of the Bengal and North Western : Railway to Baptiahi. The route then crosses the Kosi at Chouraghat and goes on through North Purnea to Dinajpur, Rangpur, Jalpaiguri and Mymensingh in North Bengal and also branches to the south to Pabna, Bogra, Rajshahi and Malda. Another more southern line passes from Tirhut through North Monghyr to opposite Sultanganj in Bhagalpur district where it crosses the river and continues down the south bank to Rajmehal ghat where the Ganges is crossed again and the fairs of Pabna, Bogra, Malda and Rajshahi are reached. The great Hiranpur weekly market near Pakaur in the Santhal Parganas is another objective on this route from which also side lines branch off to Murshidabad, Burdwan, Birbhum and Bankura and other western and central Bengal districts.

The south Ganges route from Sultanganj onwards is reinforced by streams of cattle from the great Shahabad, Patna and Gaya fairs in February and May, Barahpur, Bihta, Deokund and others. The line of march from the Ganges to Chota Nagpur has already been described in the paragraph on Chota Nagpur. The only considerable stream of cattle proceeding westwards is formed by the purchases of the Supply and Transport Department and their agents in Dinapur, Benares, Allahabad, Ghazipur and other big towns. Large numbers of these are to be met with especially at Barahpur and Bihta buying broken down bullocks and old cows and in some cases young calves. The average rate at Barahpur for old stock for slaughter was in 1913, for old cows and bullocks Rs. 15 to Rs. 20 and for calves Rs. 9 to Rs. 11. A few bullocks of a good type are also exported to the border districts of the United Provinces but this is much more than compensated by the influx of animals for sale from those Provinces.

The main routes above indicated are travelled throughout the dry season from the Dasahra in September and October until the break of the rains in May or June. Many traders do the journey four or five times in the year droving down their cattle and returning by train to purchase more. There is in North Bengal especially a well-known round of fairs frequented by the Bihari traders. These fairs begin with that at Aluakhoa on the borders of Dinajpur at the *Kartik* Purnamasi. Cattle are purchased at the Bihari Dasahra melas e. g., at Bettiah, Madhuban, Hathwa and elsewhere to be retailed at Aluakhoa. Then follows in January the Khagra mela in Purnea, which is taken on the road farther east. Dholdighi in Malda falls in February. Haripur and Nekmard in Dinajpur fall in April and May and Kukuramani in Dinajpur in May or June at the end of the season. Other well-known fairs are Chintaman and Panga, and Pathiram Gopinath and Paunat in Bogra. The Jamalpur fair in Mymensingh in May is one that is largely attended by the Biharis. They go even farther. I have met men that knew their way to Habigunj and Silchar in the Surma Valley and to Dhubri, Gauhati, Sibsagar and Dibrugarh in the Assam Valley. These Bihari dealers or beparis are of all castes. Hindus and Muhammadans alike participate in the trade, Among Hindus Brahmans, Rajputs, Babhans and Ahirs are most commonly met with, but Koeris, Kurmis and Dosadhs as well as other castes in smaller numbers have their share in what is a most profitable though laborious occupation. So far as I was able to judge the central and northern thanas of Muzaffarpur, Darbhanga and Saran furnished the great majority of these professional dealers while there are also a number of men from Champaran from Dhakka thana. The Gossains of Chupra have a name as exporters of buffaloes to Chota Nagpur and the Ahirs of Darbhanga as breeders of first class milch buffaloes. On the other hand the Biharis by no means have things entirely their own way; for Bengali dealers and even Bengali cultivators have of recent years become familiar in the large Bihar fairs. At the Sonepur fair of 1913, they were present in great numbers and upset the market by paying exorbitant prices; no less than 14,000 cattle approximately were booked by train for Eastern Bengal stations during the seven or eight days the fair was at its height -or double the number booked during a similar period in the preceding year. Where formerly Bengali dealers were very rarely met with they are now to be found at all large fairs and they even beat up the small weekly markets and the villages in order to find the animals they want. As a general rule the animals they purchase are not the best in the fairs. They are usually bullocks that are "aged" and a good deal the worse for wear and this is characteristic of the majority of the animals that go to Bengal whether bought by Bengali or by Bihari dealers. The Bengal raiyats apparently prefer to buy a cheap article, work it hard, neglect it, let it die and purchase another. The high class animals that go east are mainly the best cart bullocks for tea-gardens in Assam, although these too have usually seen a good deal of hard work before they are parted with. In short the export to Bengal furnishes the Bihari cultivator with an excellent outlet for his inferior cattle and is not on that account to be deprecated. The trade in Bihar is very highly organised by means of the periodical fairs and the weekly markets of which alist shewing the more important is given in Appendix V. The figures of number of cattle where they have been reported at all are of course approximate but may be taken as accurate in so far as they give the local officers' ideas of the relative importance of the fairs and markets in their districts. Very many more small weekly markets are mentioned in the original lists obtained by me especially those for the Tirhut Division, but have been omitted on account of considerations of space. A perusal of these lists shews how very largely the buying and selling of cattle bulks in the life of the North Bihar cultivator. Apart from litigation in the Courts and the excitement of a visit to the head-quarters or sub-divisional stations the main interest of the cultivator's existence appears to be to visit a fair or a weekly market either with his beasts to sell or with money to purchase new animals. The agricultural conditions prevailing in Tirhut are responsible for the immense popularity of these meeting places. Grazing is scarce, fodder and concentrated food limited in quality, therefore it pays the cultivator to sell off superfluous or aging animals in the beginning of the cold weather after the rice cultivation is over and the cold weather rabi crops have been put in. Thereafter until the cultivation of the next Bhadoi crop commences in March or April he can manage with a minimum of draught cattle. Accordingly the Sonepur fair and all the other fairs held at the same period, i. e., at the full moon of the month of Kartik in late October or in November is seized as an opportunity to realise money on cattle that are not actually required, and whose upkeep is hard to provide. This fair is very popular with Bengali dealers purchasing for the jute and the rice districts and high prices since their advent in numbers have always been obtained. The money realised at Sonepur is hoarded till March or April and spent on the purchase of young bullocks at Sitamarhi and elsewhere at the Ramnavami festival. These are trained, broken and kept as long as they are able to give a full tale of work when they follow their predecessors to Bengal. The contrast between Bihar with its numerous fairs and markets and Chota Nagpur and Orissa which in comparison are almost devoid of them. and especially of big fairs is most noticeable. The sites of fairs are invariably the property of private persons who derive large profits from them. The District Boards only concern themselves with seeing that water-supply is pure and adequate in quantity and with insisting on a minimum of sanitary precautions, A few notes on the principal fairs in Bihar are appended,

Sonepur.-Held in October or November at the Chhath or bathing festival at the sacred confluence of the Ganges and the Gandak. The occasion is a general holiday in North and South Bihar when business is combined with pleasure. The ground is admirably adapted for the purpose of a fair and is well laid out with numerous wells. The annual collection of animals is at present estimated at 40,000 but the police are the only recording agency and their methods of determining the actual number of cattle present are defective. What is certain is that during the height of the fair in 1913 no less than 1,721 waggon loads of cattle were booked away from Sonepur Railway Station, which at 8 animals per truck represents an export of 13,768 animals. These were booked to Eastern Bengal at a concession rate of Rs. 5 per head up to Sara Ghat. Many others were booked for Bankipore to be thence re-booked to Bengal and Allahabad and elsewhere. All classes of animals are to be found at this fairelephants, camels, ponies, estimated at between 7,000 and 8,000, cows, buffaloes and goats as well as bullocks, estimated in 1913, at 34,000. Up-country cows from Hariana, Hissar, Montgomery and Benares were brought by up-country dealers in addition to Patna cows and local milkers from Shahabad and Ballia. The main purchasers of these were Eastern Bengal dealers and Calcutta Goalas. Up-country buffaloes, both bulls and cows, were also in evidence and were mostly picked up by Calcutta milkmen and Bengal dealers, although local milkmen also took a number of them. Bullocks were almost entirely of the local breeds from Sitamarhi and Madhubani, from the Saran, Champaran, Patna, Shahabad, Ballia and Gorakhpore districts. Calves of the Bachhaur type from the Supaul sub-division of Bhagalpur were also noticed. The goats were Jamnapari animals from up-country. Prices for all classes of stock were ex-tremely high. Up-country cows and Patna cows fetched from Rs. 100 to Rs. 250. Local cows ranged from Rs. 25 to Rs. 100. Punjabi buffaloe-cows fetched from Rs. 150 to Rs. 350. Cross-bred animals i. e. a cross between an up-country buffaloe-bull and a local buffaloe-cow cost from Rs. 100 to Rs. 200 and desi buffaloe-cows from Rs. 50 to Rs. 150. Cart bullocks cost from Rs. 150 to Rs. 400 a pair. Smaller plough bullocks from Rs. 80 to Rs. 250 a pair. A pair of good yearlings cost from Rs. 100 to Rs. 250 and Supaul yearlings ranged from Rs. 30 to Rs. 50 each. The Jamnapari goats ran from Rs. 8 to Rs. 20 each. These prices were the highest ever recorded at Sonepur and of course the higher-figure quoted in each case applied to few animals out of the total number present, indeed only to the outstandingly excellent specimens in each class. A cattle show used to be held at Sonepur but has been discontinued for some years.

Bettiah.—Held at Bettiah in Champaran at the time of the Dasahra festival in September or October—one of the two fairs in the district. Is attended by local cattle principally bullocks brought mainly from the district itself, and also from the neighbouring districts including Gorakhpur. Many yearlings are found here from the Tharu country and the Nepal Terai as well as from the Gandak *dieras*. The numbers are estimated variously from 10,000.to 25,000 and it is said that the fair in 1913 was twice as full as usual, 25,000 being the estimate made on that occasion. Prices were not nearly so high as at the Sonepur fair later in the same year.

Sitamarki.—At the head-quarters of the sub-division of the same name in April at the Ramnavami festival is the most important fair after Sonepur and it has already been explained how important it is as a fair where the cultivator purchases young stock for the new year's cultivation. About 40,000 cattle are supposed to attend annually. They come from all the surrounding districts especially from North Darbhanga, North Bhagalpur (Supaul) North Champaran and the Nepal Terai. Young cattle are greatly in evidence, few old and worn out animals being seen and few purchasers from Bengal at this time of year.

Khagra Mela.—At Kishangunj in Purnea in January—an important fair for the Bengal trade. Between 15,000 to 20,000 animals are brought for sale. One-third of these come from the west from Saran, Muzaffarpore and Darbhanga and are old stock. The remainder come from the district itself and from both sides of the Kosi river as well as from the *Morang* district in Nepal. The fair is yearly growing in importance and in value to its owner—the Khagra Nawab. It is reported that the site of the fair was leased to a contractor this year, 1914, for Rs. 33,500 against Rs 23,000 of the previous year. Prices, as elsewhere, were higher than usual. The best cart bullocks from the west sold at Rs. 300 to Rs. 350 per pair, and similar prices were asked for the best *Morang* stock. Good small plough bullocks cost Rs. 75 to Rs. 150 per pair. These prices constitute an advance of about 25 per cent on those of the previous year. So too young calves from the *diaras* were sold at 2 or 3 to the Rs. 100 whereas a few years back the rate was 5 or 6 and 15 years ago was as much as 7 or 8 per Rs, 100. It is likely that this fair will continue to grow in importance.

Barahpur in February or March and again in May near Raghunathpur station on the East Indian Railway main line in the Shahabad district. A large and popular fair managed by the Sub-divisional Officer of Buxar on behalf of the local zemindars. A tax of one anna a head is charged for admission and the number of cattle ordinarily attending is placed at 12,000, the enumeration being approximately accurate. Cattle come from the district and from Saran, Gorakhpur and Ballia. The fair is largely visited by dealers with young stock and by others buying old stock for Bengal, as well as by the Commissariat Department's agents and other butchers. The young stock is mostly absorbed by the people of the district.

Bihta.—A small fair near the Bihta station in the Dinapur sub division of Patna district. This is a new fair which owes its origin to the energy of the local zemindar backed by the enthusiastic Secretary of the Agricultural and Cattle Show. The cattle are mostly local and from Tirhut. The fair has the same character as the larger Barahpur *mela* held at the same time and as it is succeeding and growing annually it no doubt meets a want.

There are numerous other fairs of importance such as Baraspatti and Revelgunj in Saran, Madhuban in Champaran, the Krishna or Hardi *mela*. Bhairoasthan, Shiuhar and Parsauni in Muzaffarpur, Ainkhan in Patna and Deokhund and Manikpur in Gaya. In Bhagalpur Singheswar-asthan and in Purnea besides Khagra, Chanderdai and Dharamgunj are important. The latter is a great centre for Nepal *Morangia* cattle. In Ohota Nagpur, Chatra and Lowalang are notable and Harhanj in Palamau district. It is noticeable that only two large fairs held early in the season are reported by Champaran district and none by Darbhanga or by Monghyr and only two which are sparsely attended in North Bhagalpur. On the other hand weekly markets are exceptionally numerous in all these districts and in addition there is no doubt that all of them including Monghyr and Bhagalpur north of the river contribute largely to swell the attendance at the numerous popular and important fairs in the Sitamarhi sub-division of Muzaffarpur.

It is a difficulty for the officers of the Agricultural and Veterinary Department to overtake all these meetings as so many are held at the same time *i.e.* at one or other of the Hindu festivals. As a matter of fact only the principal fairs which have been noted on in some detail are regularly attended by the superior and subordinate officers of the Veterinary Department and very little is known about the conditions prevailing at the others. With the steady expansion of the Veterinary Department which seems likely to take place since the financial position of District Boards has been improved much more will be done in future.

CHAPTER X.

THE DAIBYING TRADE : MILK AND GHI.

Of dairying conducted on European lines there is none in Bihar and Orissa. The nearest approach thereto is found in the Dinapur Cantonment arrangements for milk supply to the troops, but these amount to no more than the proper housing and feeding of the animals under the eye of the authorities who also supervise the milking. A certain amount of butter is also made in Dinapur and Muzaffarpur for export to Calcutta. In Motihari in 1912 a retired official of the Opium Department started a small dairy for the supply of the well-to-do gentlemen of the town with pure milk distributed in bottles. The budget of the undertaking is reported as follows:—

Non-recurring charges (initial)			1
Price of 13 cowe of 6 teeth with calves at heel each giving, 6 seers of milk a day at Rs. 60 each	Rø. 780	a. , 0	р. 0
Price of a Patna stud ball of 6 teeth	120	0	0
Utensils and equipment.	250 ,	0	0
Total.	1,150	0	0
Recurring charges (monthly.)			
Cost of feeding 15 cows at Rs. 7 each	91	0	` 0
Cost of feeding 13 calves at Rs. 2 each	26	0	0
Cost of maintenance of stud bull	6	0	0
Pay of 3 attendants at Rs. 5 each	15	0	0
Interest on Rs. 1,150-0-0 at 6 per cent. per annum	5	12	0
	143	12	0

Receipts per month from sale of milk.

Sale price of milk of 18 cows at 5 seers per day

sold at 8 reers per rupes

5×13×30 8

Re. 243 12 0

The profit per month is therefore Rs. 100 from sale of milk only.

The above estimate is of course faulty in many respects. Nothing is allowed for depreciation of value of stock, or for cost of management and the estimate of 5 seers per head of milk all the year round from cows supposed to produce at their best 6 seers per day is obviously more than optimistic. As a matter of fact the manager found that he could not meet expenses by selling at 8 seers to the rupee. He had no cultivation and had to purchase fodder in the market often at expensive rates. He had, therefore, when last heard of been compelled to raise his prices to 6 seers per rupee but even at that rate, which for a small town in North Bihar is extravagantly dear, he was finding a ready sale for all the milk he could produce. The rock on which he appeared likely to come to grief was the cost of food and there appears to be no doubt that there is an opening for small dairies run on economical lines in conjunction with farms for the production of fodder and situated at a short distance outside a town so that the cost of transport shall not be excessive. An experiment on these lines is being organized by the Registrar of Co-operative Credit Societies in Gaya. He has induced the Municipality to provide money for sheds, for utensils and for transport of milk and to make arrangements for the import of 'cheap fodder in bulk. It is proposed to start with a herd of some 30 cows and 30 buffaloes belonging to local Goalas, to advance them money to pay off debts and to purchase more animals, to have their cattle kept in sheds in a sanitary fashion, properly fed and milked under adequate supervision. The milk will be bought from the Goalas at a fixed rate and retailed on behalf of the Society for cash at

2 seers per rupee less, any profits going to the members of the Society. It is hoped to provide a demonstration of sanitary methods, proper feeding, the value of ensilage in feeding dairy cattle in the hot weather and the benefits of co-operation.

The question of the milk-supply in towns has recently been a good deal before the public, in the press and in official conferences. The conditions in the towns of Bihar and Orissa are quite as bad as those reported to exist in other parts of India. In the larger towns such as Patna and Muzaffarpur the trade is in the hands of Goalas who use buffaloes and Patna cross-bred cows in addition to ordinary deshi cows. The byres are always insanitary but the cattle are carefully fed and looked after and the wastage in dry cows does not occur as it is reported to do in Calcutta since there is no difficulty in putting out an animal to graze until she calves and comes into milk again. Many of the Goalas are intensely fond and proud of their animals and in Patna, at least, they will relate the pedigree through which an animal is connected, with a local well-known bull of Australian or half Australian breed. In all towns the well-to-do classes keep their own cows and are not dependent on the milkmen. There is great competition among the latter to supply pure milk at a cheap rate to any one who has a compound suitable for grazing. Those who suffer are the lower middle classes and the poor who are unable to afford the luxury of a cow. These have to put up with milk which is cheap but invariably adulterated with The usual rate at the present time for milk which is not guaranteed water. pure is 8 to 10 seers per rupee. If the animal is milked at the customer's house the rate is 6 to 7 seers or even less. In pilgrim centres such as Gaya, Deoghar or Puri the rates approximate to those of Calcutta-4 seers per rupes and milk is often entirely unobtainable. The milk supply in towns is a difficult problem owing to the fact that the Goala has either to reside outside the fown and bring in the milk or keep his animals in the town under insanitary conditions and bring in his fodder or purchase it in the market. In either case the cost of transport raises the price, but from the sani-tary point of view the former arrangement is preferable, provided only that within the Municipality arrangements are made under legal sanction to inspect and pass the milk sold as the clean and unadulterated product of a cow or buffaloe. Objections, that any such measures would lead to a rise in the price of milk, will be made and there is no doubt that such will , be the result, but that the object in view is worth attaining is the opinion of all who have any knowledge of the conditions under which cows are now kept and of the impurities that are sold under the name of milk.

In the muffasal no danger is occasioned to the general health of the community by adulteration and impurity of milk. Dairy products are mostly consumed in the form of curdled milk—*Khir* or *Dahi*—which is made by eva-porating off the watery constituents of milk over a strong clear fire. The condensed milk is then set aside to cool and after some time a little old curd is added to the milk when the whole curdles in 10 or 12 hours. Milk in this form is most popular, especially in the North Ganges districts. It is exported in large quantities particularly from the Purnea grazing tracts and also from Saran and Darbhanga. The cattle of the province, as a whole, are poor milkers. The average daily product in Bihar is reported to be from 13 to 2 seers daily but no authoritative statistics are available. The estimate, however, probably does not err in the direction of pessimism. The only notable exception to the inferiority of the milch cattle of Bihar and Orissa is constituted by the cows of the Shahabad diaras. The best of these are believed, when in full milk, to give as much as 8 seers per day. The matter of fact is that the cow in Bihar is not by preference a dairy animal. The buffalo is preferred apparently be-cause its produce is richer in milk-fat and therefore adapted for the production of ghi and because the animal thrives well on and repays stall-feeding. Generally speaking it is a fact that cows are neglected in the Bihar muffasal in favour of buffaloes. In the aboriginal tracts of Chota Nagpur milk is not procurable at all unless there are Hindus in a village and in Orissa the cattle are so miserable' that milk is measured not by the seer but by the chittak. In Bihar the standard of purchase used to be Rs. 10 per seer of milk when in full milk. In Orissa it was Re. 1 per chittak, the average product being $\frac{1}{2}$ to $\frac{3}{2}$ of a seer daily. In both provinces however the prices of cows and of milk have risen with the prices of all other domestic animals and food grains and these norms no longer hold good. There is a consensus of opinion that the price of milk has doubled in towns within the past 20 years and there is also no doubt that adulteration is more common than it was.

The form of the dairy industry which is indigenous to the country is in addition to dahi making the production of ghi which in its pure state is the butter fat of the milk of the buffalo clarified by slow heating over a clear fire. When the watery elements have been completely evaporated the ghi is strained through a cloth and stored in tins for export or in earthen jars for private use. Ghi is seldom made from cows' milk alone, although cows' milk is often mixed with buffalo milk. If pure cows' milk ghi is manufactured it is only on special occasion igenerally for the use of invalids. Gareris also manufacture ghi from sheep's milk either for invalids or for use as a liniment in cases of rheumatism. This article is very expensive, costing from Rs. 3 to Rs. 4 a seer.

All classes of agriculturists manufacture ghi either for their own use or for sale, but in areas where there are mixed villages of Goalas and higher castes the industry is specialised, as the Brahmans, Rajputs or Kayasths make over the milk to the Goala who returns ghi in the proportion of one scer of ghito 12 seers of milk, retaining the bye-products, *dahi* and whey, as recompense for his trouble in manufacture.

All the North Bihar districts export ghi largely. A reference to the Statistics in Appendix IV will show that Bihar exports largely, that Orissa and Chota Nagpur import largely. One of the principal centres of trade in North Bihar is in Chapra town where there are eight firms of wholesale dealers. The books of two of those shewed that in 1911 they exported as much as 3,500 maunds to Calcutta, Dacca and other places in Eastern Bengal. These merchants stated that they worked on a system of advances and exported ghi on a clear profit of 1 per cent. on their turn over, but this is probably an understatement. Another area in which a great deal of *ghi* is collected is along the frontier of Nepal at the numerous marts on the most northerly extension of the Bengal and North Western Railway, e. g. Baraignia, Ghorasahan, Chainpatia, Khesaria, Sahebgunj and Madhubani. At these places whole-sale collecting depôts are kept by Marwaris and Telis who deal with itinerant collecting agents who bring the article from the large bathans in Nepal as well as as from British territory. These people travel ususally with pack bullocks laden with large cow hide receptacles and are of all castes, Goalas, Rauniars, Telis, Kalwars, Brahmans, Rajputs and also Muhammadans. Darbhanga is also noted for the excellence of its milch buffaloes and the enterprise of the Goalas who import up-country buffalo-bulls to improve their stock. In a railway return for the second half of 1911 Darbhanga is credited with an export of 12, 138 maunds as against 10, 111 maunds from the other Bihar districts served by the same line. Much of the Darbhanga export doubtless comes from Nepal. The Bhagalpur and Purnea diara lands which are full of buffaloe-cows also export largely to Calcutta. In addition other large centres of the trade are in South Bihar in Gaya and Shahabad districts, where large bathans of the buffaloes are kept in the hilly country. Similarly there is a large export from the jungly country in the south and west of Palamau. Most of the ghi reaches Garhwa which is a large trade centre in North Palamau and thence is forwarded to the Railway. A considerable quantity of the total amount is imported from Jash-pur and Sarguja states in the Central Provinces. Other exporting districts are Manbhum and Puri. The Manbhum export is however principally due to ghi manufactured in the south-east corner of Hazaribagh district whence it is exported to the Railway at Chas Road and Jhalda. In Puri the shore of the Chilka lake and some of the large islands support a considerable number of buffaloes as well as the coast lands in Cuttack and Balasore, but as already stated Orissa is not self-supporting.

Within the Province Patna as a collecting and consuming centre stands out pre-eminent. In the second half of 1911 that town received from the Bengal and North Western Railway alone as much as 13, 944 maunds. It is also largely supplied from the United Provinces by the East Indian Railway as well as by river. The other large towns in the northern section of the province draw their supplies from local sources. Much complaint is made of the high price of ghi at the present time and that there has been an enormous advance in price is borne out by the following figures. The wholesale price at Patna in 1876 was according to Sir William Hunter's Statistical Account of Bengal Rs. 20 per maund. The rate at which ghi imported from Nepal in 1898-99 or 15 years ago was valued shows that the market price then was Rs. 34 per maund. In February 1913 the wholesale prices quoted in the Government Gazette were for Patna Rs. 44 a maund, for Muzaffarpur Rs. 49-3-9, for Bhagalpur Rs. 47, for Cuttack Rs. 50-12-0, for Sambalpur Rs. 50-10-0 and for Ranchi Rs. 58-10-0. But these show a considerable advance on the figures of the previous year and in the case of Ranchi reflect the influence of a temporary influx of inhabitants owing to that place having become the summer headquarters of Government. The retail price in towns is at present from 12 to 14 chittaka for the rupee. The question of the adulteration of this necessity of life is even more serious to the town-dweller than the question of the adulteration of milk. It is considered impossible now-a-days to obtain pure ghi from any retail dealer. It is imported pure from the rural areas and is promptly doctored with vegetable oils of different sorts. Those most commonly employed are mahua oil, til oil, oil of sarguja and castor oil. The system of inspection of food in Municipal areas has not yet been sufficiently elaborated to allow of any effectual check being placed on such adulteration, although the malpractice is one that meets with widespread condemnation, since it affects the wholesomeness both of solid food and of the sweetmeats that are so largely consumed by all classes.

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CHAPTER XI.

THE TRADE IN MEAT, HIDES AND BONES.

Within the province itself the trade in meat is confined to the larger civil stations, the Dinapore Cantonment and the large centres of Muhammadan population. The butchers of Dinapore under the aegis or patronage of the military uthorities supply practically the whole of the European population of the Tirhut and Patna Divisions. Elsewhere the demand for meat of a high class 'is almost non-existent. Muhammadans usually prefer goat's flesh, but customs differ from district to district; thus Patna slaughters goats almost exclusively, 'few buffaloes or cows. Gaya on the other hand uses a much greater proportion of the larger horned animals. The class of animal bought by butchers at the fairs for slaughter is therefore usually of the most inferior description. At Barahpur in Shahabad where butchers congregate in numbers the prices paid in 1912 averaged Rs. 15 to Rs. 20 for old cows and ; bullocks, while calves cost Rs. 9 to Rs. 11 although it is not certain that these were all designed for slaughter. The great majority of the animals purchased were destined for Allahabad and the other large cities and Cantonments in the west, while some were for Dinapore and Calcutta.

It is of course against the caste of any Hindu to sell his cattle knowingly to a Muhammadan for slaughter but there is little doubt that with the increase in the value of cattle generally and of hides in particular the practice of disposing of old stock without asking inconvenient questions is growing and it is obviously for the best interest of the country that this should be so. Still it is necessary for butchers to conduct their operations at the great fairs as unobtrusively as possible, to employ low caste Hindus as agents and occasionally to pass themselves off as Hindus. The existence of a large class of Muhammadan cattle dealers in central Muzaffarpore and Darbhanga who are genuinely engaged in the export of stock to Bengal for draught and agricultural purposes renders their operations somewhat easier, as these men are always ready to act as go-betweens and to dispose of stock that they do not require to the butchers. Where old animals are not sold to butchers either directly or indirectly they are in towns often sent to the institutions known as Gorakhsini or Gosala where worn out beasts are afforded an asylum until they even-tually die of old age, disease or of a slow process of semi-starvation. These institutions are generally financed by Marwari traders of the Jain persuasion who consider it a sin to take life of any description and so provide for the extinction of their own and other peoples' animals by natural means. It is understood that where they are in a position to do so they engage the support of the Hindu community by levying from all customers a small contribution proportionate to the value of the business done. The institutions are rarely well managed and are inimical to the economic interests of the country which demand the elimination of the inefficient bullocks and the worn out cows in order that the younger and stronger stock may enjoy their share of fodder. These institutions are however confined to towns and have little or no influence on the disposal of the agriculturists' cattle. The most important institution of the sort in the province is the Pinjrapole at Hazaribagh which is financed by Calcutta traders, maintains a veterinary assistant and does provide for the adequate feeding of the derelicts it harbours. These in 1914 numbered no less than 1,374 animals.

In Sambalpur town I found an extraordinary trade established in dried meat or "biltong" as the local Mohammedans actually call it. There the Municipal regulations class meat as of 1st, 2nd and 3rd quality. The bulk of the animals slaughtered are of the 2nd quality, none so young and so well fattened as to be properly placed in the first class having been brought to notice. The third quality is not allowed to be slaughtered for local use, but the butchers have permission to kill such animals for conversion into dried meat. This article is prepared in long narrow strips of flesh which is treated with salt or saltpetre and dried in the sun until as hard as wood and the colour of dark earth. It is kept in the slaughter house until a sufficient quantity has been accumulated for export by rail when it is consigned to Rangoon. The appalling feature of the situation is that in addition to the Muhammadans who kill in the slaughter house, a number of Ghasi aborigines of the most filthy habits, have their huts near by and outside municipal limits. In these they slaughter, without supervision, any animal they may pick up regardless of condition or disease. It is even suspected that occasionally a dead animal is cut up and converted into "biltong". There is little doubt that this is not consumed locally by the Ghasis but finds its way to Rangoon along with the scarcely superior article manufactured by the Muhammadan *Kasais*. Sambalpur town was the only place where I obtained information of this traffic but there L was told that "biltong" was also exported from large towns in the Central Provinces and United Provinces. It is a trade the whole condition of which requires investigation.

There is a brisk trade in hides and bones throughout the Province. The following districts give their names to distinct classes of hides that are regularly quoted on the Calcutta market, viz., Purneahs, Darbhangas, Patnas, Ranchis and Sambalpurs. Of these Purneahs and Darbhangas have the highest reputation and price. It is generally agreed that prices have doubled or more than doubled within the last 10 years. The President of the Upper India Chamber of Commerce in 1913 declared that prices of buffalo hides had advanced 100 per cent and of cow hides 160 per cent. within that period and supported his statement with figures of actual contracts. Generally speaking in the old days before, the development of a large export trade the Chamar in the plains districts took the hides of dead animals as his perquisite, sometimes, but not always, furnishing the raivat with a pair of shoes free or at a cheap rate and with the doal and satta used in harnessing bullocks. In most districts Hindu feeling still upholds this practice and the cultivator makes no profit out of a dead animal's hide. In the Chota Nagpur districts however, the aboriginal owner has no scruples to hamper him and obtains the full value of the hide which he sells fresh or roughly dried to a Chamar or Muhammadan dealer at annas 7 to annas 8 a pound weight. The practice of the landowner also differs from district to district. In North Bikar where in places indigo factories own large tracts of land, the Chamar is not everywhere allowed to exercise his privilege free of charge, but pays a certain percentage on the total rental of the village. The Bettiah Raj is said to get half a lakh of rupees annually from the Charsa 'Mahal. In the neighbouring districts of Saran, Muzaffarpur and Darbhanga no such custom prevails but it is found again in Bhagalpur, Purnea and in Manbhum where land holders' lease the right to collect hides to Mohammedans and in Singhbhum which is largely a Government Estate, and is divided up into Mahals which are sold to approved licensees, who are given the monopoly of the purchase of hides from a given area. In Sambalpur the hides and bones of dead cattle used to be the perquisite of the chaukidar who is there a person of very low status a Pan or Ganda or Ghasi. It was found, however, that chaukidars were apt to poison cattle or to connive at that crime in order to increase their income and it was ruled that hides and bones were the property of the owners of the cattle and could only be taken by the chaukidars if not claimed by the owners. Since the introduction of that rule the hides and bones belonging to Hindu owners have been taken by the Gaontias or village headmen who dispose of them to the dealers and allow the chaukidars 5 or 10 per cent of the value. In Angul a similar practice at one time prevailed to that in Sambalpur, i. e., the chaukidar sold the hide for his own profit. But for similar reasons this practice was abolished and a monopoly of the purchase of hides was given to a gentleman of Cuttack who established collecting stations at different places in the district under the authority of the Doputy Commissioner. In the Hindu country of the Orissa coast districts the Chamar, Pan or Hari is free to take the hides of dead cattle and renders no service to the villagers. In Bhagalpur the trade in hides is very keen. Godowns are found all over the district and the frequency of cattle poisoning at one time compelled the Magistrate to take steps to bind down under article 110, Criminal Procedure Code, a certain Muhammadan who was held to have organised the commission of this crime for his own profit. The Muhammadan population is numerous here and from this area complaints of the kidnapping of Brahmini bulls are also heard. In Purnea the question of the right to collect hides in disputed areas has led to quarrels between zamindars. In short the practice is determined by the religion of the zamindars and in the more remote and jungly districts by the necessity of preventing the crime of cattle poisoning.

There is no doubt that the greatly increased value of hides has stimulated the trade in old and worn out cattle. In Bihar aging cattle that are getting past their best are very largely got rid of at profitable prices to Bengal and are replaced with young animals. But at all fairs many animals are now seen which are obviously unfit for any further work and which, if bought, must be bought principally for the value of their hides and bones. In the Orissa markets owing to the local conditions, lack of fodder crops and of grazing, such animals are very numerous and are to be seen selling in the hats at prices as low as Rs. 3. or Rs. 4. Hides are classified and priced as murdari and halali. The former is the hide of an animal that has died of old age, disease or exposure, the latter is that of a beast slaughtered in municipal or other depots. The dead hides are rarely so treated by the Chamars and others who deal with them as to fetch the highest price in the markets. They are usually only roughly pegged out and rubbed with ashes and some times even the latter method is not used. Hides of slaughtered cattle on the other hand are carefully treated by the Muhammadan owners, stretched on frames and rubbed with an arsenical preparation. The proportion of these to the total export from the province is of course insignificant. "The hides of the Orissa districts are those that are of least value. The animals are diminutive. The hides are often defective owing to the poor condition of the animal and in addition there is a wide-spread local practice of scoring on the living animal a pattern of deeply cut-marks running from shoulder to flank as a precaution against poisoning for the sake of the hide. These cuts almost destroy the hide for tanning purposes, as under the influence of the chemicals applied it separates into several pieces. The value of the hide trade can be estimated from the fact that the Chamar or Chota Nagpur cultivator now actually uses the British pound weight in selling to Muhammadan dealers. Spring balances are employed universally even in remote villages and hides are no longer sold by the piece. In Orissa the value of an average cow-hide is about Rs. 2, of a buffaloe-hide Rs. 2-8-. In Bihar the corresponding rates are Rs. 3 to Rs. 5 and Rs. 5 to Rs. 7 a piece. In Ranchi and Chota Nagpur generally the rate is quoted at 8 annas a pound. These rates refer only to murdari hides. The value of the halali quality is much higher running to as much as annas 12 or annas 14 a pound for a best quality cow-hide. During 1912-13 when prices were at their highest owing to the demand for leather caused by the Balkan War, as much as Rs. 1 a pound was paid for first quality cow-hides.

There are a few small tanning business in the province notably at Siwan, Dinapur and Cuttack. M. Gulzar Husain's firm at Sewan collects hides from Nepal and throughout the district of Chapra and also from Gorakhpur and Ballia in the United Provinces. After being treated they are exported to Calcutta. The tannery belonging to Mr. M. S. Das at Cuttack has been working for eight years. In addition to tanning the firm also makes up boots and other leather articles. The raw material is mostly obtained locally, but not altogether, as cow-hides and buffalo-hides often have to be imported from Calcutta owing to unsatisfactory quality of the local hides. The better quality local hides cost the factory Rs. 3-12- to Rs. 4-0-0 in 1913. Sheep skins cost 6 annas 6 pies to annas 8 each and are occasionally got from Barhampur, Ganjam. Goat skins run from 6 annas 6 pies to Rs. 1-4-0 and are usually bought in bundles of 100 at an allround rate regardless of variation in size. No details have been obtained regarding the tanning business in Dinapur.

The trade in bones is carried on by Mohammedan firms who are usually in relation with Messrs. Graham and Company in Calcutta. The outcastes in the different sections of the province collect them and sell them at railway Stations to the local Muhammadans. The prices obtained by the actual collectors vary in different parts from 8 annas a maund to Rs. 1-12--0 or Rs. 2 a maund. In no case does the Hindu or Muhammadan cultivator have anything to do with this traffic or obtain any profit from it.

CHAPTER XII.

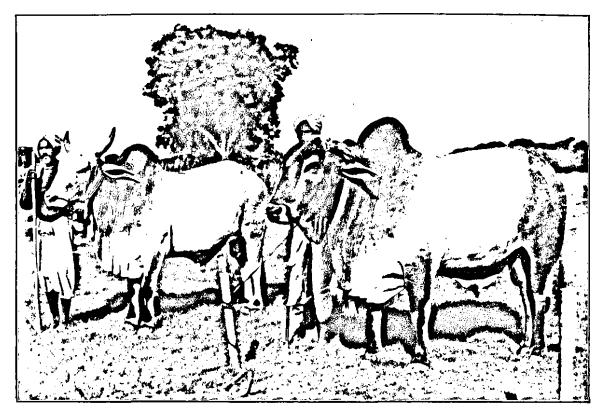
Assistance from Government and Local bodies.

The principal methods by which Government has hitherto endeavoured to assist in the preservation and improvement of cattle are, (1) by countenancing and supporting the cattle-breeding establishments at Pusa (now Bettiah) and Siripur and recently by creating a cattle-breeding farm at Sepaya in the Saran District, (2) by encouraging District Boards to keep bulls of good milking strains, (3) by making annual grants to agricultural and cattle-shows, (4) by the grant of loans under the Agriculturists' Loans Act for the purchase of seed and of bullocks and (5) by the creation of the Civil Veterinary Department.

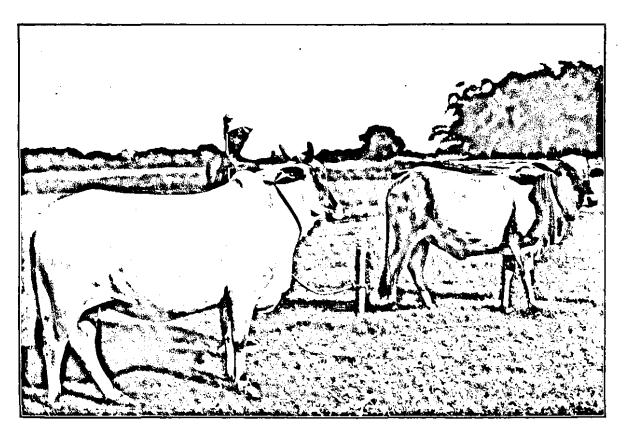
The Pusa Deshi herd .- This scheme was elaborated in 1902 at a time when it had not yet been decided that Pusa should be the headquarters of the Imperial Agricultural Service. It was therefore, worked out by the Bengal Director of Agriculture in consultation with the Inspectors-General of Agriculture and of the Veterinary Department and was adopted and carried out by the Imperial officers after the Imperial Agricultural Research Station and Institute had been sanctioned and brought into being. The scheme aimed at establishing a herd of 200 animals true to the type which seems most suitable for Bihar. This is described as follows.—"The cow is a dark grey animal with black points, compact and short legged, with good bone, standing about 46 inches, and having a girth of about 65 inches. The bull is a similar class of animal, not more than 52 inches in height. The object is to breed for the plough and for draught, but in selecting cows good milkers, will be obtained as far as possible. "Eventually about 50 cows and one bull were purchased in Bihar mostly in the Shahabad and Ballia diaras and breeding operations were continued until 1909. By that time the opinion had gained ground that the Research Institute's resources were overtaxed in maintaining this deshi herd at the expense of a Montgomery herd, which had been collected there with a view to the rescue of that breed from rapid extinction and also to the improve-ment of the breed by selection. The area of the Pusa Estate was found to be somewhat small for the proper development of both herds and a proposal of the Government of Bengal to subsidize the deshi herd had not materialized. It was therefore arranged that the deshi herd, amounting now to 92 head of cattle, after rigid rejection of defective young stock, should be made over unconditionally to the Bettiah Raj Estate under the management of the Court of Wards. The herd was transferred to Bettiah in 1910 and after various vicissitudes was ' finally located in an admirable paddock near the Assistant Manager's bungalow, where it is doing very well. At the present time after the distribution of about 50 bulls in all, including a number of buffalo bulls of up country-breed, it numbers about 120 head. The bulls have hitherto been placed principally in charge of Managers of Factories who are tenants of the Raj and who allow the free use of the bulls to any raivate that desire their services. This method of distribution has however nearly reached its limit for the time being and the Estate will now have to consider how it can to most advantage dispose of the annual outturn of young bulls direct to the raiyats.

The Siripur breeding farm.—This breeding farm was initiated about 1905 while the Hathwa Estate was under the Court of Wards and owed its origin mainly to the interest taken in cattle breeding by the Honorable Mr. Slack, c.s.1., 1.0.s., then Member of the Board of Revenue. The cattle were procured from the same areas that had supplied the Pusa herd and the breeding arrangements were about 1906 placed in charge of Mr. M. Mackenzie, who took the kechest interest in the herd. In 1908-9 there were 113 animals in the herd including young stock. By 1910-11 these had increased to 147 head and from 1908-09 to 1911-12 thirty-seven well bred bulls had been distributed on the Hathwa Estate in the charge of officers of the Raj-sazawals and others-while a large number of fine young bulls were coming on. Unfortunately in 1911 the management of the Estate passed out of the hands of the Court of Wards and a change of policy took effect with the result that the breeding, operations were stopped just at the period when the herd was reaching its full development and the effect of the fine animals in the Hathwa Estate was beginning to be seen.

The Government cattle-breeding farm at Sepaya.—In the end of 1913 some 250 acres were acquired by Government for the purpose of a combined



Two bulls from the Sipaya Government Cattle-Breeding Farm, District Saran, Bihar.



Two cows from the Sipaya Government Cattle-Breeding Farm, District Saran, Bihar.

sugar-cane and cattle-breeding farm at Sepaya in the Saran district not far from the Siripur station previously dealt with. The area of the farm was however, soon seen to be too small for the combined farm and it has been resolved to devote the land obtained at Sipaya to cattle-breeding alone. The services of Mr. M.M.Mackenzie, the gentleman above mentioned, were obtained and the farm is now being organised by him. By the generosity of the Mahara-ni of Hathwa a number of the best of the cows and young female stock with a stud bull were presented to Government and the breeding cattle now in the farm number 86 in all. No purchases of breeding stock have yet been made by Government but this will shortly be done and the herd when completely filled up will number 100 breeding cows, so as to permit of the distribution of 50 bulls annually to District Boards, Government and Wards Estates and above all to Co-operative Societies. The intention is to breed primarily for draught purposes but to combine with this the endeavour to produce a dual purpose animal suitable for both draught and milk. The details of the policy to be adopted at Sipaya will depend greatly on the advice received from the Imperial Dairy Expert who is to be appointed by the Government of India with a view to improving the dairy industry in India. It is satisfactory to be able to record that at long last the Government of this Province have succeeded in making a start, even if in a small way, with a cattle breeding farm over which they have full control and in regard to which there is likely to be no disturbance of policy. How entirely the welfare of the cattle of the province had been neglected is shown by the fact that in the end of 1912-13 there were only seven stud-bulls belonging to Government and these were located in 4 out of 21 districts. It is hoped that with the initiation of the new cattle farm this state of affairs will gradually be altered and that in Estates held khas Government will show an example to the zemindars of the province by providing a number of bulls of the first class for the improvement of the cattle of the tenantry.

2. District Board Bulls.—The situation in this regard is no better than in Government Estates. There were only seven stud bulls belonging to District Boards in five districts at the end of 1912-13. The fact is that the Government of Bengal never strongly impressed on local bodies the desirability of employing a certain proportion of their funds in this way and did not take cognisance of the feebleness of the efforts of local authorities to carry out such recommendations as were somewhat half-heartedly made. No distinct policy was laid down for the Boards to follow and no sustained endeavour was made to assist local bodies in procuring animals suitable either for the breeding of draught bullocks or for the production of dairy produce. The former Government of the province were indeed in a somewhat difficult position in regard to this matter since neither of the institutions at which a few breeding cattle had been collected were under their direct control and the supply of suitable stock was strictly limited. What is now wanted is, during the next two or three years after which a few bulls will be available for distribution from the Government farm, to evolve a scheme whereby District Boards shall budget annually for the purchase of a number of animals from the Sipaya Farm, and shall make arrangements for their concentration in given areas in the *mufassal*, and not in towns, in the charge of responsible persons. The method hitherto followed of keeping a bull at the veterinary dispensary at the headquarters of the district is productive of the minimum of benefit at the maximum of expense. The very existence of the bull is often not widely known of even in the town, to say nothing of the country beyond, and the animal's services are used only by a few milkmen and the local gentry, European or Indian, who possess good cows. Again the maintenance of a bull at stud is probably not the most satisfactory method of dealing with a breeding bull in India. Complaints have frequently been made that animals so kept become impotent or slack and it is likely that the better method is to allow the bull to range with the village herds during part of the day at least. In the Punjab, where the Superintendent of the Veterinary Oircle recommends that a bull be made over to a village or a co-operative society, the District Board bears part of the cost, subject to certain conditions as to the animal being properly cared for. In the Central Provinces the malguzars are pressed into service. In this province there is no revenue staff

in the interior of the districts. The only local officials are the thana police and here and there some sub-registrars, neither class of official being prima facie connected with agriculture or a suitable agency for the custody and management of a stud-bull. The question of the best method of distribution is a thorny one and will require much careful study; it can only be satisfactorily solved by a thorough knowledge of local conditions and with the hearty co-operation of District Officers. As has been pointed out by the Committee that considered the question of cattle-breeding at the last Agricultural Conference at Coimbatore, it is most desirable that cattle-owners should have a personal interest in the proper care of the bulls. Much is hoped of co-operative credit societies, who may be expected to utilize some part of their profits in the purchase of a bull for the improvement of the members' agricultural stock, and the best solution of the question will almost certainly be found in some arrangement whereby either District Boards or Government shall advance a part of the cost of a bull to particular co-operative societies. It is certain that District Boards could scarcely in any manner better serve the interests of the agricultural population than by providing a number of first class animals for the improvement of the local breed. The improvement of the draught cattle used in the plough is the first step in the improvement of agricultural practice. Heavier iron ploughs such as the "Punjab" or "Raja" plough, provided with a mould board, penetrating deeper than the raivats' simple implement, and leaving no section of the soil unstirred can not be used by the raivat, however much he may admire the work done and however thoroughly he may be convinced of its superiority over his own methods, unless and until he is pro-vided with heavier cattle, capable of coping with the heavier draught. Such cattle do exist but are at present almost exclusively used for cart work or are bred for sale at high prices to Bengal dealers. When they are available in such plenty as to enable the raiyat to use them without scruple in his own fields a real step in advance will have been made. There is no fear that the use of larger and heavier cattle will entail a shortage of fodder, since, if progress in this direction goes hand in hand with the introduction of more thorough cultivation, the raivat's land will respond with heavier crops and a larger outturn in both grain and straw. \$

3. Agricultural and cattle shows.-There are a number of these in the province and 14 were subsidized by the Department of Agriculture at a cost in 1913 of Rs. 5,000. These shows consist mostly of exhibitions of local foodgrains, vegetables, flowers and the products of local small industries. As a whole they are disappointing and there is much doubt whether the results obtained at present justify the expenditure in money incurred by Government, local bodies and private individuals. They nevertheless provide centres from which the knowledge of new appliances- improved seeds and improved breeds of cattle can be disseminated and with the development of the Agricultural and Veterinary Departments may be made much more widely useful than they are now. At all of these shows prizes are given for cattle but at only a few of them is the cattle show of any real importance. At Sitamarhi, Barahpur Bihta and Khagra the cattle are prominent and interest in them is considerable. The difficulty however is that too often prizes are given to dealers who have just purchased some fine animals in the fair at which the show is organised. The actual breeder of the prize beast is not brought into prominence nor, even if he were, would the donation of a ten or twenty rupee prize with a coloured certificate greatly impress the crowd of spectators, nor would the fortunate prize-winner's distinction reach the knowledge of a wider There is locally nothing or very little indeed resembling the envy and circle. admiration excited in an Agricultural community in England, Scotland or Ireland by the winning of a prize for a well-bred beast and there is no tangible ulterior profit connected with the selection of a given raiyats' animal as the best of its class. This can hardly be otherwise so long as breeding remains the haphazard affair that it is at present and so long as prizes are given not for breeding and bone so much as for fatness of condition. It may be possible to do some thing to rouse a spirit of emulation when a considerable number of breeding bulls have been distributed to neighbouring co-operative societies and it is possible to give prizes for calves bred from certain Government bred bulls. If this policy should lead to greater care being bestowed on the cow

when out of milk a considerable degree of progress would be made. It will be for the Veterinary and Agricultural Departments to organize the education of the cultivators in regard to the theory of improvement of cattle by selection. They will need no long experience to appreciate the substantial profits that are obtainable by the use of better breeding bulls.

4. Agricultural Loans.—The statistics of the Board of Revenue show that during 17 years from 1895-96 to 1912-13 a sum amounting to no less than Rs. 95,74,605 was distributed by Government to cultivators in the province for the purchase of seed and cattle in times of hardship caused by failure of crops owing to drought or flood. The sum appears large, but is really quite inconsiderable, having regard to the population of the area concerned, and to the fact that three periods of stress have fallen within the 17 years statistics of which have been examined. It is uncertain how much of this money was granted for and expended on the purchase of cattle and for most years the returns of the Board do not give any hint that such an object was aimed at. The experience, however, of co-operative societies is that one of the first requirements of an agriculturist, apart from the existence of a state of famine, is invariably found to be the improvement of his stock either in quality or in number and there is little doubt that the great proportion of the grants in question were expended either directly or indirectly on this object.

5. The Civil Veterinary Department.-Twenty years ago there was no Civil Veterinary service in Bengal. The establishment of this department was sanctioned in the year 1892 and Veterinary Captain W. D. Gunn, the first Superintendent, joined his appointment in May of that year. A veterinary institution was opened at Belgachia in 1894 and Captain Gunn was in charge in addition to his duties of superintendence of veterinary work throughout the old province of Bengal. In 1896 the first veterinary graduates left the school after two years' training. They numbered 12 in all and it was then proposed to form a subordinate vetorinary service, and to place before the District Boards of certain districts a scheme for the establishment of veterinary dispensaries at headquarters stations with a suitable staff to be paid by local bodies. In 1895 the Darjeeling Municipality employed a Veterinary Assistant and in Muzaffarpur a dispensary was established with two Punjabi Veterinary Assistants from Lahore. By 1898-99 dispensaries had been built and staffed in nine districts and 19 permanent Veterinary Assistants and three temporary men were employed. By 1901 the numbers had increased to 30 Veter-inary Assistants in permanent service with two Inspectors. In that year a scheme came into force whereby Government undertook to contribute part of the expense incurred by local bodies in the maintenance of dispensaries and part of the cost of the pay and allowances of itinerant Veterinary Assistants. Under this scheme out of a sanctioned cadre of 6 Inspectors and 90 Veterinary Assistants, 2 Inspectors and 41 Assistants besides 4 staff Veterinary Assistants were actually employed. Of these 21 were in charge of veterinary hospitals and dispensaries. In 1908 the charge of the Veterinary College at Belgachia was separated from that of Superintendent of the Civil Veterinary Department and a new cadre providing for one European Superintendent, three Deputy Superintendents, 20 Inspectors and 228 assistants was sanctioned. The actual staff however, fell far short of this number and showed no signs of rapid expansion.

On the administrative redistribution of 1912, the proportion of staff falling to Bihar and Orissa was fixed at one Superintendent, two Deputy Superintendents, 12 Inspectors and 120 Veterinary Assistants with 13 men as a reserve. The staff actually employed at the present date consists of one Superintendent, one temporary European Supernumerary Superintendent, five Inspectors, and 63 Veterinary Assistants. Posts for nine more Veterinary Assistants have recently been sanctioned and these will be filled up as suitable men graduate from the Belgachia College. Meanwhile a scheme for the amelioration of the conditions of service has been laid before Government and it is hoped that a more regular flow of candidates for the veterinary education will be forthcoming. It is also proposed to join with the United Provinces in the institution of a College up country where education will be imparted in the vernacular and it is expected that men of a class naturally fitted for the career of a veterinary surgeon will thus be obtained.

OHAPTER XIII.

Suggestions for action by Government and Local bodies.

I. Extension of cattle breeding by Government.-I have already referred to the establishment of the Government cattle breeding farm at Sepaya as a gratifying measure of progress. It must be remembered however, that the province of Bihar and Orissa falls into three distinct tracts, viz., Bihar, North and South, Chota Nagpur including the Santal Parganas and the districts of Angul and Sambalpur and thirdly, the coast districts of Orissa. These tracts differ in almost all particulars one from another and the type of bull that is being bred at Sepaya can not be usefully introduced into Chota Nagpur or into Orissa in the present agricultural conditions obtaining in these The hill cattle of Chota Nagpur are very small and stunted and have areas. even been considered by some authorities to represent an entirely different breed from the cattle of the plains of Bihar. It is doubtful however how far this view is correct and whether the present type of cattle found in the hilly country is not merely the result of the survival of the fittest under climatic and economic conditions that are extremely adverse to the production of a large and strong breed of cattle. Similarly, in Orissa, the agricultural condition as has been explained in the sections of this report dealing with that portion of the province, are again unfavourable to cattle breeding. Practically nothing is grown specially as fodder for cattle and the variety of crops is so small that practically the only food available for cattle is rice straw. This at its best is but poor feed-ing stuff and requires to be supplemented with grain and green fodder but neither of these feeding stuffs is available in any large quantity. It is obvious therefore that the type of bull suitable for the cattle of the plains of Bihar would in no way prove useful in either Orissa or Chota Nagpur and in my opinion it is necessary for Government to create two more cattle breeding stations to meet the needs of the Chota Nagpur and similar hilly districts and the coast districts of Orissa. The subject however requires investigation since it is possible that one more cattle breeding station situated in a favourable position, say in the Ranchi or Singhbhum district might be found sufficient to meet the needs of the whole of the centre and south of the province. It will only be possible adequately to investigate these problems when the Agricultural Department is provided with a larger superior and subordinate staff and the Veterinary Department obtains two more extra Superintendents who will devote attention to the hitherto neglected Chota Nagpur and Orissa Divisions. A Deputy Director of Agriculture is being posted at an early date to an Agricultural Station near Ranchi and I expect to obtain some assistance from him in elucidating these problems. It is intended that he shall make enquiries in the Ranchi district, in Palamau and possibly in the native Estates of Jashpur and Sarguja which border Palamau on the west and where cattle of a better type than are available in British territory are supposed to exist in the jungles where grazing facilities are more ample. The Deputy Director will purchase a bull of the best type of hill cattle and five or six good young breeding cows and will for the present maintain this stock on the new Agricultural station near Ranchi. These measures however are merely by way of experiment and if any thing useful is to be done for the cattle of the hill country a much larger scheme will have to be evolved at no distant date. It must be remembered moreover that a certain number of the chiefs of the Orissa Feudatory Estates are enlightened and progressive enough to welcome the idea of the improvement of their subjects' live stock and that an establishment in or near Ranchi for producing breeding bulls of a high class, suitable for the cattle of the hill tracts would have to meet the indents made upon it by the Political Agent in charge of these Estates. It must however be admitted in connection with the problem of cattle breeding in Chota Nagpur that the question of fodder must be solved or must be on the way to solution before any real advance can be made by the introduction of a better strain or an improved breed. It is useless to breed better cattle if owing to lack of fodder they are again to degenerate. Something may perhaps be done through ensilage but the first difficulty is to persuade the ultra conservative Kolarian cultivator to abandon in

any particular the practice of his forefathers. It never occurred to the said forefathers to grow fodder especially for cattle food and it will undoubtedly be very difficult to persuade the agriculturists of the present day to do so. Another serious difficulty is the prevalence of cattle disease particularly Rinderpest and Hæmorrhagic Septicæmia. Owing to the ravages of these diseases it is almost impossible to insist on the castration of all save one bull in a village herd. A. scheme is on foot with the object of reducing the number of young bulls in village herds in the encumbered estates in the Ranchi district to no more than two or three. This is by no means the ideal that should ultimately be aimed at but it is as great an advance as it is safe to make until such time as these scourges are got under control. A small beginning has been made in the Ranchi district by way of attempt to master these diseases. A number of local boys have been ' trained as inoculators for Hæmorrhagic Septicæmia and have been placed at suitable stations about the district under the charge of missionaries belonging to the English, Roman Catholic and German Missions. These boys receive Rs. 10a month and some small allowances and up to date have inoculated a certain number of cattle for Hæmorrhagic Speticæmia. It is proposed at an early date to extend this campaign to cover the disease of Rinderpest and it is hoped with the hearty co-operation of the District Officer and his staff and of the Superintendent of the Civil Veterinary Department to effect a great change in the cattle mortality prevailing in the district.

Extension of the Civil Veterinary Department.—It has already been stated that a general scheme of reorganisation of the Veterinary Department is under the consideration of Government. In this scheme'is included a proposal to recruit two more European Veterinary Surgeons for the control of the Chota Nagpur and Orissa sections of the province.* When these officers have been recruited, trained and placed in charge of their circles a great step in advance will undoubtedly have been made but the ultimate object should certainly be to maintain a European Veterinary Surgeon in direct charge of each division of the province in precisely the same way and for the same reasons that a Deputy Director of Agriculture is to be posted in each Division. Deputy Superintendents working under the supervision of the European Superintendents are also to be recruited when men suitable for the posts become available. A certain number of staff Veterinary Assistants are also to be recruited. These will be men who will be at the Superintendent's disposal and can be moved rapidly from district to district in order to cope with the sudden large outbreak of disease.

II. District Board bulls.-I have explained already how very little has hitherto been done by District Board to improve the agricultural cattle or the milk cattle in the province and that it is hoped that a great extension of the activity of the local bodies will shortly take place. I have indicated that so far as the breeding of draught cattle is concerned, a radical change of procedure is required and that the assistance or subsidising of Co-operative Credit Societies should have a large part in the District Board's programme of improvements. Mr. Stow's admirable report on cattle and dairy in the Punjab indicates the mistakes that had been made in that province and gives his suggestions for correcting them and in this section of my report I am greatly indebted to the study of his chapter 21. This province is between 15 and 20 years behind the Durish in matters constrained to the improvement of articles. Punjab in matters appertaining to the improvement of cattle. The explanation is that the efforts of the Government of Bengal were not attended with full success owing to the reasons that have been explained above and also the Co-operative Credit movement is only now establishing itself in Bihar and Orissa on a firm and sound footing. Most District Boards in Bihar will do well to indent on the bulls that are being bred at the Government cattle breeding station at Sepaya but in one case there is in my opinion room for separate action. The District Board of Purnea might take some steps to maintain and improve the breed of small active red cattle that are bred on the banks of Kosi and in the thanas bordering on the Morang district of Nepal, from which large numbers of so called Morangi cattle are annually imported. When I inspected a few herds of the red Kosi cattle near Raniganj Thana I found that in some cases the cattle breeders took trouble to select good bulls as breeding sires but not in all cases. These people know something of the principles of cattle breeding. They weed out and castrate the young male

stock annually at the end of the rains and no damage is ordinarily done by promiscuous breeding from immature bulls such as occurs throughout Chota Nagpur and Orissa. Fodder is plentiful and with a well organised system by which only the best bulls were retained for breeding purposes throughout the area mentioned a considerable improvement would shortly manifest itself in the quality of the red Purnea cattle which are very popular both in the district and in the neighbouring districts of Bengal.

III. Improvement of village breeding.-Reference has frequently been made in the course of this report to the deterioration of the bulls released as Brahmini bulls by charitable and pious Hindus. That this deterioration has actually taken place there is no doubt whatever, but in some areas Brahminis of excellent stamp are still available. A survey is required for which competent subordinate officers of the Veterinary Department, for example, officers of the grade of Inspectors or Deputy Superintendents when such are available, should be deputed. The object of this survey would be to mark on a map by means of different colours the areas in which (1) Brahminis are good and plentiful, (2) such areas in which they are inferior, and (3) areas in which they are bad. An organised endeavour should at the same time be made through the agricultural exhibitions and cattle shows and by means of lectures at such shows and through Co-operative Societies to create a public opinion which should be strongly adverse to the dedication of inferior Brhaminis as sacred bulls. Regular lectures should be prepared for delivery before village audiences and these should be reinforced by magic lantern pictures of the best bulls bred by Government, the inferior Brahaminis that are now found in the districts and of the degenerate cattle that are produced in Chota Nagpur and Orissa under the present conditions of late castration and inadequate feeding. Hindu gentlemen who desire to maintain the religious customs of releasing Brahmini bulls should be invited to obtain an animal of the very best type suitable for his neighbourhood from the Government cattle breeding institution. In distributing bulls to Co-operative Credit Societies certain restrictions will naturally be insisted on such as the castration of all immature stock in the village, the deportation a Gosala of inferior Brahminis working in the neighbourhood and so on and the reasons for these restrictions should be explained at length. Government might also usefully adopt the suggestion made by the Settlement officer of Ludhiana and mentioned in Mr. Stow's report that the donor of really good bulls might be recognised and rewarded in the same way as the builder of a sarai or a roadside well. Systematic endeavours will be made both by the officers of the Agricultural Department and of the Veterinary Department to explain the elementary principles of cattle breeding by means of such lectures and magic lantern exhibitions as have been suggested. We have in the province officers who are familiar with the use of magic lanterns and also the necessary staff and material for the preparation of slides which will interest the raiyat and rivet his attention. Again I quote here in extenso for easy reference, a section of Mr. Stow's report of 1910.

"The example of the Townsend Agricultural Society of Hissar in endeavouring to remove unsuitable bulls deserves to be followed throughout the Province. The working out of a scheme for the improvement of cattle breeding which would include the removal of undesirable animals as well as the provision of new bulls might be entrusted to a strong sub-committee of each District Board. Working on a carefully considered plan this sub-committee might be trusted to arrange for the supply and control of bulls provided wholly or in part by District Board funds. They would direct the distribution of the animals and see that they were properly cared for, and would also arrange for the removal of unsuitable sires. They would also encourage charitable persons to provide animals only of approved quality. In order to arrange for the removal of the inferior animals at present only too frequent throughout the central and south-eastern districts, recourse may be had to castration where it is not objected to. But the numerous gaushalas throughout the country never refuse any animals which are sent to them, and would no doubt welcome the prospect of assisting the improvement of cattle, by receiving worn out or inefficient bulls. Some of these institutions, notably those maintained by Rai Sahib Ram Gopal at Sirsa and in his estate in Bikanir, are very well managed. Proper accounts are kept, and in most years the income exceeds the expenditure. The institutions have a good balance in hand and the Rai Sahib expressed himself strongly in favour of a proposal to keep good cattle apart from the infirm in separate herds."

Further, much more can be done in Government Estates to provide the tenantry with satisfactory breeding animals that has been done in the past. It is proposed to investigate the expenditure of the annual grant made for agricultural improvements in Government Estates and to enquire whether some part of this grant which amounts to 12 per cent. of the annual income can not be devoted to the supply of Government bred bulls.

IV. Improvements in breeds of milk cattle.—It has been explained above that an endeavour to improve the breed of milk cattle will be made at Sepaya simultaneously with the breeding of bulls for the production of draught cattle. A dairy on European lines will be constructed at Sepaya' and milk records will be faithfully kept. It is possible also that in connection with the new capital at Bankipore and the disposal of sewage on the sewage farm there it may be possible to grow a very large tonnage of forage per acre and to maintain a herd of dairy cattle for the benefit of the population of the new capital. This matter however is still in embryo.

V. Buffalo breeding.—It is intended to import from the Guzerat and Rhotak districts "murrah" buffalo bulls of the best type for crossing with the local buffalo and the Veterinary Department would always be ready to import for the benefit of any zemindar or cultivator who may apply for its assistance as many bulls as may be required annually. The fairs in the Punjab are held in September and October and the Veterinary officer can be deputed annually about this time to obtain the animals through the courtesy and assistance of the Punjab Veterinary Department. The cadre of the subordinate Veterinary Department provides 'for the employment of a certain proportion of officers on such miscellaneous duties as the purchase and importation of stock and the cattle survey of selected districts.

VI. Assistance from large land owners.—Something has been done in this direction by the Bettiah Raj Estate, the Huthwa Raj Estate and by the Maharaja Bahadur Sir Rameswar Singh, K. C. I. E., who maintains a herd of excellent breeding cattle at several of his residences, and by the late Maharaja of Balasore. More however, might be done in this direction particularly in the grazing tracts of Champaran and Purnea and endeavours should be made to interest large landowners in these districts particularly, as well as throughout the province. It will be necessary in this case to bring to the notice of these gentlemen the best lines on which they can work for the improvement of the cattle of their own districts.

VII. Improvement of the milk supply.—In paragraph 4 above the policy to be followed at Sepaya has been indicated and it is hoped that the dairy there may be used as a sort of institute in which a small number of students might be trained in European principles and methods. The dairy farm at Bankipore might similarly be used as a centre for instruction of the same kind calculated to train persons who desire to engage in the dairy industry on their own account. It is possible that dairying on European lines might in time afford an outlet for the energies of students who have taken a degree in Agriculture at the Sabour College and who wish to make a livelihood by engaging in this industry.

Something may also be done by the inspection of the dairy herds attached to the large central jails at Buxar, Bhagalpur and Hazaribagh as well as at some of the larger district jails. Only a very few of these herds were inspected during my tour in 1913 and I propose now with the permission of the InspectorGeneral of Jails to examine in the course of my tours a number of these herds with a view to making suggestions for their improvement. It is understood that a conference on the improvement of milk supply in towns is shortly to be held in Bankipore at which the policy to be adopted will be laid down.

VIII. Co-operative Dairy.—In this direction also scarcely anything has been done in this province, principally for the reason that co-operation is still in The Registrar of Co-operative Credit Societies has however recently its infancy. started a small society for Co-operative dairying in Gaya town. This is run much on the lines of the well known Benares Society and has so far proved very successful. The money advanced to the Goalas has been spent principally on increasing their stock of cattle as the demand for the pure milk has hitherto been in excess of the supply. I am informed that the results at Gaya have been so encouraging that a small Society is about to be started in Ranchi, where a number of Muhammadan milkmen are paying as much as 75 per cent. for money borrowed by them. The clerks in the Secretariat as well as possibly some of the European residents of Doranda may expect to benefit by this institution. There is a future before Societies for co-operative production and sale of ghee since at present a large proportion of the profits of this universal home industry goes to the middlemen who collect the finished product and transport on pack bullocks to railway centres where it is sold to the Marwaris or other merchants who expert to large towns and principally to Bengal. A Society which would guarantee the production of pure ghee and for which a clientele could be arranged, would be certain of larger profits than the individual members composing it had ever been able to secure for themselves while its clients would obtain the advantage of pure and reliable ghee at prices not necessarily higher but probably even lower than they have to pay in the present conditions. The same ideas apply to the Co-operative production of milk in the neighbourhood of large towns such as Patna, Gaya, Muzaffarpore, Darbhanga, Bhagalpur and so on. All that is necessary is rapid transport by rail and honesty in the conduct of the society. The only difficulty is that the distance over which milk can safely be transported by railway is somewhat limited unless European methods of sterilization are employed.

IX. Improvements in breeds of sheep and goats.—Allusion has already been made in the chapters relating to sheep and goats in this province as to what has been hitherto effected. Undoubtedly something might be done to assist Gareries or shepherds who usually live together in one hamlet of a village and combine for the purpose of grazing their herds. Experiments in hybridization which are being carried out at Pusa will not be lost sight of and should they show signs of becoming a real success, endeavours will be made to supply Gareries with a better class of ram that will improve both the size and the fleece of the indigenous stock. In default of rams from Pusa some thing might be done at once by the introduc-The improvement of tion of a better class of animal from Gorakhpur. goats would not be quite so simple a matter since they are extraordinarily widely distributed all over the province, each house owning 2 or 3 animals. The Jamnapuri goats introduced in the Huthwa estate from the Siripur farm have been very greatly appreciated and have much improved the size and value of the tenants' stock. Co-operative Societies that consent to purchase a Government bull might also with great advantage obtain one or two Jamnapuri goats and the Veterinary Department would always be willing to arrange for the importation of as many animals as are required.

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APPENDICES I TO V

• TO THE , NOTE ON CATTLE IN BIHAR AND ORISSA.

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				_		Staple Crops.										
·		-				Rice,	Wheat.	Barley.	Јонаг.	Bajra.	Marus,	Indian corn (Maize).*				
4 4		1	```			2	3	4	5	6	7	6				
Patna				•••	61P ³	\$84,\$00	51,900	72,600	23,600	1,500	20,400	85,300				
Gaya				410	•••	≢ 1,099,800	135,700	€5,800 . #	18,600		45,300	47,300				
Shahabad	***	414		4 7 7		700,000	232,600	105,700	24,100	10,600	10,590	43,500				
Same	•••			•••	•••	429,800	84,700	237,100	. 4,100	800	\$7,209	274,800 				
Champaran	•••	ode		•••	•••	739,900	82,700	218,600	2,000	800	19,500	120,000				
Mazaffarpur	•••			178	•••	665,900	97,300	32 2,000			198,400	290,700				
Darbhauga	-	-			•14	955,400	120,700	119,600	3,300	· 200	191,600	117,700				
Mongbyr	•••				•••	477,900	144,900	81,400	20,000	2,400	55,000	232,100				
Bhagalpur	***	eil	•••	6 44	*	1,172,800	165,000	58,100	2,800		137,000	126,300				
Parnes	•••	***		•••	***	1,375,500	36,800	9,000			6,500	25,000				
Tot	al Bihar	, excludin	g Santal P	arganas	•••	8,000,600	1,150,300	3,283,100	98,500	16,000	667,400	1,362,900				
Sental Parga	1 22	***	***			898,100	.9,400	20,100	6,200	46,50 0	, 10,300	162,700				
Hazaribagh		2-4	841			500,500	9,600	11,600		7,900	54,300	84,100				
Ranchi	•••	**	508	201		1,161,600	1,300	1,900	6,600		101,200	81,100				
Palaman		***	***			322,000	6,000	14,000	900	100	37,000	46,500				
Manbhum		•••	***			1,225,500	2,300	1,500	9,400	6,700	18,600	62,100				
Singhbhum	- 14	•••		•••	•••	499,500	1,300	400	•••	13,900*	6,800	26,300				
Angul		***		•••	•••	135,900	***	483			\$,600	4,800				
Sambalpur		***	***	898	***	684,300	200		800	***	500	1,200				
Total	Chota, Angul az	Nagpur wi nd Sambaly	ith Santal pur.	Parganas,		5,427,400	26,100	49,500	23,800	77,100	243,200	408,800				
Cutisck	••••	***	<u>.</u>	, 		1,142,900	1,000	100			\$3,070					
Balasore	-	***	***	***	***	808,300			401		۰	498				
Pari	•••		•••	•••	ŧ£.	695,700			•••	•••	15,500	200				
Jotal	Orism,	exoluding	Avgul and	Sambalpur	***	2,646,900	3,000	100			38,500	200				
	·	Geani	TOTAL		••••	18,074,900	1,177,400	1,333,700	122,300	- 93,100	9 38,100	1,771,800				

			M, (In- At for cul-	(inciudes	avallable ar, roads,			
Grim.	Oilseed s .	Cotton.	Culturable waste other than fallow. (In- cuedes lands used for grazing but fit for cul- tivation, grass, groves, etc.)	Orchards and gurden produce, mango groves.)	Lands "privately owned but not available for cultivation, villago aites, water, roads, bill and rock.	Forest.	Fodder, crop.	Total area of the district.
9	10	11	12	13	14	15	16	17
240,400 109,100 844,300 54,000 27,800 45,700 41,000 210,600 107,400	48,200 185,300 161,100 91,300 72,000 165,000 206,300 101,300 133,000	300 100 16,000 600 3,400 600	43,387 166,000 146,535 114,213 332,150 108,853 213,405 447,223 398,327	29,000 8,000 37,700 144,500 116,700 80,000 8,000 13,100 39,900	183,193 4 656,900 716,352 149,085 832,179 188,547 193,407 528,559 265,117	 61,633 49,160 	 900 5,000 5,500 800 300	1,328,000 3,015,630 2,786,687 1,711,236 3,259,840 1,948,400 3,142,690 2,510,080 2,510,080
26,500	327,200		730,052	20,000	278,514			\$,196,153
1,206,700	1,309,200	. 24,100	2,689,203	479,800	3,480,914	130,968	11,900	23,553,836
- 35,700 13,500 8,000	134,500 - 150,300 268,400	13,900 1,700 20,000	697,100 1,814,747 631,284	8,700 8,000 37,900	838,100 858,798 814,578	31,400. 1,525,620 800,812	, 3 00 	8,466,100 4,401,828 • 4,546,305
18,000 8,000	38,800 48,400	500 6,900	687,165 135,998	2,600 3,100	1,545,44 8 914,189	185,607 9,788	 5,000	3,145,980 8,654,080
3,400 100	41,100 44,600	3,600 3,800	603,833 52,500	3,200 8,700	363,388 421,761	805,278 , 349,637		2,507,460 1,089,280
900 	80,300 618,900	, 4, 100 	688,904 4,801,520	6,100 	145,465 	621,240 	4,900	2,447,380 24,267,373
	80,200	2,600	177,930	84,000	637,237			8,340,307
 B00 .	11,200 8,400	300 600	55,900 173,827	50,000 75,300	298,253 316,674	310, 69 1		1,332,621
800	47,800	\$,\$00	407,657	- 209,300	1,251,164	\$10,491		5,273,388 、
1,296,500	2,173,900	97,900	7,998,390	780,300	9,933,892	4,741,050	32,100	53,063, 49 7

DIX I.

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APT	EN
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	X		District.				Bulls and bullocks.	Сотя.	Male buffalces.	Cow-buffalos.	Young stock (caires and buffalœ-calres).	Sheep.
	, .	•••	1				2	8	4	5 '	6	7
	+ - <u>e</u>		·-···			<u>[</u>	264,432	106,761	85,959			
atua		•••	•••		•••	***	452,785	273,711	61,973	77,800 142,768	157,609 369,304	80,2 118,1
iaya 		•••	•••		•••		374,217	275,711 224,111	01,973 11,130	185,994	281,930 281,930	, 121, 1
ihahabad		•••	•••	•••		···	331,768	236,304	B,584	125,775	281,930	. AZI,I 88,5
jaran	•••	•••	-4.	***	•••		856,697	390,721	12,539	125,775	\$07,601	30,0 26,6
Champaran Muzaffarpui		-97	•••		80) 809		352,997	803,907	10,069	126,711	290,621	_ 21,S
n uzanarpu Darbhanga	• •		•••				346,318	\$78,210	6,611	180,487	· 317,141	
		•••	•••	•••	***		335,863	340,937	27,251	65,180	811,588	28,6
Monghyr Bhagalpur	•••	•••	194				890,247	470,745	28,779	107,681	437,032	25,5
-				***			669,867	616,788	28,767	107,681	485,925	20,0 21,5
Parnes	**#		•••	484	*9*	***			,			0,14
Т	otal Bihar,	exoluding	s Santal Par	ganas	***	.7.	8,875,120	3,342,355	\$31,663	1,150,15 9	3,20 4,797	460,3
Santal Parg	anas j	•••		-**	•••	•#•	879,178	479,053	178,943	77,355	859,513	218,6
Hazaribagh	۰	**4	***		***		230,820	216,431	85,195	\$3,191	205,371	£9,7
Banchi		•••	***	•••	•••	• • •	\$05,187	234,191	93,083	44,393	201,308	70,4
Palaman	•••					,	203, 590 -	219,117	20,133	66,356	109, 559	- 41,1
Manbhum	۰۰۰ ،	•••			***	+4+	153, 619	126,692	65,919	29,620	. 153,265	124,7
Singhbhum		***	•••		•••		159,753	138,087	48,361	13,662	104,786	77,8
Angul	e- 4		***	***			47,023	47,543	18,049	14,654	45,428	18,5
Sambalpur		•••	*==	··· ,	•••	761	243, 162	144,766	42,605	10,950	187,212	23,9
I	fotal Chota Angui and	Nagpur, Sambalp	, with Sani	taj Pargi	11 26 ,		1,781,880	1,605,979	542,187	290,140	1,365,53 2	604.1
						•				·		
Cuttack			•••	•••	•••	•-1	433,044	644 , 274	,978	28,954	435,371	57,6
Balasore	***		-++	***		•••	290,367	230,109	810	11,672	262,65T	9,9
Pari		į	•••		***		204,820	198,625	4,837	19,158	216,368	35,7
T	fotal Orissa	, excludio	ig Angul an	d Sambal	par	•••	927,831	873,001	8,125	50,779	۰ ۱ 913,390	203,3
								 				
		Grayd	Тотар		484		6,524,281	5,821,135	781,974	1,500,077	5,483,719	1,167,8
	Ågricultur	a] Statist	iics of 1911-1	3	•	•••	5,499,608	4,991,500	818,484	1,343,024	3,135,611	952,3
	Yariation -	÷	141	• 	•••	•••	+ 1,024,073	+ 929, 63 §		+ 158,063	+ 8,349,106	+215,4
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DIX II.

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DIX II.		•	÷				
	I poules,				5 .		Bomathe.
Gonta,	Korzes and poples,	Malen.	Donk ge.	Camela,	Ploughs.	Carta.	
9	9	10	u	u	13 I	16	15
2 63, 539 205, 539 207, 775 560, 239	5,353 8,274 8,165 11,007	50 87 80 81	1,193- 540 6,565 10,719	14 26 13 30	97,813 186,964 149,696 185,961	4,783 7 6,175 - 5,581 13,451	
479,408 489,088 380,138 388,419	15,617 13,819 11,017 5,617	; 17- 64 8	4,197 6,045 9,681 717	30 15 6 8	135,476 183.493 149,555 147,719	20,043 17,531 19,069 27,796	
839,397 410,745	14,607 41,925	34 8	30) 77	• 19 	178,401 \$75,013	\$1,538 45,980	
8,973,097	137,191	387	58,16Å	145	1,638,484	168,910	
675,034 233,678 354,561	6,718 4,468 6,1 88	211 55	171 30 (a)356	18 10 ==	282,304 151,471 209,783	59,035 86,060 { tay 14,789	
49,181 203,880 1853,729 84,905 90,195	6,364 009 885 310 9,013	 30 1	00 781(a) 38 38	3 40 	73,949 101,790 115,509 23,972 139,008	733 83,918 28,050 7,340 80,497	2 10
2,859,408	38,878	308	813	78	2,099,593	229,915	•
115,424 80,639 46,991	1,171 619 659	38 iss 3	88 00 63		\$47,606 189,854 336,349	28, 531 8, 378 86,939	
343,047	3,341	60	107	ĩ	894,5 08	55,848	
8,974,580	169,410	680	84,196	223	8, 233, 554	457,078	
3,564,787	162,668	•••	(=)\$5,109	-	2,904,023	535,040	
+1,809,813	÷ β.543 1	•••	(a)+9,505		+319,581		
510		Ţ	,	; -106		- 67,978	

(e) Includes figures for mules.

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APPENDIX III.

				•		- <u></u>					<u> </u>	Ē	XPORTS OF	·				1				
	Tenr _e			Hides of Cat	ttls—Baw fro	n	Hides of	Cattle-Dre	ssed or tanno	sd from	Skins of si	heep and oth	er animals;	Raw from	Skins of	sheep and of or tanne	her animals- i from	-dressed		Horn	s from	÷.
			Bihar	Chota Nagpar	Oriasa	Total	Binar	Chote Nagpur	Origsa	Total	Bihar	Chota Nagour	Oriasa	Total	Bihar	Chota Nagpar	Orissa	Total	Biher	Chota Nagpur	- Orisea	Total
·	1	<u> </u>						7	8	9	10	ц	12	18	14	15	16	17	- 16	19	3 0	81
		,	Mds.	Mde,	Mds.	Mds.	Mds.	Mds.	Mds,	Mds.	Mds.	Mds.	Mds.	Mas.	Mds.	Mds.	Mdø,	Mds.	Mds.	Mds.	Mds.	Mds.
901-1909	7	***	5,823	- 170	• 165	0,171				-	450	3	•	462		1	11 11		88	, 90	69	216
908-1904			5,087	919	368	4, 178		,			1,020	, 53	238	3,850			1 41		. 4 0	886	98	481
905-1906	ñ	ī.	5,607	1,039	1,811	6,147	: 	6	880	848	1,801	140	205	1,706	101	- m	² 70	79	70	183	709	962
P07-1908	- 13	- .	144,093	86,850	19,809	200,651	60 2	253	د. 189	1,217	45,931	5.000	094	\$9,518	\$11		810	- 421	1,697	3,814	1,475	6 ,380
- 908-19 79			1\$3,553	58,930	64,945	\$52,297	536	·	\$68	899	71,143	4.857	1,304	77,808	149	ĩ.	88	197	3,444	1,187	3,248	5,979
909-1910	â	-	187,899	69,467	85,119	201,985	9 836 -	.4	819	1,159	68,326	7,258	6,290	79,87 4	140	F 14	60	108	9,634	1,841	5,930	7,911
910-1911		.	192,765	63 ,507	89,898	\$75,160	903	63		905	59,284	6,130	3,939	68,419	- 111	. 8	1	117	3,936	1,491	1,997	6,306
911-1919		•••	188,699	45,283	45,085	277,140	249	11	76	886	69,030	5,432	8,655	76,093	159	68	500	204	< \$,088	1,651	3,263	7,301
912-191 8	D		159,763	83,799	69,547	237,109	89	114	bab	89	64,154	6,230	.0,016	78,508	26	. 9		18	1,983	9, 219	, 3,17	6,417
		-	<u> </u>	1 -	Į.	ļ	ļ	j i	ĺ	l	ļ.				Į				ł	Í.		I

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	· · ·				Imports o	f Ghi into		Exports of Gbi from				
·	Yest		-	Bihar	Chots Nagpur	Oriana	Zotař	Biher	Chota Nagyur	Orlena	Toint	
	1	t		3	3	4	8	6	7	9	9	
·				Mds.	Mda.	Mdp.	Mdø.	- Mds,	Mds,	Mds.	Mds.	
1901-01	e#1	•••		9,074	4,629	8,998	32,601	8,410	98	607	4,103	
1908-04	· •••	•••		11,846	7.107	6,935	25,888	5,790	728	346	6,651	
1905-05	444	641		11,779	6,603	10,993	29,573	6,494	643	` 427	5,563	
1907-08	•••			11,423	7,196	10_088	\$8,704	20,993	3,632	457	84,271	
1908-09		344		6,291	17,894	17,309	41,694	40,870	6,013	747	47,129	
1909-10	•••	3 . 141		5,514	13,428	10,548	34,268	29,758	3,698	149	32,806	
1910-11	- 10	***		_ 17,31B	14,030	37,727	69,065	82,825	9,682	3,730	38,438	
1911-18	*=4			13,191	13,395	16,718	47.308	20,785	4,113	\$87	25,165	
1913-13		-1.	'	3,978	13,647	18,008	35,633	70,394	17,008	1,313	89,208	

APPENDIX IV.

APPENDIX IV.

Statistics of Rail-borne traffic.

							Export	a of			
	Year,		•	3	Horned o	ttle from			Sheep and	goats from	
				Bibar	Chota Nagpur	Orissa	Total '	Biber	Chota Nagpur	Orism	Total
	1	-	~	3		4	8	6	7		9
				No,	No.	No.	No.	No.	No.	Na	No
101-0 8 (-			26,366	8	449	، 26,374		est .		
008-04	***			26,558	443		34,568		•••		81 T
06-06	-64	• 4.5		9,706	1	1	9,708	1,047	8	•	1,05
907-98	***	•••		43,758	693	- 2,534	45,765	180,066	9,037	11,826	20.93
208-09	846	•••	•••	\$1,078	293	4,485	35,859	176,233	9,498	69, 357	275,000
802-10	***	•••		23,474	 267	12,666	45,407	138,500	9,865	72,591	220,976
910-11				36,834	• 499	20,415	47,768	177,597	10, 176	60,485	248,251
911-1 3	4.15	•**		44,953	1,759	17,710	63,796	173_791	13,544	84,770	252.10
19-13				78.329	4,943	\$7,863	191,135	256,961	16,418	67.087	340,44

APPENDIX V.

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LIST OF THE MOBE IMPORTANT FAIRS AND MARKETS IN THE PROVINCE. •

(a) Fairs.

District.	Fair.	Approximate date.	Average No. of cattle brought for sale.	Remarks.
1	2	3	4	5
PATNA.				
Sadr Subdivision	Bihta	February and April	8,000	
	Ainkhan	January and April	9,000	
GAYA.	Akhtiarpur	March and May	1,000	
Sadr Sabdivision	Busanda	April and Novem-	5,000	
Jehanabad Sub-	Manikpur	April	10,000	
division.	Kuko	May	2,000	
Aurangabad	Jamhore	January	3,000	
Subdivision.	Pachokhar	March	600	
	Ahirari	March	300	
	Kara	April	6,000	
	Bundiha	De	5,000	
¢ .	Rafiganj	Do	5,000	
	Kasma	March	1,000	
	Khaira	May	1,000	
	Deokund	February and April	20,000	
	Sanda	January and March	1,000	
SHAHABAD.	Neszipur '	November	1,000	
	Barahpur	February and April	12,000	
	Tilothoo	November	2,000	
SARAN.	Hathwa	October •	9,000	
	Baraipatty	April	16,000	
	Manjha	October and May	7,000	
	Sonepur	November	40,000	Cows, buffaloes and bullocks.
CHAMPARAN	Revelgunge	Do	15,000	Ditto
Sadr Subdivision.	Madhuban	October	10,000	Bullocks, few cows and buffa- loes.
Bettiah Sub- division.	Bettiah Dashara Mela }	October and No- vember.	10,000	A bullock fair, cows rarely seen.

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(a)-Fairs continued.

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District.	Fair.	≜ pproximate date.	Average No. of cattle brought for sale.	Rømarks.
1	2	8	4	5
MUZAFFARPUR	-			
Sadr Subdivision	Krishna or Hardi Mela.	February	10,000	``
	Bhaireasthan	March	15,000	
	Kafain	April	1,000	
Sitamarhi Sub-	 Sitamarhi	Do	40,000	
division.	Shiuhar	April and May	25,000	· .
	Parsauni	May	20,000	
•	Bangaon	During Pooja holi- days.	800	
DARBHANGA.	Jatmelpur	March	1,000	Bullocks, few cows
	Rajnagar	February		and buffaloes.
MONGHYR.			•••	None reported.
BHAGALPUR.				· · ·
Sadr Subdivision.	Bansi	January		
Madhipura Sub- division.	Singheswarasthan	February		
Supaul Subdivision.	Kabilashi	January		
PURNEA,				
Kishanganj Sub- division.	Khagra	January	20,000	
Araria Subdivision	Forbesganj	October.		
Ditto	Chanderdai	December	6,600	
Ditto	Dharamganj	February	15,000	•
Ditto	Gauramani	March.		
Ditto	Ukhuwa	Do.	· .	
Sadr Subdivision Ditto SANTAL PARGANAS HAZARIBAGH.	Purnea city Kallyani Dumka Chatra Lowalong	December. February. February	8,000	
PALAMAU.	Chakla	October November	8,000 4,000	
	Balumath	April November	4,000 4,000	
	Harbanj Kerid	January Do.	15,000 ⁻ 5,000	-
	Latehar	March	1, 000	

(b).—Markets.

District.	Market.	Whether weekly or less frequently and day of the week.	Average No. of cattle brought for sale.	Romarks
1	2	3	• 4	5
PATNA.			[
	Kurai	Sunday	500	
	Salepur	Tuesday	500	
•	Fatua	Sunday.		
GAYA	, Bhoiliband	Sunday	200	:
SARAN.				
Gopalganj Subdiv. sion.	- Mirganj	Tuesday and Friday	5 00	
	Bathwa	Sunday and Wednesday	300	
	Gopalganj 🦾	Monday and Friday	450	
	Andar	Sunday and Wednesday	800	
Siwan Subdivision	. Siwan	Monday and Thursday	1,000	
	Mustafabad	Wednesday and Sunday	400	
Sadr Subdivision	. Nabiganj	Ditto	· 500	
	Chitauli	Ditto	- 400	
	Bhikhaban	Monday and Friday	500 to 600	
CHAMPARAN.				
	Champatiah	Tuesday and Saturday	600 to 800	
	Gouripur	Thursday and Sunday	500 to 700	
	Ramghurwah	Monday and Thursday	600 to 800	
,	Raxoul	Wednesday and Sunday	200 to 250	
•	Maduban	Sunday and Thursday	100 to 150	
MUZAFFARPUR,			J	
Sadr Subdivision. (Thana Sadr.)	Sarfuddinpur	Monday	400	
Ditto	. Madapur	Friday ,	4 00	
Ditto	. Barhetha	Tuesday and Saturday	300	
Ditto	. Gopalpur	Wednesday and Saturday	400	
Ditto	. Padmaul	Thursday and Sunday	300	
(Thana Katra)	. Aurai	Tuesday and Friday	400	
(Thana Paru)	. Sarayah	· Ditto	400	

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(b).—Markets—continued.

District.		Market.		Whether weekly or less frequently and day of the week.	Average No. of cattle brought for sale.	Remarks.
Sitamarhi Subdivision		Sitamarhi		Sunday and Wednesday	2,000	
Ditto		'Pupari		Saturday and Wednesday	2,000	
Ditto		Do.	ر بند	Sunday and Thursday	500	
Ditto	•••	Nanpur		Ditto	1,500	
Ditto	•••	Koili		Monday and Friday	8,500	•
Ditto	•••	Saurbawora		Saturday and Tuesday	500	
Ditto	•••	Madhuban		Sunday and Thursday	5 00	
Ditto	•••	Sursand	•••	Sunday and Wednesday	1,500	
Ditto		Bhitta		Saturday and Tuesday	1,000	
Ditto	•••	Bishunpur	•••	Monday and Thursday	1,000	
Ditto	•••	Naranga	•••	Saturday and Tuesday	1,000	•
Ditto		Mujaulia	•••	Sunday and Wednesday	800	
Ditto		\ Sonbarsa	•••	Tuesday and Saturday	300	
Ditto		Busbetta	•••	Ditto	500	
Ditțo	•••	Bairagania	•••	Wednesday and Sunday	600	
Ditto	` •••	Bhandari		Friday and Monday	500	
DARBHANG	• A{	Mobbi	•••	Saturday and Tuesday	350 to 400	
	•	Simri		Friday and Monday	400 to 500	
		Mankanly	•••	Saturday and Tuesday	200 to 300	
×		Kalanya		Friday	• 300 to 400	
		Sarwara	•••	Sunday and Tuesday	250 to 300	
•		Sinbara		Monday and Friday	250 to 300	
		Balha	E	Saturday	200 to 300	
		Benipur	•••	.Tuesday	250 to 300	•
		Supole		Saturday	850 to 400	

(b).-Markets-continued.

District.	Market. 2		Whether weekly or less frequently and day of the week.	Average No. of cattle brought. 4	Bemarks.
· 1			3 -		
DARBHANGA-				<u></u>	
concld.	Havibhaura	•••	Wednesday	250 to 300	i.
, ,	Basauli (•••	Monday and Thursday	250 to 300	i }
	Pahiserso		Ditto	350 to 400	
`	Bhagwanpur		Tuesday and Saturday	850 to 400	
	Bhanora	•••	Wednesday and Saturday	250 to 300	
	Khirhar '	•••	Ditto	250 to 300	{
	Narahya		Ditto	250 to 300	
	Andbramath	•••	Friday	200 to 250	ļ
	Birpur	•••	Sunday and Thursday	300 to 400	
	Basopatti	•••	Tuesday and Friday	300 to 350	}
	Narghogi	•••	Monday	200 to 250	
'MONGHYE.					Blank.
BHAGALPUR. Sadr Subdivision	Baluachak		Friday and Monday		
Ditto	Puraini	***	Sunday and Thursday	· •	
Ditto	Sonhowla	••••	Monday and Friday		}
Ditto	Naugachia	•••	Ditto	• •	}
Banka Subdivision	Barahat	•••	Tuesday and Friday		
	Sahebganj	•••	Sunday and Thursday		ļ I
•	Bharko	•••	Sunday and Wednesday		
PURNEA. Kishanganj Subdivision	Panjiparha	•••	Held twice a week		
Ditto	Chakalia	•••	Ditto		
• Ditto	Islampur	•••	Ditto		
Ditto	Thakurganj		Ditto		
Ditto	Bhatgaon		Ditto		
· Ditto	Ganjihat		Ditto		
Ditto	Ribianat	•••	Ditto		
Ditto	Koinihat		Ditto		
Dicto	Phulhanh:		Ditto	!	1
Arsria Subdivision	Toble		(Sunday and Wednesday)		

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District.	Market.	Whether weekly or less fre- gently and day of the week.	Average No. of cattle brought.	Remarks
1	2	3	4	5
CUTTACK.				
Jajpur Subdivision	Biraja	Sunday	. 900	
Sadr Ditto	Nischintioli	Monday and Friday	550	
Ditto	Krishnapur	Wednesday and Saturday	600	
Ditto	Tangi	Tuesday	200	
Kendrapara Subdivi- sion.	Ichapore	Tuesday and Saturday	1,000	Ŷ
BALASORE.				
Bhadrak Subdivision	Bhadrak	Wednesday	400	
Ditto	Tehirikhaki	Wednesday and Friday	200	
SANTAL PAR- GANAS.				
Pakour Subdivision	Hiranpur	Thursday	3,500	
Rajmahal Subdivision	Sahebganj	Sunday and Tuesday		ŀ
Ditto	Jamnagar	Ditto		
HAZARIBAGH.				
Giridih Subdivision	Giridih	Sunday	200	
. RANCHI.	,			}
Sadr Subdivision	Ranchi	Wednesday and Saturday	150	
Ditto	Gerke	Friday	4 0 0	
Ditto	Sons	Monday and Friday	800	
Ditto	Bhandra ····	Tuesday	600	
(Police-station Torpa)	Tapkara	Weekly	200	
Gumla Subdivision	Gumla	Tuesday	1,000	ļ
Ditto	Kotam	Wednesday	250	
Ditto	Lasia	Friday	400	}
Ditto	Patto	Saturday	100	
Ditto	Ad ar	•Ditto	100	
PALAMAU.	Pathra	Sunday	400	
	Terhasi	Thursday	500	

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(b)-Markets-continued.

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District.	District. Market.		week.		Average No. of cattle brought.	Remarks.	
· 1	2		3		4	5'	
MANBHUM.							
Sadr Subdivision	. Balarampur		Tuesday		400		
Ditto	Jhalda		Ditto	••••	300		
Ditto	Kalimati		Thursday		\$00		
SINGHBHUM	. Chaibassa	' 	Tuesday	•••	300		
ANGUL	. Baniabahal	•••	Friday	•••	100		
SAMBALPUR.		. 1			1	, , ,	
Sadr Subdivision	. Talpatia		Saturday	••••	130	· .	
Bargarh Do.	. Bargarh	•-•,	Friday		120		

(b)—Market.—concluded.

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COMMITTEE ON CO-OPERATION IN BIHAR AND ORISSA.

(Constituted under Government of Bihar and Orissa Resolution No. 598-D.R., dated the 3rd September, 1923, Ministry of Education (Development Branch),

(1)	Mr. F. F. Lyall, c.i.r., i.c.s		Chairman.
(2)	Rai Bahadur Radha Gobind Chaudhuri, M.L.C., Bar	chi]
(3)	Mr. B. A. Collins, I.C.s.	77*	
(4)	Mr. E. L, Tanner, I.C.s	644	
(5)	Rai Sahib Raj Prakash Narain, Fatwa	- ≥⊭+:	Members.
(6)	Khan Sahib Saghiral Haque, Siwan	. 	
(7)	Rai Sahib Prafulla Chandra Patnaik, Balasore		
(8)	Rai Sahib Bijay Kumar Ray, Banka		J .
(9)	Khan Bahadur Mohinddin Ahmed, Registrar of	• • •,	

Co-operative Societies, Member and Secretary

Appointment of the Committee.—We were appointed by Resolution No. 598-D.B., dated the 3rd September 1923, to consider what arrangements should be made for the future control of the co-operative movement in Bihar and Orissa, the adequacy of the audit system and the financial assistance required from Government. We are also required to make recommendations regarding the amount of staff to be provided by Government and the constitution and working of the Bihar and Orissa Co-operative Federation.

We sat at Ranchi from the 17th to the 19th September 1923. We have examined the present stage of the co-operative movement, the work of the staff employed, the extent to which central banks and primary societies are able to meet the cost of audit and supervision, the share of cost which the Government of Bihar and Orissa are bearing, comparing this with the cost borne by other provincial Governments. We have also examined two Assistant Registrars (Mr. N. K. Roy and Babu Akhauri Gopi Kishore Lal).

2. General outlines of this report.—Our conclusion as to the staff which should be employed and the financial responsibility which Government should undertake, if the co-operative movement is to be fostered and not restricted, cannot fail, if accepted, to involve Government in an increasing financial outlay. As this outlay will require the assent of the J.egislative Council, it seems desirable that with the approval of the Government, the public should have the fullest information possible on the present aspects of the movement in this province. We consider it desirable, therefore, to dwell on the great possibilities for good inherent in it and to submit a somewhat detailed account of the history of co-operation in this province, the present position of the central banks and primary societies, the agencies—official and non-official, at present employed to control and supervise the movement and their respective functions and responsibilities, and the organisation needed for the spread of the movement in the future. 3. Need for the co-operative movement.—It will be remembered that His Majesty the King-Emperor said in December 1911 :—

"If the system of co-operation can be introduced and utilised to the full I foresee a great and glorious future for the agricultural interests of this country";

and this utterance of His Majesty is an inspiration for every co-operator. About 80 per cent. of the Indian population live on the produce of the soil. However great the strides India may make in industrial progress, she must still remain essentially an agricultural country. The material progress of India must, therefore, always very largely depend on the economic progress of its vast agricultural population. But this population has been left in comparative isolation in more recent times owing to the influx of the best intellects into towns and cities in search of occupations. Eminent economists have held that this isolation is harmful to the interests of the country as a whole. The economic evils of a vast rural population which gives material sustenance to the country, being left to take care of itself have now forced themselves into prominence in all civilized countries and greater attention is being paid to securing the welfare of the peasantry and to ensure for it "better farming, better business and better living". The need for it is now being felt in India also and the co-operative movement furnishes the best and in fact the only organisation which can bring the intellect of the country into iclose contact with the backward and illiterate people of the rural areas.

4. Origin of the movement in India,-Government have always been concerned at the poverty as a whole, of the peasantry, their growing indebtedness and their helplessness in times of drought and famine, and various remedial measures have been adopted from time to time to improve their condition. Vast sums have been sunk in irrigation projects; Acts have been passed for giving agricultural loans and loans for land improvement, savings banks have been introduced for the inculcation of thrift and laws have been enacted and amended to check usury, to prevent alienation of land and to protect tenancy rights. But although the possibility of introducing the system of co-operative credit in this country had previously been considered, it was not until 1895, when Sir Frederick Nicholson of the Indian Civil Service submitted to the Madras Government a valuable and comprehensive report on the subject, that a real beginning was made. Eventually in 1901 a committee was appointed to report on the action necessary for the establishment of cooperative societies on a proper footing. The committee had the benefit of the advice of Mr. Henry Wolff, the leading authority in England on the subject. and as a result of its recommendations a Bill was introduced in the Legislative Council by Sir Denzil Ibbetson and was subsequently passed as Act X of 1904. After some years of working of the Act of 1904, it was found necessary to amend it and a new Act was passed in 1912 (Act II of 1912) which governs co-operation at present.

5. Growth of the movement in Bihar and Orissa.—The passing of that Act more or less synchronised with the separation of this province from Bengal. There were then 530 agricultural and non-agricultural societies and 8 central banks. An officer from the cadre of the Indian Civil Service was appointed as Registrar, an officer from the Provincial Service became Personal Assistant and three auditors, were retained on a pay of Rs. $100-\frac{10}{1}-150$. In the year 1913-14 the number of societies rose to 797 and central banks to 12. Out of the three auditors two were made Sub-Deputy Collectors, two more Sub-Deputy Collectors were taken in and these five officers were placed in charge of the audit of societies in the five divisions. But the audit of societies soon fell into serious arrears, partly owing to the auditors' time being taken up by organisation work and partly because the number of societies in his charge was too large. The sanction of Government was, therefore, obtained to the appointment of two temporary local auditors on Rs. 50-75 for a period of one year to complete the audit of societies in certain areas. In 1914-15 the number of societies rose to 1,068 with 20 central banks and the remaining auditor was made a Sub-Deputy Collector. At this stage difficulties were experienced in getting the primary societies audited by the Sub-Deputy

Collectors, and it was proposed to make over the audit of primary societies to a special staff paid for, either partly or wholly by the societies. Government were moved to sanction the immediate appointment of three more local auditors in the meantime, and one more for every 120 societies in future. This was the origin of local auditors. At the end of 1915-16 the number of societies was 1,276 and central banks 21. The Registrar's work was then too heavy, and the designation of his Personal Assistant was changed to that of Deputy Registrar and he was required to undertake the inspection and supervision of societies. By 1916-17 the number of societies including central banks was 1,429, and it became clear that some devolution of the statutory powers of Registrar would be necessary. By way of experiment, therefore, a member of the Provincial Civil Service was posted to the Patna Division with the designation of Deputy Registrar (since changed to Assistant Registrar). In 1917-18, when the total number of societies rose to 1,724, another Deputy Collector was appointed as Deputy Registrar and placed in charge of the Orissa Division, while the Deputy Registrar at headquarters was vested with all the powers of a Registrar under the Co-operative Societies Act. Eventually, in 1919-20 the sanction of the Secretary of State was received for the appointment of (1) one Registrar of the status of Magistrate and Collector, (2) one Deputy Registrar of the same status, (3) one Assistant Registrar recruited from the Indian Civil Service acd (4) six Deputy Collectors,—five for the five divisions and one for the head quarters office as Personal Assistant to the Registrar; and by 1920-21 when the number of societies was 3,580 the five civil divisions of the province were in charge of five Deputy Collectors with the designation of Assistant Registrar, while one Deputy Collector who worked as Personal Assistant in the Registrar's office also supervised the societies in Patna district. To these officers certain powers were delegated including the power of registering primary societies, For administrative convenience, Sambalpur district was taken from Orissa and, attached to the Chota Nagpur Division charge and Palamau district separated from Chota Nagpur and attached to the Patna Division charge, from which Patna district was, as stated above, excluded.

6. Duties of the Registrar and Assistant Registrars.—The duties of the Registrar have been fully explained in paragraph 192 of the report of the Committee on Co-operation in India and after an examination of the present working of the Department and with such practical experience of it as most of us have had we may say that the responsibilities of the Registrar have been by no means exaggerated. We cannot do better than quote in extenso from the Committee's report to give an idea of such duties.

" Under the Act it is the duty of the Registrar to receive and enquire into applications for registration; to register the byelaws of societies and amend? ments to them; to audit the accounts or cause them to be audited; to make a valuation of the assets and liabilities of societies, and prepare a list of overdue loans; to see that the Act, rules and byelaws are observed; to make special inspections when called upon to do so; to dissolve or cancel societies and to carry out their liquidation. In order to fulfil his duties he must be continually studying co-operative literature, which is now most extensive ; he must make himself acquainted with economic conditions and practices both throughout India and in his own province; he must know the principles and methods of also joint stock banking; and must examine the systems of developing thrift and inculcating co-operation which have been tried in other countries. He is also the head of a teaching establishment, and must devise effective means for impressing alreal knowledge of co-operation on the bulk of the population. He has further to control a large staff, to draft model byelaws and rules, to collect statistics and write reports, to advise Government on various subjects, and to keep in close touch with the higher finance of the movement as managed by Provincial Banks and Central Banks. In addition to this he must attend conferences, co-operative and agricultural, must keep in constant touch with markets, with honorary organisers and other well-wishers and various departments of Government, and must undertake a certain amount of writing and reading for the official press and for co-operative journals. As Mr. Wolffee has put it to us, the Registrars should not be set down as officials, but as guides,

philosophers and friends to the societies, appointed and paid by the State. It must further be remembered that there is no finality in the Registrar's work and he can never feel that it has been cleared off and brought up to date. He will always feel the need of wider reading and of giving more and more supervision and teaching to his societies. New means and methods to attain fresh ends must constantly be discussed and devised. His work is, moreover, highly responsible involving a watch over large sums of money deposited by the public and a share in the responsibility for the economic fate of a province."

Since their appointment certain powers of the Registrar have been delegated to Assistant Registrars but the Registrar still retains the power of registering societies with limited liability including central societies and societies of special types and liquidating societies of all kinds. He reads (1) audit notes of all limited liability societics, of which there are at present 209; (2) the audit notes of central banks (48), (3) inspection notes recorded by the Assistant Registrars on these banks (48) and (4) the audit notes of all guarantee unions of which there are at present 118. His office received 7,402 letters and 11,346 letters were issued during the 12 months ending 31st August 1923. Every local auditor, divisional auditor and Assistant Registrar sends him a weekly demi-official letter giving a short account of the work done during the week and bringing any special matter to his notice. The total of these letters comes to about 232 a month. He was on tour for 259 days during the last co-operative year. He edits the Federation Gazette, published quarterly, and occasionally contributes to it and he has to make all necessary arrangements for the annual Congress of the Federation. He has constantly to supervise the Co-operative Press and practically all the work. of the Provincial Bank is done under his advice. He has to recommend all loan applications to the provincial bank and has to canvas for its deposits and not infrequently for those of the central banks also. Besides his own office he has to control the Federation office which consists of five assistants and received during the last year 4,254 letters and issued 4,670 letters. He reads the diaries of various officers under him a list of which is appended (Appendix 1). He has also to carry on correspondence to secure raw materials for industrial societies such as societies amongst weavers, shoe-makers, bell-metal workers, and better markets for the sale of their finished products. Apart from the volume of work he has to do, the responsibility which lies on him is extremely heavy. There is at present Rs. 65,50,237 on deposit in central banks and Rs. 8,70,742 in societies. His constant care is to see that these deposits from the public are not in any way endangered by the liquidation of any society, which may not only mean loss of public money and consequent loss of confidence in the movement but also the ruin of the members for whose economic benefit societies are formed. The Registrar's personal responsibility is specially great because the central banks and many other limited liability societies are mainly managed by busy individuals like lawyers and others who have had no previous business experience and cannot as a rule give as much time and attention to them as is necessary.

We take this opportunity of asserting our unanimous opinion that the post of Registrar is one which it is imperative should be retained in the cadre of the Indian Civil-Service. We understand that the Retrenchment Committee recommended its removal, but we think they cannot have had an adequate idea of the responsibilities it carries or the powers of organisation its incumbent inust possess. These are points regarding which it appears they took no evidence. The description of the work of the Registrar given above will show that it is a post that can only be held by a picked officer, and one who has had a proper training in general administration. If the Registrar is not a member of the Indian Civil Service, then he must certainly be a man of such calibre as to entitle him to a listed post. A lesser pay and a lower status could not fairly be given to such an officer, and, if it were, it would simply mean that yo man with the necessary ability would be attracted to it. Members of the Bihar and Orissa Executive Service with ability naturally look on promotion to listed posts as their goal and will not take appointments which are liable to side-track them. Further, unless the Registrar has this status he cannot deal on an equality with other heads of departments and district officers, or carry proper weight with the public. We, therefore, strongly press on Government the necessity of retaining this post in the cadre of the Indian Civil Service.

The Assistant Registrars have practically to perform similar duties to those discharged by the Registrar, under his control, and certain powers have been delegated to them. They have powers (1) to register agricultural societies with unlimited liability, (2) to register amendments of their bye-laws, (3) to sanction contribution to charitable purpose and (4) to deal with cases under section 43 (1) of Act II of 1912, and as part of their duties they have (a) to watch over liquidation proceedings, (b) to read the diaries of auditors, honorary organisers and bank employees and the weekly demi-official letters of auditors, the monthly financial statements and proceedings of the Boards" meetings of central banks, (c) to deal with applications for the appointment of probationers, make arrangements for their training and examination, (d) to control audit and bank staff, (e) to deal with all audit notes, (r) to send brief notes for the quarterly Federation Gazette, (g) to obtain figures for the departmental report from societies and to check and compile them, (k) to submit annual reports on the working of the societies under their charge, and (i) to fully inspect all central societies in their area and submit comprehensive inspection notes. Certain questions were distributed amongst the Assistant Registrars before we sat. Their replies are embodied in Appendix II. The statement of the two Assistant' Registrars we have examined are given in Appendix III. After fully and carefully considering the various duties performed by the Registrar and the Assistant Registrars and considering the geographical position of each Assistant Registrar's jurisdiction, we are satisfied that the Registrar as well as the Assistant Registrars require immediate relief so as to ensure better supervision and control, and also to maintain the present rate of progress of the movement. There are still places which have not been touched, viz, Araria and Kissenganj in Purnea district, Bhabhua in Shahabad. district, Dhanbad in Manbhum district, the whole of Singhbhum district, Simdega and Gumla in Ranchi district, Chatra and Giridih in Hazaribagh district, Khondmals in Angul district and practically the whole of the Santal Parganas and Palamau. We give below a table showing the area and number of societies in charge of each Assistant Registrar :

•	Nam.		Number of	Number of Societies,	
Name of Division.	Diatriet.	Subdivision;	Agricultual.	Non- egricultarsi;	Number of contral banks
1		\$		5	6
		1. Sadr	120	7	1
· · ·	Gaya	2. Jehanabad	183	6	1
		3. Nawada	207	5	1
Patna Division ex- oluding Patna		4. Aurangabad	86	2	1
District and in-	·····	1. Årrah Sadr	68	2	1
- it i	Sliahebad	2. Buxar	58	1	1
	1 •	2. Sassar .na	55	2	1
	la i l	4. Shabua		• •••	
. , i	Palamau	"Sadz	- 25		
•	•	Total, Patna Division (ercludiug Patna Dis- trict and including Palamau).	803	25	7

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		N atta		<u></u>	Number of	Sociaties,		
Name of Division.	District.	District.		i	Agricultural.	Noz- Agricultural,	Namber of contral danges.	
1	8.		8			· · ·	6	
		ć	1. Sadr		61	48	L	
			2. Madhipura	•••	94		f	
	Bhagalpur	·••• {	3. Supaul		152			
	-*	ľ	4. Banka	•11*	102	•••	1	
		ĉ	1. Sadr	646 	100	- .		
	Monghyr	_]:	2. Beguserai	** *		7	2	
	mongayt	<u>۱</u>	8. Jamui.	ýða .	54	1	1	
Bhsgalpur Division		<u>ر</u> ا	1. Purnea Sadr	3 44)	64 51	. 2		
	Purnies		2. Kissenganj	8+4	-	1	1	
	- 41404		2. Araria	444	1-)	فعتو ہ 1	ի սեց 	
	la series de la companya de la compa		1. Sadr		-	644	* **	
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			2. Dèóghar	601	9	ř ••	' in	
	Santal Pargenes	- 1	8. Godda	410	1	. 3 84	1	
			4. Pakur	aýs .	1:			
			5. Jamtara	*7*	•••		· •••	
		لن •	& Rejmahal	tes	1			
			Total, Bhagalpur sion.	Divi	709	60	· 9	
		·	1. Sadr		106	1	1	
	Muzaffarpar	" .{	2. Hajipur	-	40	4	1	
1		. L	3. Sitamarhi		149	. 1		
	· · ·	ſ	1. Sadr		11	1		
	Saran	, {	2. Gopalganj		. 99	: \$b.	1	
Tirhut Division		l	3. Siwan	·	164		1	
		ſ	1. Sadr	***	155	. 6	- 2	
- ·	Darbhanga	{	2. Madhubani		115	3	1	
		ł	9. Samasti pur	401	49	1	. 1	
		۔ ۲	1. Sadr		131	. 9	1	
	Champaran ·	·••• {	2. Bettiah	•••	92	22	2	
•	- -	Ţot	l A Tirhut Division		1,111	47	12	
	l i	c	1. Sadr	٠	266	16		
		·	2. Khunti	***	48 48	7		
(Ranchi		3. Simdega	# ⁴⁴⁹	40 24			
Chota Nagpur Divi-			4. Gumls	***	24 93	• • • •		
chots Nagpur Divi- sion excluding Palamau and in-			1. Sadr	941		94. Q	1+e 7	
cluding Sambal-	Harautharith	ļ	1. Saor		75	3	1	
pur.	Hazaribagh	****	8. Giridih		•••	b# •		
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		N	ime of-	No. of	aodiėties.	
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Chots Nagpar Divi-	Manbhum	{	2. Dhanbad	1		
Palamau and in- oluding Sambal-	Sambalpur	{	1. Sadr	. 98	7	, 1
pur.		Ĩ	2. Bargarh	- La	9	, 1
ч	Singhbhum	***	Sadr	. 2	25	. ***
f 			Total, Chota Nagpu Division (exolution Palameu and includ	670	64	7
•			, Palamau and includ ing Sambalpur).	-	i	• •
ананананананананананананананананананан		ſ	1 1. Sadr	. 335	16	3
	Cuitzok		2. Jajpur	. 87	5	· `1
		Ł	8. Kendrapara	. 68		1
Orissa Division ex-	Puri	{	1. 8adr	· .		L
bluding Sambalpur.		((2. Khurda 1. Sadr	110	82	
	Balasore	<u>ب</u> ، ب	1	110	2	- - 1
	Ångul		1. Sadr		S.	1
			•			
			Total, Orissa Division (excluding Sambalpur	r 1,054)-	82	10
· · ·		ŗ	1. Sadr	. 46	12	1
			2. Dinapur	0-		
Patna District (under Assistant Begistrarat	Patna		3. Bihar	. 129	- 4	1
Headquarters).	a Anna an an Anna an Anna Anna an Anna an	J.	4. Barh	115	7	1
			Total, Patna District	315	23	8
•			Grand total for th Province.	e 4,661	301	48
-) s	Total No. of Societie of all classes.	5,0)10	,
			Add Guarantee Union (including Bibar and Orissa Co-operative Federation).		19	
			Provincial Bank	- 1 -	1	•
			Total No. of Societie of all classes on 31s May 1923.	5,1	.80	

7. Honorary Organisers.—Of the non-official workers the most prominent in the earlier stages are the honorary organisers. These gentlemen have rendered invaluable service to the movement, but there has been some difficulty experienced by the Registrar in finding suitable men willing to fill the post. An honorary organiser should have considerable local knowledge and if possible be popular in the area. He should possess powers of persuasion and be imbued with a sincere desire to serve his country while his honesty and probity must be above suspicion. When any such gentleman is found in an undeveloped area, his name is sent to the District Magistrate for approval. When the latter's approval is received he is recommended to Government for appointment. He generally draws second class travelling allowance for which provision is made in the Registrar's budget, but there are three honorary organisers in this province; who draw first class travelling allowance. The actual expenditure for travelling allowance of these workers in 1922-23 was Rs. 9,048. The principal functions of an honorary organiser are to organise societies in his area and to supervise them. The usual practice is to withdraw the honorary organiser from an area when a central bank has been established in it and a manager with sufficient staff appointed. In certain areas, however, the services of an honorary organiser have been found so valuable to the movement that his services have been retained even after the establishment of a central bank. These honorary organisers submit their diaries showing the work done by them, with their travelling allowance hills to the Registran who counterprises such hills. At present there are 31 bills, to the Registrar who countersigns such bills. At present there are 31. honorary organisers in this province. . .'

8. Special Officers.-Special officers are appointed temporarily with the sanction of Government to develop new areas, and are generally recruited from amongst the best of the local auditors on a pay of Rs. 100 and travelling allowance. Three posts have been sanctioned and two officers have already been appointed. The work of introducing the movement in a new area is, we are assured, laborious and requires great care and perseverance. Tactful and persistent preaching is necessary to convince the cultivators that the movement is really for their good. When ten or more persons in a village agree to form a society, the special officer prepares all the papers required for its registration, gets ready the application for a loan from the Provincial Bank and when the loan is obtained distributes the same. He has to train the secretary of the society in account keeping and to make careful enquiries to prepare the haisiyat register. When doing this work he has to look about for some persons who will take an interest in the movement and who may subsequently work as an honorary organizer or secretary of the prospective central bank. When a sufficient number of societies have been started and about 30 to 40 thousand rupees invested, he organises a central bank, gives an idea of its working to interested shareholders and shows the secretary or the bank clerk how to keep all the registers and to conduct the work of the bank. The operations take not less than 6 months in one area and usually more. It is obvious that this detailed work cannot be done by the Assistant Registrar himself. So long, therefore, as there are new areas to be opened up, one or more special officers will be needed. In view, however, of the few subdivisions left undeveloped, the need for them will not be felt very long.

9. Divisional Auditors.—Divisional auditors were first appointed in 1921 and there are now six. Five of them are graduates, four of whom were formerly bank managers. They were given a training in audit and accountancy for 4 months in the firm of Messrs. Batliboi and Company, Incorporated Accountants, at their own cost. The sixth is a retired Deputy Collector who was not required to undergo that training. Their pay is Rs. $150-\frac{10}{1}-250$ plus the usual travelling allowance and they are servants of the Federation. Their dutics are to audit all central banks, test the audit of a certain number of primary societies and audit all societies with limited liability such as urban societies and stores. They were appointed originally to relieve the Assistant Registrars of increasing their number until it was really necessary.

10. Bank staff and local auditors .- The other paid staff employed by central banks or the Federation for sup rvision or audit consists of the bank managers, bank clerks, inspecting clerks and local auditors. The method of recruitment of the lank staff and local auditors is given in the Registrar's Circular No. 9 of 1823 reproduced in Appendix IV. Ordinarily a manager should be a graduate, the bank clerk and inspecting clerk should have passed the Matri-culation Examination and the local auditors the I. A. or I. Sc. Examination. The training period is three months. The probationers are drafted to different central banks where they undergo their training with bank managers and local auditors. They read the necessary co-operative literature including the Act and the rules and attend the audit of primary societies. They also learn details of office work in the bank office. At the end of the training period they are examined by the Divisional Assistant Registrar and those who pass become eligible for appointment. The inspecting clerks and bank clerks get training allowances of Rs. 15 per month, local auditors Rs. 20 per These allowances are generally month and managers Rs. 30 per month. pail only after the candidates have passed the necessary tests. The cost of training them is at present borne entirely by Government and in the Registrar's budget for 1923-24 there is an allotment of Rs. 5,000 for this purpose. We think the system of training is unsatisfactory, for it depends largely on the interest taken by the manager or local auditor under whom a prohationer may happen to be placed. Moreover the standards set up by the five Assistant Registrars tend to differ. It would be advisable in our opinion to have a separate training class, preferably at the headquarters of the Federation office, where arrangements should be made for lectures to be delivered by suitable persons on accountancy and book-keeping after a course of practical training in central banks and primary societies. The probationers should, after their course of training, be fit to undertake a work in which some amount of missionary zeal is necessary. We hope the cost under this head will eventually be borne by the Federation from its Development Fund but at present do not see how this vitally important work can be financed without Government help.

11. Central Societies.-Having described the various classes of officers and workers, we propose to explain briefly the financial position and working of central and primary societies and guarantee unions. Besides the Provincial Bank there are now 48 central financing societies which are of two types. In the one type called "central banks" there are (1) preference share-holders and (2) ordinary share-holders. The former consist of individuals residing or holding lands within the jurisdiction of the bank. The ordinary shareor holding lands within the jurisdiction of the bank. The ordinary share-holders are the societies as corporate bodies, each society taking one share of the value of Rs. 10 for every Rs. 100 borrowed. The second type of central society called "central unions", consists only of the societies as share-holders, but a limited number of individuals are also taken in if they are known to be in sympathy with the movement and if their association with the union is likely to safeguard the interests of the societies. They are elected by the societies themselves. When a new central financing society is registered, Government usually pays for the maintenance of an inspecting clerk, as it is impossible for it to meet all costs of management at this stage. The staff usually maintained by a central society when in at this stage. The staff usually maintained by a central society when in full working consists of a bank clerk on Rs. 40 to Rs. 60, one or more inspecting clerks on Rs. 30 to Rs. 50 and a manager on Rs. 75 to Rs. 200, No manager is ordinarily appointed until the working capital is Rs. 80,000. Each inspecting clerk supervises 40 to 50 societies. The staff is increased with the expansion of business. The entire cost of management is borne by the central societies, except at the initial stage, and works out on an average at 2.2 per cent. of the working capital. The central society has also to contribute four annas per cent. on its working capital for the audit of primary societies affiliated to it and Rs. 5 per day for its own audit calculated on the number of days taken in the audit up to a maximum of Rs. 75. Sooner or later twelve to fifteen thousand rupees has to be spent on the bank building. A certain portion of the profit is always set aside for education

agricultural improvement and for other banefits of the members of societies. Dividends to individual share-holders and to societies seldom exceed 9% per cent. and 6% per cent. respectively, and are limited by law to 12% per cent. on the paid up capital. The central society also subsidises guarantee unions when the funds of such unions are not sufficient to meet their expenses, while it has now to invest one-fifth of its paid up share capital in the shares of the Provincial Bank. The last Federation Congress has resolved that every society must make a contribution proportionate to its working capital towards the Development Fund of the Federation, with effect from the present co-operative year.

12. Guarantee Unions.-The formation of guarantee unions is being pushed on so as finally to link up all societies with such unions. A union consists of 5 to 15 societies within a radius of four miles from the union headquarters, their principal function being to check the loan applications of each affiliated society and to recommend loans which the other constituent societies guarantee to a certain defined extent. It is expected that these unions will place the movement on a firmer basis, extending co-operation amongst the village members to neighbouring villages, and render the assessment of credit easier and the check on the expenditure of loans on legitimate purposes more cffectual owing to the local knowledge of its members. It is hoped that they will prove most useful for ultimate rural reconstruction and development. The secretary of the union, who necessarily plays a very important part is selected from amongst the best secretaries of the affiliated societies and he is expected to be familiar with the Co-operative Societies Act and the rules and the Registrar's vernacular circulars for the instruction of the punches and members. He should also be able to draw up a correct balance sheet and prepare the annual statements. He has also to accompany the delegates of the societies for periodical inspections of societies and to convene guarantee union meetings, keep the registers of the union, write out proceedings and send copies thereof to the central bank. Naturally, difficulties have been experienced in securing men of the cultivating class capable of performing these functions and willing to devote the necessary time without any remuneration. The secretary therefore, has to be paid. The union delegates are paid some daily allowance too, when they go out for inspection. All this expenditure is met from a levy of 6 to 8 annas per cent. on the working capital of the affiliated societies and when that is not enough it is supplemented by a small subsidy from the central bank.

18. Primary societies .- Primary agricultural societies are not registered now unless the members agree to take a share of Rs, 10 for every hundred rupees they borrow but this is paid up very gradually. The entrance fee is usually annas 8 per member. In a new society some of the registers are given free and for others the society has to pay, as shown in Appendix V. The cost to Government at precent for each set of registers given free is Rs. 5-1-0. The society has to purchase a seal and a thumb impression apparatus and a small piece of cloth for keeping the registers. The usual rate at which the societies borrow is 121 per cent. and the rate of lending is 155 per cent. leaving a margin of 31 per cent. in profit. The ordinary expenses of a society are, Rs. 10 per cent. of the profits for the writer, bhatta paid to the punches when they go to the central bank for transaction of any business, 6 to 8 annas per cent, on the working capital for meeting the expenses of the guarantee union (where it exists), 6 annas per cent. towards audit and 2 annas per cent. for the Federation Development Fund. The total recurring expenditure comes to over 1 per cent. on the working capital, leaving very little margin to build up a reserve. We are clearly of opinion that the societies cannot make any further contribution from their own funds. We considered whether it would not be possible for societies to raise more funds by increasing the rate of interest to their members, but we consider this impracticable for several reasons. In the first place, the rate of interest (Rs. 15-10.0 per cent. per annum = $2\frac{1}{2}$ annas in the rupee) is already somewhat high. Secondly, it is not very markedly lower than the rate at which moneylenders nominally lend to solvent cultivators in Bihar proper, where the usual rate varies from 2 per cent to 1 per cent. per mensam. Thirdly, any increase in the rate would mean a great set back to the movement. Rightly

or wrongly interest has been fixed at a certain rate. The cultivators, used to customary rates, cannot understand movements in the money market. By careful management the province went through the cataclysm of the great war without raising the rates of interest, either to societies or their borrowers. A forced change would now be regarded by the cultivator as a breach of faith and an attempt to introduce a new form of taxation through his society, long predicted to him by the scoptics and enemies of the movement. The hope has always been held out to members of societies that as their own capital was built up the rate would be reduced. A reverse movement would destroy their belief in the bona fides of the prometors of cooperation. Further, we consider the present lime the wrong one to choose for such a change. It is unsafe to prophesy but it looks as though rates of interest were on the downward trend. In pre-war days a fairly high level was chosen to attract capital and it was hoped very soon to reduce rates all round. This hope was falsified by the great war but the margins left were so ample that the societies went through this period safely though with difficulty. If the present fall in the price of money persists, gradual economies will be possible in the working of the central societies and these may be able to make greater contributions later. We prefer not to make any definite forecast, though we think it not impossible that eight or ten years from now the societies may be able to make further contributions. But at any rate, we consider it quite impracticable to increase the rate of interest to berrowers in primary societies in all areas, where societies have already been started. This finding does not, however, apply to new areas where the present customary rates are very high, and recommendations regarding these are made hereafter.

14. The Co-operative Federation.—It remains now to explain the origin of the Co-operative Federation and how it has fulfilled its functions till now. It was formed on the initiative of Mr. Collins when Registrar in 1915. In this connection we invite a reference to his letter No. 2106, dated the 12th June 1915, and a note appeared to the letter which are reproduced in Appendix VI. The proposal to form a Co-operative Federation and to contribute a part of the audit cost received the assent of the Secretary of State. The orders were communicated to the Registrar in the local Government's letter No. 7873 (Revenue Department), dated the 20th November 1918. The objects of the Federation as stated in its by laws are the following ;—

- (i) to ensure a regular and efficient system of supervision and audit and control for all co-operative banks and societies enrolled as members;
- (ii) to promote agricultural, industrial and other special forms of cooperation;
- (iii) to aid in the expansion and improvement of primary education, to promote sanitation, to facilitate medical and famine relief and generally to secure moral and material progress of its affiliated societies; and
- (iv) to secure unity and uniformity amongst all co-operators of Bihar and Oris a and to see that all co-operative business is conducted on sound and progressive lines.

The Federation was authorised to acquire a press and it has got a press in which about Rs. 50,000 has been invested. We did not consider the present financial position of the Federation and wish to avoid expressing any opinion as to the wisdom of locking up such a large sum in this venture. No society is registered unless it gets itself affiliated to the Federation, for which a primary society pays an entrance fee of Rs. 2 and a central society Rs. 25. The Registrar is the *ex-officio* Governor and he conducts his work with the help of a body of councillors whose present number is 15. A Congress consisting of delegates elected by the societies meets once a year and its assent is necessary to the levy of any contribution. No society affiliated to the Federation can employ any staff except menials on Rs. 10 without a license being granted to such staff by the Federation. All employees of societies are under their direct control save that on dismissal an appeal lies to the Governor. All Federation employees have a provident fund to which they contribute one anna per rupee of their pay and the Federation contributes half that amount. The training of the staff required for the control, audit and supervision of societies is under the Federation. We consider that the constitution of the Federation is generally satisfactory.

The pay of the local auditors is Rs. $55 - \frac{51}{2} - 82\frac{1}{2}$ and there are two posts in the selection grade of which the pay is Rs $82\frac{1}{2}-\frac{5i}{2}-110$. Besides this, each local auditor gets a fixed travelling allowance of Rs. 20 in the Orissa Division and Rs. 25 in other areas. The Federation office has five assistants and the total cost of office including stationery, printing and contingency was Rs 7,478 in the year ending 31st May 1923. It was estimated by Mr. Collins and accepted by Government that the cost of audit per primary agricultural society would be Rs. 15. It was decided that Government should bear wholly the cost of audit of new societies, not more than two years' old, and also of primary societies in backward areas such as those in the Chota Nagpur Division, and that Government should pay Rs. 3-8 for every other unlimited agricultural society. The reasons given for exempting new societies and societies in backward areas from bearing any share of the audit costs are given in Mr. Collins' note. We, however, hold that so far as payment of contribution for audit is concerned there is no reason to make any difference between a society in a backward area and that in any other area. In Ranchi we understand that the margin of profit in societies is 6 per cent. on the working capital and nowhere in the Chota Nagpar Division is it less than Rs. 3-2 which is the usual margin of profit in other parts of the province. We, therefore, consider that all societies irrespective of the area in which they are situated should pay the audit contribution as fixed by the Federation from time to time. Their contributions will not, however, be sufficient to cover the full cost of their audit because the average working capital of a society in the backward areas is Rs. 857 while in other areas it is Rs. 1,938. The central banks in these areas too are not in our opinion, at present in a position to meet any portion of the audit costs of societies affiliated to them. It will, therefore, be necessary for Government to contribute at a higher rate for the audit of societies in backward areas than at Rs. 3-8 per society. The actual rate should be fixed after a detailed examination by the Registrar. There were 47 local auditors on the 31st May 1923. The total amount of audit fees realized and due on that date was Rs. 32,978 and the Government's contribution was Rs. 28,362, bringing the total collections under this head to Rs. 61,340. The total cost of maintaining the local auditors was Rs. 61,092 including a proportionate share of office expenditure at headquarters. At present, therefore, the audit fees with the Government subsidy just cover the cost of audit and no more.

The central and other limited liability societies are audited by the Divisional Auditors. Government pays to the Federation annually a sum of approximately Rs. 17,000 which is calculated to be the average cost of maintaining five Divisional Auditors and a sixth has now been appointed at the expense of the Federation. During the year 1922-23 only Rs. 3,435 was recovered from central banks and other societies for audit fees, or an average of only 140 days per auditor at Rs. 5 a day. This seems to us a very low average and unless the Divisional Auditors can be employed for at least two-thirds of their time at daily rates, it will be impossible for the Federation even with the assistance of the Government subsidy to employ a sufficient staff of them, as the number of societies increases. At the same time it is essential that the Federation should increase the number of Divisional Auditors with the lexpansion of work. While, however Government should not contribute more towards the maintenance of Divisional Auditors than they are doing at present, without the Government subsidy the requisite number of Divisional Auditors cannot be maintained, at least not so long as the audit rate is Rs. 5 per day only, and we do not see how this can be increased at present. In this connection we would point out that Divisional Auditors were appointed in order to relieve Assistant Registrars of the drudgery of audit of central societies, which under the scheme originally approved they were to

carry out at the cost of Government, and the substitution of this cheaper agency has made it possible to do with fewer Assistant Registrara. It is just, therefore, that Government should continue to pay the cost of five Divisional Auditors, whose time is mainly taken up with the audit of central societies.

15. Summary of subsidies at present paid to the Federation.—We give below the amount of subsidy paid by Government to the Federation under different heads to enable the Federation to perform efficiently all its functions as laid down in its byelaws :—

(1) Contribution for the entertainment of five Divisional Auditors.— Rs. 16,672 is provided in the budget for 1923-24 under this head. We have already shown that the audit fees levied at the present rate from central banks and limited liability societies are not sufficient to maintain all the Divisional Auditors required, and we think it will be necessary for Government to continue this subsidy.

(2) Audit contribution for societies less than two years old and societies in backward areas at Rs. 15 each and for societies above two years at Rs. 3-8-0 each.—After examining the financial condition of societies and their various financial needs we hold that, except that societies in backward areas should contribute to audit at full rates, the societies are unable, at any rate for a number of years to come, to bear any further levy and Government, must, continue to bear a portion of the cost of audit.

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(3) Subsidies for clerical aid to societics in backward areas or those. composed of buckward classes and the central banks in aboriginal areas. There is no fixed scale. Special clerks are sanctioned after considering the requirements of each case. The budget for, 1923-24 provides Rs. 4,081 for these subsidies. We mention here the reason why aid of this kind is necessary. Central societies in backward areas labour under various difficulties, while in these very areas the people have the greatest need for co-operative societies. The population consists mainly of aborigines, who are illiterate and simple and, therefore, easily exploited by middlemen and money-lenders. The prevailing rate of interest varies from 371 to 75 per cent. per annum which is further increased by all kinds of dishonest methods. Lands are consequently passing into the hands of mahajans under the bhugut mortgage system and the actual cultivator is reduced to the position of a mere serf labouring from year to year only for the benefit of the money-lender. When his position becomes intolerable he migrates to the tea gardens and other places. Lands could be reclaimed and crops protected by suitable water storage schemes, Borrowed capital on which 75 per cent: interest has but capital is wanting. to be paid can never be remunerative. On the contrary, it can scarcely fail to bring about the borrower's ruin. These are, therefore, people to whom co-operation should bring a special message of hope. The central banks in these areas are working for their selvation; but we are satisfied that for some years after they have started working, they will be unable to meet all their expenses out of their own income. The average working capital of a primary society in these areas being only Rs. 857 as compared with Rs. 1,938 in other areas, the investments of central banks are low and the percentage of management costs on their working capital is at least double that in the other areas. It has also to be remembered that aborigines take more time and require more patient training than agriculturists in other areas, to enable them to grasp, the principles, and possibilities of co-operative societies and this means a comparatively larger staff. The area labours under another disadvantage also. Raiyati land not being alienable . has practically no value and investors hesitate to deposit their money in these banks and consequently the latter have to pay a higher rate of interest for borrowing money. For these reasons the margin of profit is so low that a new bank cannot afford to keep a proper staff. On the other hand, owing to the paucity of suitable honorary workers, the banks require a specially strong staff for supervision of the societies. We are, therefore, of opinion that for the introduction of the co-operative movement in backward areas systematic financial help from Government will be needed as soon as any central bank is organised and it will have to be continued till it can manage its affairs from its own income.

There are other classes of societies who are helped from these grants, viz.³ stores started amongst artizans such as shoe-makers or weavers. These people are generally shy and prone to be disloyal to their societies, unless they feel that they are getting some tangible benefit and, therefore, the profits of such stores are distributed as bonuses to the members. Moreover as the members are generally illiterate, a good accountant is necessary to keep the accounts from the very beginning. If the store has to pay for such an accountant, there is no profit. Initial help in the shape of pay for a clerk thus becomes necessary. If the store shows loss, the members become more suspicious and disloyal. We recognize the need of such help at least in the initial stages, and it was recommended by the Maclagan Committee in paragraph 19 of their report.

At the same time we consider it essential that so long as special assistance of this kind is required the rate of interest to borrowers should not be fixed too low. As remarked above, the customary rate of interest in these areas and to these people varies from $37\frac{1}{2}$ to 75 per cent. per annum. To fix a rate of say $18\frac{3}{4}$ per cent. until the society is solvent cannot, therefore, be regarded as a hardship. We recommend, therefore, that in all new areas or among fresh communities where the customary rate of interest exceeds 25 per cent. per annum, the rate to the borrower should be fixed at $18\frac{3}{4}$ per cent. Unless this is done, we do not consider that the society or societies have any claim to special assistance from Government.

(4) Provision for inspecting clerks in new and backward areas.—Rs. 10,000 has been provided in the budget for 1923-24. The term of the present grant which was for three years expires with the end of the current financial year. The grant under this head is used for helping a newly started central bank when initial costs are heavy and the working capital is small. Such banks have to fit out an office, buy a number of books and registers, engage at least one bank clerk on Rs. 40 and one inspecting clerk on Rs. 30, pay house rent for an office, besides having to meet the pay of menials and contingent ex-penditure. Experience shows that a new bank cannot meet these heavy charges from its income. The balance sheet counts much with the public and if the bank shows a loss immediately after its inception, public confidence is shaken and depositors hesitate to invest. If the bank is left to its own resources, progress is retarded and the societies get insufficient supervision. To meet these initial difficulties the inspecting staff of these new banks is paid from these Government grants. We understand that this help is not needed by central banks for more than two years from the date of their inauguration. We are of opinion that Rs. 6,000 per annum should be enough henceforth and the subsidy for this purpose should gradually be reduced as untouched. areas are opened up.

(5) The fifth kind of subsidy granted by Government at present amounting to Rs. 5,000 per annum is for the training of bank employees and local auditors.—We hold that this subsidy should be reduced to Rs. 2,500 per annum after the present term of sanction expires and we expect that the Federation will eventually be able to relieve Government of this charge entirely.

16. Reasons why Government help is necessary and justifiable.—Governmeut founded and fostered the co-operative movement in India with the object of improving the moral and material condition of the tillers of the soil. In other countries the initiative has been taken by the people and Government have come to their help afterwards. In India the case has been just the reverse. Here the Co-operative Societies Act was passed on the initiative of Government and Registrars were then appointed to devise means for spreading the movement and training the public to take an interest in it. After years of spade work by Government officers public-spirited people are now coming forward in greater and greater numbers to help the movement by the offer of their labour and time and by placing their idle money in deposit. But public confidence in the movement is increasing solely because the Government have maintained a strong and competent staff to ensure that the business of the societies is conducted on sound lines and that the investments made by the public are safe. We are of opinion that Government having committed themselves to the policy of fostering the movement cannot withdraw from it—at present in any case—, without endangering

its very foundations. We, however, recognize that the movement should pay the cost of this assistance as far as it can, so that Government may. distribute the tax-paver's money equitably amongst other departments which also exist for the benefit of the people. Both the public and the societies have, however, so far contributed as much as they could with their limited means to the progress of the movement. In particular we would insist on the valuable services that are being rendered by the public. It would have been impossible either for the Registrar or his Assistant Registrars to do the amount of work they are doing, but for the loyal help ungrudgingly given by the honorary organisers, by the directors of banks and pre-eminently by the secretaries. Deposits are increasing in volume every year and societies and central banks. are contributing practically up to the maximum of their financial capacity towards the progress of the movement. At an earlier stage Government had to lend money to new societies and to bear the whole cost of audit. For financing societies, help from Government is no longer needed, except in very special cases, and for audit a considerable portion of the cost is borne by the societies. The non-official help ungrudgingly given has undoubtedly very much reduced the cost to Government of administration. In most provinces there are inspectors, generally graduates, who do a considerable amount of propaganda and organization work. In Bengal we are informed that there, are 66 inspectors for inspection, organization and audit; in Madras 310 inspectors for inspection and audit; in Punjab 54 inspectors of different grades from Rs. 100 to Rs. 250 for inspection of societies, besides 51 inspectors and sub-inspectors on a temporary basis for propaganda, for consolidation of, holdings, for supervision of industrial societies and for cattle insurance, while in Bombay there are nine officers for the organization and guidance of agricultural societies besides three inspectors to help the weaver class. We find that in proportion to the number of societies in this province the staff maintained at the cost of Government is smaller than in almost all the other provinces (vide Appendix VII). In view of these facts we are of opinion that Government should give adequate help to the movement till the whole province is covered by a network of co-operative societies.

Prov	Province.		Villages and towns.	No. of societies.	No. of villages per society
1			3	3	4
Madras		••••	54,114	7,387	7∙3
Bombuy	***		26,253	3, 411	, 7∙8
Bengal	N	•••	1,19,850	6,679	19.0
United Provinces	***	•••	1,06,441	5,137	20.7
Punjab			88,560	9,810	8.6
Barma	• • • •		18,699	5,279	• 3.5
Central Provinces	•••	•••	89,117	4,967	8.0
Assam			27,895	631	44-8

17. The estimate of development at which Government should aim.—From the statistics we have it appears that at the end of 1921-22 the number of villages per society were as follows in the different provinces :—

There are 84,815 villages in this province according to the last census figures excluding the Feudatory States: On the basis of 5,000 societies at the end of 1922-23 there are 17 villages for each society. We are of opinion that we should aim at one society for every four villages in the near future on which basis there should be over 21,000 societies. We recommend that the programme for reaching this number should be spread over a period of ten years.

It is difficult to guess how many central funncing societies will be registered. This will depend on the suitability of the places where such societies can be located. They must be in places where a reasonable number of educated people can be found to conduct the work of such societies. ' The work is growing in complexity owing to the registration of different types of societies. There is no limit to such variation or to expansion when a society started by 28 weavers at Rochdale with about Rs. 800 capital with the modest object of buying a few necessary articles of grocery from wholesale dealers and retailing the same to their members has eventually developed into a movement with 44 million members and about 150 crores of working capital. It is expected that types of societies like stores, societies amongst fishermen, weavers, bell-metal workers, shoe-makers, societies for improvement of cattle, for improvement of poultry, for irrigation, for joint farming and for a variety of purposes too numerous to be'imagined at present will in time be'started. The formation of such societies i will tax' to the full the energy and capacity of those who make themselves i responsible for their birth and upbringing. A co-operative society is not a panacea which has only to be applied to any economic evil to effect a thorough cure. The ground must be carefully prepared, much forethought is necessary and withal a good deal of courage, if there are to be reasonable expectations of 1 benefit to the members in future. For instance, in starting societies amongst the fishermen class, one may be confronted . by the fact that they have no assets. If, however, their honesty and diligence are assured, much can be done for their economic progress." To open a society among them, their presenteeconomic conditions have to be very carefully studied. The cause of their poverty has to be ascertained. If they are burdened with debt, this burden has to be removed. If for want of capital, they have no boats and nets, these have to be supplied; their daily earnings have to be estimated and what they can repay from their monthly earnings has to be ascertained. As they are utterly illiterate, arrangements have to be made for the education of their children. After some time when they have increased their daily catches with the help of boats and nets, a market for their surplus catch has to be secured. If there be still a surplus, some arrangement has to be made for drying or curing the fish or for turning it into fish oil or guano. In order to send fish to a distant market ice must be procured and even the setting. up of an ice plant may be necessary. A scheme for providing them with better houses may follow and they may have to be weaned from the habit of drink. These are mere outlines of the labour, foresight and patience required. Risks have to be faced, but every precaution must be taken to prevent loss of public money. In the end from so small a beginning the whole structure of society will be strengthened. The co-operative movement aims at a complete reformation of society. It is plain that those who are employed to do this kind of work must be men of high ability with a lasting enthusiasm for their work and_ with powers of initiative which can be relied upon. We are convinced that for at least a long time to come, men of this stamp must be recruited from the public services, and Government help is therefore inevitable.

18. Need of a Chief Auditor. With the growth of the movement and consequent growth of the central banks with a Provincial Bank at their head, a knowledge of the modern banking system is essential to all who are employed in co-operative banking. To quote Mr. Wolff "we want genuine banking in co-operative credit business; we want some of it on the ground floor in local societies and we want very much of it in the upper stations —the central or apex banks, which are to serve as links between the co-operative credit movement and the money market served by capitalist hanks in order to render relations of give and take practicable between the two". The Registrar, though he has to control a complicated banking system, cannot be expected to be a specialist in banking. It is necessary, therefore, that there should be an officer who is a specialist in banking to advise him in all such matters. Section 17 (2) of the Act requires that audit shall include an examination of overdue debts and a valuation of the assets and liabilities of a society, but in order that the Registrar may be satisfied that the work of a society is being conducted in accordance with true co-operative principles it is necessary that the audit should go beyond the bare requirements of the Act and should include also an enquiry into the general condition of the society, *viz.*, whether the members have fully understood the cooperative principles, whether they realise the danger of joint liability, whether they are using their loans for the purposes for which they were taken and whether there has been any material or moral change amongst the members. We are not satisfied that the work of the local auditors has been beyond reproach and we consider it necessary that a certain percentage of their work should be tested by an officer of a much higher status and that similar tests should also be applied to the audit of the central banks. We have already laid stress on the necessity of having a training class for the probationers. We are of opinicn that a well qualified officer with considerable experience of modern banking, both theoretical, and practical, should be appointed. His duties will be to advise the Registrar on accountancy and banking matters; to hold classes for the probationers, to test-audit central banks, limited liability societies and stores and also a small percentage of primary societies and to suggest better methods of account keeping suitable to the different kinds of societies. This officer might be designated Chief Auditor.

19. Development Fund.—We have carefully considered the Registrar's proposal contained in paragraph 7 of his letter (Appendix VIII) that the Federation should be given an annual grant of Rs. 5,000 towards a Development Fund. We agree with him that the development of new forms of cooperation depends on a great measure on propaganda and a more intimate knowledge on the part of the people of the possibilities of the movement. The Federation, therefore, requires to be strengthened. In view of the organised effort made recently by it to create a fund of its own by a levy from societies and of the fact that in Bengal and Bombay considerable grants have been made for similar purposes, we hold that the Government should give a separate grant of Rs. 5,000 towards the Development Fund.

. 20. Recommendations.—Having described the present stage of the movement in detail we beg to submit the following recommendations :—

(1) We strongly recommend to Government the gradual appointment of more Assistant Registrars till the total number reaches 16 besides the Personal Assistant for the 23,000 societies which we anticipate will come into being, within the next ten years. This gives one Assistant Registrar for roughly 1,500 societies. We have examined the scheme submitted by the Registrar to Government with his letter No. 232-T., dated the 23rd August 1923 in this connection (Appendix VIII). We accept the estimate that by 1933 the number, of societies will be increased to 23,000, since the past progress in this province and statistics of other provinces alike prove this to be reasonable.

We have considered the duties of the Assistant Registrars and have come to the conclusion that the work that is being done by them is so heavy that they ought to be relieved of a portion of it. But the Registrar's scheme for the appointment of junior Assistant Registrars is not in our opinion suitable. If junior Assistant Registrars are appointed they will require supervision by the Divisional Assistant Begistrars, while they will not carry the same weight with the people among whom they will have to work. Further it will mean the creation of a regular graded organisation much like the present civil administration, a thing to be avoided if possible. In our opinion the officer in actual charge of the andit of the central banks and societies, of the reading of audit notes and of the test audits and the supervision and inspection of societies, should be at least of the status of a Deputy Collector. We considered the formation of a special service for this work, but rejected the idea. In the first place the administrative training and experience which Deputy Collectors have received is invaluable. Then again it is essential to be able to revert men when and if they prové unsuitable. We further think that the experience of mufassil conditions and the intimate knowledge officers so employed acquire of the economic life of the people will on reversion be invaluable to Government in the general administration. At present an Assistant Registrar owing to the large tract under his control finds it impossible to manage more than

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1,000 societies, but ultimately when each Assistant Registrar is allotted a small compact area he should be able to manage 1,500 societies and the total extra cost as estimated by the Registrar (vide Appendix IX) will be exactly the same as if junior Assistant Registrars had been appointed, viz., about Rs. 1,70,000. If in addition to this a Deputy Registrar and a Chief Auditor are appointed the total eventual cost of the department will be about five to six. Iakhs. We consider that the expenditure of this sum on a movement, which has great potentialities for good, will be a sound investment on the part of Government. A figure of five lakhs compares favourably with that already incurred in most of the other provinces (vide Appendix VIII—Statement IV) and the cost per society would be only Rs. 24-8-0.

(2) We recommend the appointment of two more Assistant Registrars immediately. This will bring up the total number of Assistant Registrars excluding the Personal Assistant to 7. The province might then be grouped into seven charges for purposes of administration of the co-operative movement as shown in Appendix X. Though it is desirable that the Personal Assistant on account of his growing duties should be relieved of the additional charge of a district, he may continue for the present in charge of the Patna Sadr and Dinapur areas, which it will not be difficult for him to manage, though they contain a number of societies of a special type, e. g., the Provincial Bank which may in future require constant supervision, the People's Bank, the Co-operative Press and the Secretariat Stores. Special montion should be made regarding charges Nos. 5 and 6 (Appendix X). These must be placed under two Assistant Registrars even now, though the number of societies is relatively small, in view of the fact that they are backward areas and have yet to be developed. Not only do they contain large tracts inhabited by aboriginals, but the charges themselves are very large in point of area, the population is scattered and communications are bad. Further, each charge contains one industrial area, viz., Dhanbad and Jamshedpur in which the Government of India have been pressing the local appoint a special officer to encourage Government for some time to thrift among the labouring classes. If the charges are divided up as recommended, the Assistant Registrars will be able to devote adequate time to this work. Though we have recommended only two extra Assistant Registrars for the present, we hold that the appointment of two more will very soon have to be made and they will be required one each for the North Bihar and South Bihar areas. This will give three Assistant Registrars in each half of Bihar proper and enable convenient circles to be formed, which will not have to be split up further in the near future. This distribution of the area is, however, tentative as with the expansion of the movement it is inevitable that further subdivisions will have to be made from time to time. The eventual distribution under 16 Assistant Registrars is shown in Appendix XI.

(3) We recommend that the ministerial staff under the Registrar and the Assistant Registrars be strengthened from time to time with the growth of the movement.

(4) We further consider the appointment of a Deputy Registrar to be absolutely necessary. We have given due weight to the recommendation of the Retrenchment Committee, but in the interests of the movement cannot agree to the abolition of the post sanctioned by the Secretary of State. On this point we invite a reference to the recommendations of the Maclagan Committee, which has been followed by almost every other province. Even now the work of the Registrar is in our opinion heavier than it should be and it would be a great advantage to make over Chota Nagpur and Orissa to a Joint or Deputy Registrar, but in any case the appointment cannot be put off when the total number of societies reaches 7,500. Regarding the pay and status of the officer, we hold that this post too should be in the Indian Civil Service though we conceive that it would usually be given to the holder of a listed post. The reasons put forward for keeping the post of Registrar apply equally to this, while the fact that Assistant Registrars by good service in the department could qualify for these two posts will be a means of attracting good men to it and will serve as an incentive to keep their work up to the mark.

(5) We recommend the appointment of a Chief Auditor whose pay should not be less than Rs. $500-\frac{2}{3}5-750$ so that the services of a really good man may be obtained. This is an appointment to which as explained above, we attach the greatest importance. It is on this officer that the Registrar will have to rely to keep up the efficiency of the audit, especially of the central banks and stores and for advice on accountancy matters. The Chief Auditor will check the work of the divisional auditors by re-auditing central banks as it is essential to keep their work up to a high standard. He will also see audit conducted on proper principles and may have himself to audit important stores.

(6) Having considered the help given by Government at present to the Federation we make the following recommendations for future help :---

- (i) For the audit of societies Government should continue to subsidise the Federation at the present rates, viz., at the rate of Rs. 15 per society for those less than two years old and at the rate of Rs. 3-8-0 per society over two years old. All primary societies irrespective of the area in which they are situated should pay audit contribution at rates to be fixed from time to time by the Federation. If, however, the cost of audit of societies in backward areas cannot be met by the audit contribution levied by the Federation, Government should meet the deficit on the understanding that the total cost of audit of a society does not exceed Rs. 15. The actual sum to be paid for a society in backward areas should be fixed after a special report from the Registrar.
- (ii) Government should continue to pay the cost of maintaining five divisional auditors to the Federation because these auditors were appointed in order to relieve the Assistant Registrars of actual audit work, which under the original scheme they were to undertake. But the cost of any more divisional auditors required owing to the expansion of the movement should, we think, be met by the Federation out of the audit fees realised from the banks and limited liability societies which the divisional auditors audit.
- (iii) The annual subsidy of Rs. 10,000 for the provision of inspecting clerks in new and backward areas should be reduced to Rs. 6,000 when the present term of the sanction expires. It is probable that Government will have to continue to pay at this reduced rate for some time to come.
- (iv) Regarding subsidies to central banks in backward areas and for clerical aid to certain classes of societies, we hold that each case for help from Government should be decided by Government on its merits. We note, however, that in our opinion a strong case for giving such help at present exists and will probably for some time continue to exist particularly for the aboriginal areas. This is due to the small working capital of each society in these areas, which means that though societies of this class require more supervision than others the central bank makes far less than the normal profit per society and so cannot afford the necessary staff. But in these cases the rate of borrowing from the society should not be fixed at less than 183 per cent per annum.
- (v) The annual subsidy of Rs. 5,000 to the Federation for meeting the training allowances of probationers should be reduced to Rs. 2,500 when the present term of the sanction expires, and we expect that the Federation will ultimately be able to relieve Government of this cost entirely.
- (vi) The free supply of account books to new societies should continue to. be made by Government at the present rate. The total cost to be incurred by Government each year will depend upon the -number of societies registered during the year.

(vii) An additional grant of Rs. 5,000 yearly is required from Government for the Development Fund of the Federation. We recommend that this may be sanctioned by Government on condition that at least double this amount is raised by the Federation, the whole to be earmarked for propaganda and development, a separate account of it being maintained and submitted annually to Government. The Government contribution should be reduced proportionately, if the contribution raised by the Federation falls below Rs. 10,000.

(7). The adequacy of the audit system was duly considered by us. The audit is of primary importance as the safety of the movement entirely depends upon it. The audit of primary societies by local auditors is not as satisfactory as it ought to be. Their audit should be thorough and such as may be relied upon by the Registrar. As the movement cannot afford a higher rate of pay for local auditors, it is obvious that the check on their work should not be relaxed. The number of societies placed in charge of each, viz., 120 is too high. We recommend that 100 societies should be the maximum, which a local auditor should be given to audit during a year. This should improve the quality of audit and at the same time relieve the strain that is put on them by the arduous and monotonous nature of this work. The test audit of the societies by Assistant Registrars and divisional auditors cannot be called satisfactory. We are strongly of opinion that at least 10 per cent. of the societies audited by local auditors should be re-audited and of these 5 per cent. should be tested by Assistant Registrars and 5 per cent. by the divisional auditors. The test audit should be a complete re-audit of the society.

We consider the audit of central banks and limited societies by divisional auditors to be reliable and quite satisfactory, provided it is supervised on the technical side by an expert chief auditor.

(8) In our opinion the constitution of the Federation does not need any alteration.

(9) We think that the appointment of honorary organisers is a cheap way of ensuring good supervision for primary societies and the money so spent is well laid out. More honorary organisers are likely to be required in backward. areas and such organisers may require first class travelling allowance in order to enable them to use quicker means of conveyance such as motor cars so that they can supervise efficiently the societies in their charge. Busy pleaders and others can only afford a little time for this work and if most of it is taken up by tedious journeys in *push-pushes* and bullock carts they naturally grudge the waste of time.

(10) The need for the appointment of special officers will not be removed by the appointment of Assistant Registrars. The Assistant Registrars cannot actually organise societies and train honorary workers as they cannot stay at a place for such a length of time as is necessary to develop the area by the establishment of a central bank with a sufficient number of societies under it. There are, however, relatively few areas left untouched and after the present sanction has expired, two officers should be sufficient for continuous employment, until all the sub-divisions have been opened up.

> F. F. LYALL. B. G. CHAUDHURI. B. A. COLLINS. E. L. TANNER. SAGHIRUL HUQ. PROFULLA CHANDRA PATNAIK. BIJAY KUMAR RAY. MOHIUDDIN AHMED.

I sign it subject to a note attached herewith.

RAJ PRAKASH NARAIN.

NOTE.

I beg to attach this note for the kind perusal and favourable consideration of our benign Government, who is eager to ameliorate the economic as well as the moral condition of the people. In my humble opinion time has come to give further training to people to undertake their own work by themselves. Indeed they are getting good training by running central banks and unions where they faithfully discharge all the duties entrusted to them, under the able guidance of the staff maintained by Government. As soon as a central bank has been organised entire burden shifts upon non-officials who organise co-operative societies, finance, supervise and control them and if a society is not working satisfactorily they apply for its dissolution and again take up liquidation work. They contribute to get their societies audited by the auditors appointed by the Registrar. They maintain a staff to supervise their affiliated societies and success depends upon cautious financing and vigilant supervision. The duty of Assistant Registrar is to register or cancel the registration of the society. He has further to inspect central banks and examine audit notes and to enlighten himself or give necessary advice to those who require. It is evident that after organisation of a central bank or union the practical side is left to the non-officials and the theoretical work rests with the official. Under these circumstances my suggestion to appoint at least one honorary Assistant Registrar in every division without power of registering society is not extravagant rather it will solve two problems easily, namely, it will remove doubt from the minds of those who did not appreciate Government object and attribute some other motive than generosity, next if successful, may help Government in fostering the movement as rapidly as possible without apprehending for spending more money over estimated cost. The objection that no able man will come forward to undertake this onerous duty has no reason to stand, in as much as there is no paucity of men in any central bank or union to perform the duty of Deputy Chairman or Secretary, Supposing if no one will come forward, the post will remain vacant. The next objection - want of administrative capacity-seems to me ridiculous. So far non-officials are running central banks, District Boards, Municipalities successfully. Besides they will not hold independent charge, rather they would serve under Assistant Registrar, or Registrar, Co-operative Societies, like the Honorary Magistrates. When non-officials were considered fit so far back as 40 years ago to decide intricate points of law it is futile to presume that they would not be able to go through the audit notes and make inspection of co-operative societies which they are actually doing but in another capacity. This suggestion of mine is not a new one. I am told Madras has already appointed honorary Assistant Registrars and so the Punjab. Under these circumstances my suggestion is that this experiment to appoint at least one honorary Assistant Registrar in every division or under every Assistant Registrar is worth trying.

My next suggestion is that the constitution of the Federation is defective and requires immediate consideration. The Federation is nothing more than a union for audit of co-operative societies. The Registrar being the supreme authority in the movement should not associate with any society registered by himself. The duty of Federation is nothing else but to collect funds from among themselves and spend the same in auditing societies. The Registrar was invested with the power to audit societies by himself or to have them audited by his nominee. The power was delegated to the Federation who has re-delegated it to the Assistant Registrars. Thus the control of audit remains in the hands of the Registrar or his assistants. The function of Federation remains exclusively to have its societies duly audited within the year to the satisfaction of the Registrar or Assistant Registrars and to spend money for the purpose for which it was originally collected. If the Federation misused it or spent it lavishly Registrar this control has been missed. I do not mean to impute any bad motive against existing arrangement by attaching this note. I am attaching this note on the question of principle which in my opinion has more force than present arrangement. The present Registrar has vast knowledge of co-operation and with great

zeal and caution exercises his power over Federation. The committee on co-operation so far back in the year 1915 recommended in paragraph 94 " That the staff would indeed be empowered by the Registrar under the Act to undertake audit work and would remain under his ultimate control, but the appointment, transfer and dismissal of all auditors should so far as possible be made in accordance with the recommendation of co-operative institution." The power to grant license will remain in the hand of the Registrar who may cancel, if not satisfied with the audit or on the recommendation of the Federation. In the same paragraph in the concluding sentence they have clearly said. "As societies prove themselves fit to take affairs more and more into their own hands, the degree of control exercised by the Registrar over the non-governmental staff can gradually be relaxed until ultimately the entire work of 'making the original audit devolves on the societies themselves whose representatives would then be able not only to receive audit reports but also take action on them." In their opinion of course at that time it was considered that, that time, however was still distant. But is it still too far though eight years have since passed?' Time has been considerably changed. Is it necessary that as Government grants' lots of money to the Federation control must remain in the hand of Government officers ? But our Government is too generous to grant far more money to the local bodies administered by the non-officials whereas here Government has a regular onlooker to scrutinize and check all expenses. Besides, "co-operative" has been placed under popular control. There would be no harm if a smaller sum be placed in the hands of the representative of the whole province who has control over far more public money in the central bank and unions than Government subsidies to the Federation. Diraster in the Central Provinces cannot be attributed to the carelessness of the non-officials only, rather it speaks want of experience of the authority. No doubt under bye-laws a council of fifteen men has been constituted to advise the *ex-officio* Governor who is the supreme authority. But the council has a meek and feeble voice which is equal to nothing. In 'my humble opinion time has come to remove the words "advisory council" as well as "*ex-officio* Governor" and Federation may be placed under elected Governor, whoever he may be, either official or non-official. Thus a good deal of time of the Registrar and his subordinates will be saved and original idea of getting a Federation to lighten the work of the Registrar will be carried out. Indeed during the course of discussion it was not considered, as it has connection with Federation Congress, to amend the bye-laws but when in paragraph 8 of the summary it has been said that constitution of Federation needs no alteration I think it most desirable to express my opinion upon this subject. Besides, supposing if it is carried out in the Federation Congress the Registrar may refuse, on the strength of said paragraph, to register the amendment, I therefore, solicit Government decision upon this important quistion of principle.

RAJ PRAKASH NARAIN.

Of the two suggestions made in the note, the one about the appointment of Honorary Assistant Registrars has my full sympathy. It must be understood, however, that I support the appointment of Honorary Assistanst Registrars not in lieu of, but in addition to, the salaried Assistant Registrarproposed in the report. I feel that the development and spread of the move ment, considering its value in all directions, is rather slow, and that to ensure both, as well as, with the object of strengthening the foundations, it is necessary to enlist as much local help and support as we possibly can, and the appointment of Honorary Assistant Registrars will, I think, be a move in that direction. It was with this end in view that I suggested and have been pressing for the appointment of more Honorary Organisers.

As for the appointment of non-official Governor of the Federation, I agree that the question, not having been threshed out in the Committee, cannot be dealt with now. It should, I think, be first discussed in the Divisional Boards and the Congress of the Federation and then brought up before Government.

R. G. CHOUDHURI,

I disagree with the recommendation in paragraph 20 (4) that the Deputy Registrar should be borne in the cadre of the Indian Civil Service.

2. In dealing with the history of the movement one most important point has been omitted, viz., the growth of deposits in the societies distinguishing between deposits of members and the deposits of outsiders. This is one of the principal tests of the success of the co-operative movement and its omission will naturally lead to the conclusion that the result of the test is not favourable. My own view is that there has been too great a tendency to spend Government money on this movement and the inevitable consequence of this spoon-feeding will be that the time when the movement could stand on its own feet is being further and further delayed. It is true that in the recommendations in some cases there has been a proposal to reduce the Government contribution, but on the whole the proposals largely increase it. I should like to have seen the view of the Committee clearly expressed that such contributions should eventually disappear altogether. If the movement is really doing any good, the members' own deposits should be sufficient; supported to a certain extent by outside deposits, to run the movement and unless it is clearly understood that this is the ultimate aim and want to be reached within a reasonable time there is no hope that the movement will ever be of any permanent use.

I have no remarks to make on the note of Rai Sahib; Raj Prakash, Narain as any opinion on it would require consideration of the relations between audit federation and the Registrar which I have not time at present to look into, but if any relief to the Registrar in the matter of routine duties is required it seems to me that it might much more effectually be given by reconsideration of the arrangement under which he sees the multitudinous diaries specified in Appendix I and a general reduction of his routine duties.

E. L. TANNER.

We have to add a few words on the note written by Rai Sahib Raj Prakash Narain on receipt of the draft' report. His suggestion that Honorary Assistant Registrars should be appointed was considered by the Committee, but was not approved of the by majority of the members. The proposal that the Governor of the Federation should be elected is entirely new and was never brought before the Committee, not even when the constitution of the Federation was brought up. It is too late to deal with a proposal of such fundamental importance.

> F. F. LYALL. B. A. COLLINS. SAGHIRUL HUQ. PROFULLA CHANDRA PATNAIK. BIJAY KUMAR RAY. MOHIUDDIN AHMED.

APPENDIX I.

CIRCULAR MEMO. NO. 11-16-T.

Dated Camp, Bhagalpur, the 8th February 1922.

Diaries of officers to be submitted to the Registrar.

In future the diaries of the following officers only should be sent to me :---

ASSISTANT REGISTRAB, HEADQUARTERS.

- 1. Diaries of all Managers.
- 2. Diaries of all Honorary Organizers.
- 3. Diaries of the Divisional Auditor.
- 4. Diaries of all inspecting clerks in charge of Masaurhi area.

ASSISTANT REGISTRAR, PATNA DIVISION.

- 1. Diaries of all Managers.
- 2. Diaries of all II cnorary Organizers.
- 3. Diaries of the Divisional Auditor.
- 4. Special monthly reports about the working of the Nokha and the Garhani Stores.

ASSISTANT REGISTRAR, TIRHUT DIVISION.

- 1. Diaries of all Managers.
- 2. Diaries of all Honorary Organizers.
- 3. Diaries of the Divisional Auditor.
- 4. Diaries of the Special Officer.
- 5. Diaries of all inspecting clerks in charge of Hajipur area.

ASSISTANT REGISTRAR, BHAGALPUR DIVISION.

- 1. Diaries of all Managers.
- 2. Diaries of all Honorary Organizers.
- 3. Diaries of the Divisional Auditor.
- 4. Diaries of the Special Officer.
- 5. Diaries of the Managers and inspecting clerks of Bhagalpur Weavers' Stores.
- 6. Diaries of the Manager and the special inspecting clerk attached to Madbipura Stores.
- 7. Diaries of all inspecting clerks in Purnea area.
- 8. Diaries of all inspecting clerks under the Special Officer.
- 9. Diaries of the Land Improvement clerk in Banka.
- 10. Diaries of all inspecting clerks in Simultala area.

ASSISTANT REGISTRAR, CHOTA NAGPUR DIVISION.

- 1. Diaries of all Managers.
- 2. Diaries of all Honorary Organizers.
- 3. Diaries of the Divisional Auditor.

25

4. Diaries of all Inspecting Clerks of Purulia, Khunti, Gobindpur and Hazaribagh areas.

ASSISTANT REGISTEAR, OBISSA DIVISION.

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1. Diaries of all Managers.

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2. Diaries of the Divisional Auditor.

3. Diaries of all Honorary Organizers.

· · · · · · 4. Diaries of all Inspecting Clerks of Fishermon's societies in Lhurde. Diaries of all Assistant Registrars.

MOHI-UD-DIN AHMED, Registrar

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To 5

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All Assistant Registrars of Co-operative Societies,

Bihar and Orissa,

APPENDIX II.

Replies of the Assistant Registrars to certain questions put by the Registrar for the Committee's information.

By the Assistant Registrar at Headquarters.

Registrar can manage ?

1. How many societies 1. One Assistant Registrar can efficiently you think one Assistant manage 800 to 1,200 societies. It would depend very much upon the nature of societies in his charge and the difficulties of the area. For a working scheme, an average of 1,000 may be taken.

2. How many letters were 2. I have no separate office as an Assistant received during the year Registrar. My work is done by the assistants in and how many issued from the Registrar's office and all letters received by me as Assistant Registrar or issued as such are entered your office ? in the common register of the office.

3. How many central 3. Central Banks 3 and since the close of the banks and societies are in year 4. yoùr charge?

4. 280.

Agricultural societies	 -315	
Non-agricultural [societies	 23	
Guarantee Unions	 13	
	c	

... 354 or

Total including the Provincial Bank, 355.

4. How many audit notes you have deals with during the year, of central banks and of societies?

5. How many diaries you have read of-

(a) Managers.

(b) Inspecting Clerks.

(c) Local Auditors.

(d) Honorary Organizers.

5. Managers' diaries	•••	36
Inspecting Clerks' diaries	••.•	96
Local Auditors' diaries	•••	36
Honorary Organizers' diaries	•••	18

6. How many test audits were made by you?

6. Test audit is made by the Divisional Auditor. In the course of my inspection of central banks, I went through the defects noticed, to see if they were being remedied.

7. For how many days you were on tour ?

7. On tour for \$2 days from August 1922 to May 1923. I was on leave in June and July.

8. How many societies have you inspected ?

8. 41 societics were inspected.

9. Enumerate in detail all other works done.

9. Beviewing the work of Local Auditors from time to time and reading the special reports of badly managed societies. I could attend one Divisional Board's meeting besides attending the general meetings of all the central banks in my charge. I had to pay frequent visits to Masaurhi Central Union which had been started only in February 1922 to arrange for the organisation of societies on proper lines, to obtain deposits for it, to hear complaints from societies affiliated to it and to guide the directors in developing the bank on proper lines. As a result of a year's endeavours this central union starting with 40 societies came to have 82 societies at the end of May last with Rs. 64,702 deposits and a profit of Rs. 1,744. The Daree society at Alamganj and the Sakunat society in Bibar demanded frequent visits and raw materials were obtained for them and order for many darees obtained and endeavours made to introduce improved designs of darees, and towels and mosquito netting manufacture in Sakunat society. The People's Bank in Patna City also requires constant supervision including revision of bye-laws, introduction of better working rules, hearing of complaints from members and remedying their grievances, as a result of which it came to have 291 members in place of 182 and Rs. 17,242 deposits in place of Rs. 1,329 in the previous year. Altogether 38 visits were paid to these central banks and to special types of societies. The Personal Assistant's work is necessarily very closely associated with that of the Registrar. All files for the Registrar pass through him and the Personal Assisatht has to finally dispose of many files. The average number of files put up to him daily is 50, many of them requiring a good deal of time and close attention. During the 12 months ending on the 31st August 1923, the number of letters received was 7,042 and the number of letters issued was 11,346. The number of letters signed by Personal Assistant daily for issue is on the average 40.

Besides work of a routine nature, the Personal Assistant has to attend to the following works :---

- (1) Departmental pamphlets and their revision.
- (2) Revision and standardisation of forms used by banks and societies.
- (3) Supervision of the Press.
- (4) Annual Reports and Returns.
- (5) Federation Gazette.
- (6) Control over the expenditure of the Department.
- (7) Drafting of bye-laws and circulars under Registrar's instructions.
- (8) Passing of proofs of printed matters.

(9) Keeping in touch with the market and supplying information to stores for the purchase of suitable articles for sale.

(10) He has also to assist the Governor of • the Federation in—

(i) Passing the travelling allowance bills $::: \circ \mathbf{f} \cdot \mathbf{Federation}$ employees.

(ii) Federation Congress work.

(iii) Passing important files of the Federation to the Governor.

Fy Mr. N. K. Roy, Assistant Registrar, Co-operative Societies, Chota Nagpur ed and the first start by Barry Barry Sign. 20 20

1. How many societies 1. About 800 societies in Chota Nogpur can be you think one Assistant managed by one Assistant Registrar. ster al de la Ma Registrar can manage ?

> 5 11 . . .

2, How many letters were received and how many iscued from your office? 1

3. How many central your charge r 1

2. Number of letters issued ... 6,606 Number of letters received ... 5,329

Figures for June to August, 1923 are as follows :----(

Letters issued		2,186
Letters received	***	2,0 06

3. Seven central banks and the Catholic banks, and societies are in Mission Co-operative Society at Ranchi which is in fact a big central bank with 481 rural units 8 ...

> (b) Primary agricultural societies 692

(This includes S. P. G. Mission societies which are in Assistant Registrar's direct charge, there being no central bank to supervise their work.)

· · ·	(o) Guarantee Unions		16
	(d) Grain Golas	4+4	21
	(e) Agricultural Purchase a	nd Sale	14
<u>.</u>	(f) Production and Sale	***	6
	(g) Urban Stores		6
	(h). Non-agricultural credit	societies	30
	Total number of societies inc central banks	luding	793
any audit notes	4. Unlimited liability societies	89	490
ealt with during central banks leties?	Limited liability societies	• •	40
	- Central banks	•••	5
many diaries ad of—	5. Total number of diaries the Assistant Registrar		604
anager;	Dctails :		
specting Clerks;	, Divisional Auditors'		12
cal Auditors;	Honorary Organisers'		38
onorary Orga- sers?	Managers'		50
	Inspecting Clerks'		144
	Local Auditors'	•••	96
	Guarantee Union Clerks and Probationers		156 108

4. How m you have de the year of and of socie

5. How you have re

(a) Ma

(b) Ins (c) Loc

(d) Ho nis 6. How many test audits were made by you?

s 6. No regular test audit was conducted but during my inspection of societies the works of local auditors have been tested on many occasions and necessary action taken.

.7. For how many days 7. One hundred and sixty-six days. you were on tour?

8. How many societies have you inspected?

8. Sixteen societies including 5 contral banks were inspected and 17 societies were visited for other purposes.

Note.—These figures are from the record but many more inspections were made for which there is no record.

9. Enumerate in detail any other works done. bar

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9. (1) Carried out two regular audit of central banks.

(2) Acted as Hon orary Secretary of the Divisional Board. The preparation of the agenda, and the drafting of proceedings, etc. were done entirely by me.

(3) Read three papers in the Divisional Board :---

- (i) How to make the Divisional Board an instrument for real power and influence (on 28th January 1922)
- (ii) The extension of primary education (on 5th February 1922.)
- (iii) The central bank—its ideals and methods (on 7th May 1922.)

Spoke in every meeting of the Board.

(4) Did extensive propaganda work for the introduction of agricultural improvements which took the following form :---

- (i) Construction of high level Bandhs for the protection of the paddy crops.
- (ii) Construction of wells for vegetable cultivation.

A loan of Rs. 10,000 was obtained from Government for enabling the central banks to give loans at a cheaper rate for these purposes.

> (iii) Introduction of remunerative crops like groundnut, sugarcane and potatoes.

The measure of success obtained is given in the 2 yearly reports of the Division.

(5) A new form of co-operation—Home Industries Association was introduced by me. Considerable amount of propaganda had to be done before it could be established. The Khunti Home Industries Association was organized this year, last year a similar society was organized at Purulia.

(6) Systematized the work of Guarantee Unions in this area.

(7) Practically acted as Honorary Secretary of the Govindpur Lutheran Banking Association which was planned and organized by me. The whole procedure of work was drawn up by me. The manager and the Guarantee Union clerks were trained under my personal direction. Their tours were regulated by me. I read their fortnightly diaries and issued elaborate instructions for their guidance at every step. The creation and supervision of this big organization with each of the 11 Guarantee Unions acting as a branch of the central bank and its decentralized system of supervision and control has involved a lot of labour on my part. I think the foundations of the organisation can now be said to be firmly laid.

(8) Arranged for an extensive programme of *zarpeshgi* debt redemption on the security of *Bhugutbandha* deeds. The Ramgarh area societies have been practically freed from outside debts and in other areas a programme for clearing them within three years is now agreed to.

(9) Did a lot of propaganda work for the extension of primary education through co-operative societies with the result that 8 new schools were started during this year. One central bank has now received a block grant of Rs. 600 for the management of 8 schools and the application for Govindpur and Khunti banks for block grants of Rs. 6,540 and Rs. 1,512, respectively are pending with the District Board. The desire for education has been roused among the members of our societies as a result of direct propaganda.

(10) Introduction of purchase and sale societies or village stores. Without such stores the co-operative movement will be very incomplete. After a great deal of propaganda 14 societies of this description have been organised up to date. They have needed much attention and care.

(11) Several original schemes were drawn up either for central banks or to be submitted to the Registrar. Thus:--

- (i) Scheme for altering the system of audit for central banks and big stores.
- (ii) Scheme for changing the system of supervision in the Kanchi Union by appointing circle officers to be stationed at local centres. The scheme was carried through much opposition but has been shelved for want of funds.
- (iii) Scheme for splitting up the Catholic Mission Stores.
- (iv) Two schemes of joint farming society, one in Khunti and one in Ramgarh, were prepared and discussed with prospective members. One was a farm for joint garden oultivation with a common fencing and a common pump and reservoir. The other was to prepare some waste lands into new fields with Bandhs for growing sugarcane, etc.,

a copy of the Kanke farm on a small scale. Both schemes reached a fairly mature stage, the members all agreeing to join, but had to be abandoned as in one case an enlightened zamindar who had agreed to take over the entire constructional work of the reservoir with pump, etc., if the pump proved inefficient, withdrew his offer on account of a quarrel which cropped up.

(v) A scheme was drawn up for the organisation of co-operative stores and savings banks in the labour areas. This scheme was approved by Mr. Leach, Chief Mining Engineer, Bird and Co. and Mr. Kirk, Chief Mining Engineer, Kilburn and Co. with whom I had a personal discussion and both of them promised to support it financially.

12. Organized the following societies personally :---.

(i) Kanke Co-operative Stores.

(ii) Murhu Agricultural Stores.

(iii) Khunti Home Industries Association.

(iv) Kothar Agricultural Stores.

(v) Kothar Grain Gola.

Co-operative poultry farm at Murhu is in the process of organisation.

13. I was deputed by Government to attend the Workers' Welfare Conference at Bombay and read a paper entitled" Promotion of co-operative societies among Undustrial Workers." I was also a member of the sub-committee to deal with matters relating to co-operation.

By Brbu Haridas Roy, Assistant Registrar, Co-operative Societies, Orissa Division.

1. How many societies Registrar can manage ?

2. How many letters were issued from your office ?

you think one Assistant manage 1,000 societies. With proper staff to help him, he can manage more. 2. During the co-operative year 1922-23, 6,676 received and how many letters were received and 8,287 were issued. 244

1. One Assistant Registrar can efficiently

societies were registered and 327 applications for awards had to be attended to. Besides these, a large number of amendments to bye-laws of societies had to be registered and numerous applications for sanction to charitable expenses, etc., had to be scrutinised.

3. 10 central banks and 1,200 societies are in my charge. The eleventh central bank has just been registered and two more are likely to be organised before long.

4. 958 audit notes were dealt with during the notes you have dealt with year, viz., audit notes of 10 central banks, 8 stores during the year of central and other limited liability societies and 925 annual and 25 half-yearly audit notes of other societies. In addition 69 special reports of "D" and "E" class societies were dealt with.

3. How many central banks and socioties are in your charge ?

4. How many audit banks and of societies.

5. How many dairles 5. During the year 1922-23, I had to read you have read of — 540 diaries as follows :—

(a) Managers	Managers (8)	•••	96 diaries.	
(b) Inspecting Clerks,	Inspecting Clerks		232	**
(c) Local Auditors,	Local Auditors	• • •	129	33
(d) Honorary Organisers.	Divisional Auditor	•••	12	**
	Honorary Organisers (8)	•••	71	,,

The total number of diaries which will be read each month this year is 62, i.e., nearly 800 during the year.

The present number of inspecting clerks is 32. The total number of their diaries which will have to be read this year is 384. The present number of auditors is 13.

6. How many test audits were made by you?

7. For how many days you were on tour?

8. How many societies have you inspected?

9. Enumerate in detail all other works done.

societies the auditor's work is also tested by me. 7. 180 days were spent by me on tour during

the Divisional Auditor. During inspection of

6. The test audits as such are performed by

the co-operative year 1922-23. 8. 10 central banks were inspected by me, in most cases on more than one occasion. Total number of inspections of central banks during the year was 19. In addition, 90 societies were inspected. The regular annual inspection of a central bank takes up at least 7 days' time on an average.

9. (1) Seeing the Commissioner, Collectors Subdivisional Officers and other officers in connection with co-operative work.

(2) Attendance at general and directors' meetings of central banks—20 such meetings attended.

(3) Propaganda work for establishing central banks at Kujang (established), Banpur (registered) and Nimapara (under organisation); stores at Balugaon (established); Rice Mill at Khurda, Irrigation Societies in Banki (abandoned) and Khurda (proposals going on).

(4) Divisional Federation Board—4 meetings were held during the year; arranging dates, issuing notices practically conducting the whole proceedings recording minutes, etc.

(5) Publication of "Sahajog Samachar"— 2 issues published; writing small articles, canvassing for sales, looking after printing and despatch.

(6) Development Board—Arranged and attended the opening meeting.

(7) Federation Congress—Attended and took part in the deliberations of the Congress.

(8) Arranging for the financing of central banks, etc. The total loans and deposits arranged by me during the last year amounted to Rs 1,58,000.

(9) Helping in the management of industrial societies and stores. Arranged sale of products of weavers' societics at Jamshedpur, Angul, Kujang, Cuttack, Bhadrak and other places; arranged for the supply of raw materials, etc., to Bhadrak stores, Jajpur weavers' society and Jajpur¹⁵ Bell-metak society; arranged for sending exhibits to Darbhanga and Calcutta exhibitions; arranged demonstrations of fly-shuttle looms at Jajpur, Khurda and Banki ; arranged exhibitions of agricultural products at Banki and of the products of the Bell-metal society and the weavers' society at Jajpur ; secured money and work for the co-operative press and attended monthly meetings of the society; arranged for sale of goods and for despatch of articles to Angul.

(10) Helping in the introduction of fly-shuttle looms and arranging for the introduction of new crops, etc.

(11) Arranging for the management of the Kewot School on the Chilka. 二十二百姓 医拉马克 建合物 机

(12) Helping in the settlement of disputes between the fishermen and other communities.

(13) Writing annual and quarterly reports, matters for publication in the Federation Gazette and giving opinions on different subjects from time. to time.

1 . (14) Training and examining probationers and arranging for their appointment.

I find my work fully out for me and I feel that if I could get more time I could devote the same to propaganda and other important work. The office is undermanned and the staff have to put in extra hours and find it necessary to work on Sundays and holidays.

ം പപ്പ് - പ്രചാപപ്പാം സം By MI, L. B. Seal. Officiating Assistant Registrar, Co-operative Societles, Tirhut Division.

1. How many societies 1. The number of societies an Assistant Registrar you think one Assistant can manage efficiently single-handed will be Registrar can manage? not more than 800. If he is given the assisof a Sub-Deputy Collector, the Assistant Registrar, being relieved of a good deal of formal routine work and also of local enquiries and inspections which are not important, could manage 1,500 or perhaps 2,000 societies.

> As matters now stand the Assistant Registrar is overburdened with so much formal desk work that he has to neglect more important duties.

2. In 1922-23-	
Letters received	 3,799
Letters issued	 6,679

8. 13 central banks and unions-1,174 societies, stores and 16 limited liability societies.

4. 12 central banks and 1,059 societies.

· 2. How many letters were

received and how many issued from your office?

8. How many central banks and societies are in including 6 your charge ?

4. How many audit notes you have dealt with during the year of central banks and of societies?

5. How many diaries 5. (a) 130. you have read of the man share the second

- (a) Managérs, and the set of the option (b) Inspecting Clerks, (b) 860.
- (c) 144. (a) Local Auditors,

(d) 7: (d) Honorary Organi-sors. (d) 7.

were made by you ?

A La Barrer Charles and

6. How many test audits 6. None. For want of time this had to be left solely to the Divisional Auditor. But his notes were compared with the original audit notes and necessary orders passed by the Assistant Registrar. (There were about 69 test audits by Divisional Auditor). Sec. Sec. 1 and

7. For how many days "? 7. Assistant Registrar was out on tour for 235 lead days in 1922-23; 107014 you were on tour ?

8. How many societies 1 70 sociéties in 1922-23. (The Assistant where were the first first from 15th April to 4th August 1922).

> (2) Mapping out Divisional Auditor's programme, reading his weekly demi-official letters, monthly diaries and passing necessary orders, scrutinising his travelling allowance, contingent bill, etc. (3) Local Anditors :---

(i) Arranging annual programme and Electing work.

- (ii) Weekly demi-official letters (about 528 a year); orders had to be passed on these and correspondence thereon were necessary. There is a state of the second state of the
- (iii) Scrutiny of travelling allowance, stamp contingent bills (about 432 and $\mathbb{E}^{n} \left[\left\{ 1 \leq i \leq k \leq j \leq k \right\} \right]$. 1 annually), 📜
- (iv) Monthly progress reports (144 annually,

(v) Leave and other applications.

(4) D and E class societies. As many as possible should be visited by the Assistant Registrar, but here again this most important work has had to be neglected a great deal.

(5) Divisional Federation Board. Practically "everything has to be done or at least gone through by the Assistant Registrar from the framing of the agenda to reviewing the proceedings written out-including most of the correspondence. This work requires an enormous amount of time and thought.

(6) Divisional Development Board. This has just been formed and will entail a heavy tax on the Assistant Registrar's time, as he has to perform the duties of the Secretary to the Board.

(7) Annuel general meetings of central banks and unions (There are 13 in number in this division and another is likely to be opened in the near future). There are 22 societies (limited Hability) and stores. Requests to be present at their annual general meetings are received. These meetings afford excellent opportunity for offering helpful and constructive criticism to members personally, but here again for lack of time the Assistant Registrar can attend but few.

(8) Propaganda work. This should form a most important item in the Assistant Registrar's dutics. Giving lectures, arranging for deposits by discussions of their advantages and security with gentry, enlisting local interest in the co-operative movement, should be done, but all that an Assistant Registrar can do is from the little time he may have left over during inspections of central banks.

(9) In order to attain, a practical measure of, success, in ameliorating the condition of members of societies in regard to agricultural improvements, education, sanitation, etc., it is essential, that the Assistant Registrar should be able personally to visit societies and explain the benefits of the above and soe that they are carried into practice. To depend on men of the calibre Inspecting Clerks usually are, means that little headway can be inade.

In conclusion I may be permitted to point out that the annual inspection of central banks and attending their annual general meetings swallow up a very large portion of the Assistant Registrar's time. This work has got to be done but there are also many other points which engage the attention of an Assistant Registrar but which he has to pass, over. It is very advisable that an Assistant Registrar should be able to visit a certain percentage of societies before registration to satisfy himself that things are in order. Theoretically all is as it should be when central banks send up papers for registration, but in reality the whole thing is as the Inspecting Clerk has reported it to be. The Inspecting Clerk in order to make a show of good work not uncommonly sends up papers of societies which has been badly organised, which means probable failure in the future . Such supermeans probable failure in the future. Such supervision and inspection is purt of an Assistant Registrar's duty, but has he time for it? | Surprise visits to central banks, societies and also to check local auditor's work is essential. But here again an Assistant Registrar has no time. It is also essential that an Assistant. Registrar should be able to visit each society, say once in twoyears. I expect there must be some hundreds of societies the Assistant, Registrar, has never been. able to visit. If a thing is worth doing, it is worth doing well.

I have come to the Co-operative Department but recently and an consequently at a disadvantage in not being able to give fuller details. But four months, during what may be called the slack season, i.e., the rains, have been sufficient to show that in Tirhut Division the work is already so heavy that an Assistant Registrar finds it difficult to do all that should be done, single-handed.

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By Babu Akhauri Gopikishore Lal, Assistant Registrar, Co-operative Societies, Tirhut Division (on leave.)

1 have seen Mr. Seal's replies to your un-official queries dated the 25th August 1923.

I have to make the following observations with regard to them; and Mr. Scal's note may be read in conjunction with these remarks :---

Q (1) :-- The number of societies which an Assistant Registrar can properly supervise depends on several factors :-- ,

(a) Compactness of the area.—The same number of societies if located in different areas and affiliated to good many central banks or unions will take a good deal more time of the Assistant Registrar than the same when situated in compact blocks and affiliated to a few central banks.

(b) Condition of the societies.—If the proportion of A and B class societies is a fairly large one an Assistant Registrar can manage more societies than if the proportion of C to E class societies predominate.

(c) Amount and nature of supervision by the central banks.

In Tirbut about 1,200 societies are affiliated to 13 central banks and therefore they prove now a much too heavy a charge for one Assistant Registrar. On an average I am inclined to put 1,000 as the number of societies which an Assistant Registrar can supervise properly.

I consider the duty of local enquiries or the inspection of societies much too important for an Assistant Registrar, and I cannot agree to the proposal that he can divest himself of it on the appointment of any junior under him.

Q (5). In addition to the figures given by Mr. Seal I had also to read the monthly diaries of the Divisional Auditor and the fortnightly diaries of the Special Officer. I cannot give the exact figures but they can be taken as 12 and 24 respectively.

Q.6). No doubt the bulk of the test audit of primary societies had to be done by the Divisional Auditor, but it is not a fact that it was solely left to him. I could not rest satisfied without test auditing some of the societies myself. When inspecting a society I have generally gone through its account books to ascertain whether or not its audit was done properly. 1 did not keep any record of it but still I am inclined to put it to about 3 to 4 per cent. of the societies in my charge. In addition to this I have done the super-audit of central banks at the rate of one a year. I could not find time to do more.

Q (8). I do not know if the figure "70" includes many societies which I inspected in different areas but about which I left no note in office as there was nothing of any importance in them. My own impression is that I did inspect more than 70 societies during the year.

Q (9). It is very difficult to give an exhaustive list of the duties of an Assistant Registrar.

In connexion with propaganda work in the new or undeveloped areas he has at first to oreate a band of workers by enlisting the sympathy and active co-operation of the educated people of the locality and then he has to help them in every detail in the organisation of village societies and central banks and in making all arrangements for their financing either through he Provincial Bank or by attracting local deposits. This requires his constant and sustained attention and takes a lot of his time. Last year I had to do a lot in this connection in Samastipur and in the Sadr Subdivision of Chapra.

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In organisation too, a lot of my time was taken up last year in organising Stores, Guarantee Unions and Grain Golas in different centres particularly Sitamarhi. In this connexion an Assistant Registrar is required not only to draft suitable bye-laws or to make necessary alterations in the model bye-laws to suit Iocal conditions but has also to visit the places of organisation very frequently; a society organised on wrong lines is likely to do more harm than good.

Assistant Registrar has to read audit notes of primary societies as well as of central banks and other limited societies (Stores, Amla and others). He has also to read and take necessary steps on the test-audit notes by the Divisional Auditor.

He has to inspect every central bank in his area at least once a year and besides inspecting occasionally he has to keep a careful watch over the affairs of all new or important class of societies (e.g., Blacksmiths' society at Bettiah, Central Stores at Sitamarhi, Sugar Tribung Society at Chuhri and so forth).

He has to scrutinise all papers carefully in connection with (1) registration of societies, (2) amendment of byelaws, (3) award under section 43 (l) and (4) liquidation cases.

He has also to check the accounts of the liquidators at least once a year and this work gave me a lot of trouble last year, as over 50 per cent, of the liquidators never cared to keep any account and the rest kept them most carelessly or perfunctorily.

He has to keep special eye on D and E class societies and to inspect as many of them as possible. The result of my last year's inspection of these societies has been satisfactory. Some had to be wound up and good many showed signs of improvement.

He has to compile the annual figures and to prepare an annual report for his area. He has to review the work of each central bank and other special type of societies once a year for publication in the Gazette and to make other interesting contributions to it.

He has to go through good many returns and statements to wit-

(1) Local Auditors' and Divisional Auditors' monthly progress returns and programmes.

(2) Central Banks' monthly returns and quarterly finance statements.

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(3) Reports about D and E class secreties.

He has to arrange for and to keep accounts of the free supply of books and pamphlets, etc., to the societies and to outsiders.

He has to arrange for and keep accounts of the supply of stationery and . forms, etc., to Local Auditors and Divisional Auditors and to Special Officers and Honorary Organisers.

He has to arrange for the training of probationers, set question papers to them and to mark their answer books.

He has to scrutinise the proceedings of the monthly meetings of the directors of central banks and to offer necessary advice in connection therewith.

He has to keep himself as much up to date as possible by reading all available literature on co-operation in the shape of standard books, pamphlets, magazines, etc., and then very often he has also to write notes or give opinions on different subjects bearing on co-operation. In short he is expected constantly to read about co-operation, to write about them, and to speak on them.

In addition to these he has to deal with other office files about indents, etc., to keep accounts, and to see to proper maintenance of a number of registers in his own office. I have mentioned all these by way of supplementing the note under this head submitted by Mr. Seal. But of course, I do not agree with his suggestion that an Assistant Registrar should be able to visit every society at least once in two years because I consider it entirely impracticable.

By Munshi Shamsher Jung Bahadur, Assistant Registrar, Co-operative Societies, Patna Division

- 1. How many societies you 1. 1,000 Societies. think one Assistant Begistrar can manage? Registrar can manage? 2. How many letters were 2. Letters received—3,908. received and how many Letters issued—6,265 (Federation Board received and how many Letters issued—6,265 issued from your office? 214; Office—6,051). central 3. 7 Central Banks. ties are 11 Limited Liability Societies. 27 Guarantee Unions. 3. How many banks and societies are in your charge? 27 Guarantee Official Societies. 4. How many audit notes
 you have dealt with
 during the year of central
 banks and of societies ?
 4. 7 Central Banks.
 8 Limited Liability Societies.
 15 Guarantee Unions.
 846 Agricultural Societies. banks and of societies? 846 Agricultural Societies. 5. How many diaries you 5. (a) 72 diaries.
 have read of (b) 264 ,,
 (a) Managers (c) 96 and 11 of Divisional Auditors.
 (b) Inspecting Clerks (d) 36 and 2 of special officers. (a) Managers
 (b) Inspecting Clerks (c) Local Auditors (d) Honorary Organisers 7 6. 31 societies. 6. How many test audits were made by you? 7. For how many days you 7. 202 days out on tour. were on tour? 8. How many societies 8. 106 societies inspected. have you inspected ? 9. (1) Dealt with 35 applications for loans by 9. Enumerate in detail all societies in Palamau district, there being 42 other works done. societies during the year ending 31st May 1923. (2) Arranged for loans to 5 central banks and carried on correspondence regarding deposits from several individuals. (3) Carried on correspondence regarding and arranged for quarterly meetings of the Divisional Federation Board. (4) Examined and passed 36 travelling allowance bills of Honorary Organisers, 96 of Local Auditors and their peons and 6 of Inspecting Clerks paid by the Federation. (5) Prepared 12 monthly pay bills of Local Auditors and their peons and one Inspecting Clerk paid by the Federation. (6) Arranged for training and examined 37 pro2
 - (6) Arranged for training and examined 37 probationary Managers, Local Auditors, Inspecting Clerks and Bank Clerks posted to this Division.

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(7) Dealt with 121 cases of award applied for against individual members and 32 against societies.

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- (8) Arranged for the supply of raw materials and carried on correspondence to secure orders for the Nokha Shoe-makers' Co-operative Societyr
- (9) Prepared quarterly Finance Statement of - Table of seven Central Banks.
- (10) Reviewed the monthly Trial Balance, Profit and Loss Statement and Receipt and Expenditure Statement of Central Banks (21 per month).
- (11) Dealt with 116 registration, 10 amendments and 91 liquidation cases.
- (12) Review of 8 Local Auditors' work every month, 1-
 - (13) Attended 10 meetings of Directors of Central Banks and took part in the discussion of STAN STATES A important subjects.
- (14) Attended 5 annual general meetings and delivered speeches on subjects connected with co-operation and reviewed the work done during the year. 44.2%្នារ អាមក្ខខ្លះ 🖞
- (15) Had to pay several visits to (a) Garhan.
 (b) Nokha, (c) Atrauli, (d) Siris, and (e) Obra societies in connection with :--- (a) store, (b) shoe manufacture, (c) manufacture of iron safe, and sugarcane pressing machine, (d) pumping scheme, (e) manufacture of Durees and carpets.
- (16) Annual inspection of 7 central banks and 8 limited liability societies.
- (17) Inspection of records of all the 55 societies under liquidation.
 - (18) Writing of brief notes on the working of 7 central banks and 11 limited societies for the quarterly Federation Gazette.
- (19) Numerous other miscellaneous works, e,g miscellaneous correspondence, compilation of Divisional Monthly returns of audit work done by Local Auditors, watching of " D " and " E " class societies and compilation of annual figures, etc.

By Babu Mathura Prasad, Offg. Assistant Registrar, Co-operative Societies Bhagalpur Division. and the second second

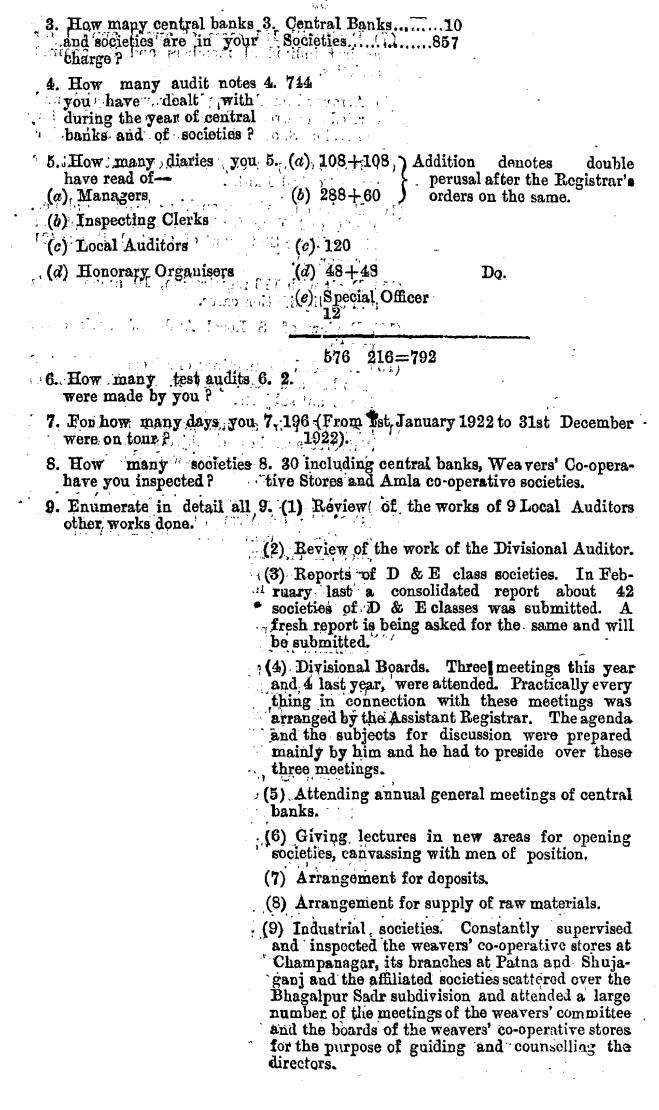
- 1. How many societies you 1. One Assistant Registrar can manage 600 think one Assistant Regis- societies and 6 central banks.
- trar can manage? 🗠

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and how many issued from your office?

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(10) Sale of finished goods. Assistant Registrar generally takes *Tassar* and *Bafta* cloths for sale on tour and lectures on these to gentlemen with a view to advertise and popularise them.

(11) Automobile Association, Bhagalpur. The Assistant Registrar worked as the Secretary of this Association from the beginning to 3rd July 1923.

(12) Primary Teachers' Association. The Assistant Registrar discussed the rules and bye-laws and the aims and objects of this association with its organisers several times before it could be sent up for registration.

(13) Creamery business. Mayaganj Dairy Society was visited several times and necessary advice and instructions given to the office bearers and the Bhagalpur Central Bank Manager to conduct it on proper lines.

(14) Government silk institute. The Assistant Registrar as a member of advisory committee attended the meetings and on other occasions exchanged views and 'ideas with the Superintendent with regard to the working of the weavers' co-operative stores, the training of its members in the institute and the introduction of simple machineries, etc.

(15) The Assistant Registrar had often to interview the Commissioner of the Division, the Collectors of the Districts, and Subdivisional Officers, while on tour, to interest them in the movement and keep them informed of its expansion, also to enlist their sympathy and intervention in cases of highhandedness by the mahajans and landlords against members of societies. The Assistant Registrar has to spend about a couple of hours every day in interviewing visitors inquisitive of knowing something about the movement or desirous of investing money in it, and seeing candidates for employment who keep crowding throughout the year.

- (16) Assistant Registrar has to arrange for the training and examination of probationers. During the last year four local auditors, six inspecting clerks, five bank clerks and four managers were trained and examined.
- (17) Twelve travelling allowance bills including those of Honorary Organisers, Divisional Auditor and his peon, Inspecting clerks paid by the Government, and Manager, Weavers' Co-operative Stores are regularly checked and scrutinised every month. Besides this number some more travelling allowance bills of Honorary Organisers, Local Auditors and their peons and others which come not regularly but at intervals The travelare checked and scrutinised. ling allowance bills of the Assistant Registrar, his tour assistant and peons are also prepared in the office.

(18) The Assistant Registrar has to make arrangments for propaganda and organisation as well as local control and supervision of societies in new areas. This is a very important part of his duties as much depends on the selection of the right type of men. To assist him in this work a special officer has been employed since 1st Jane 1925, but his efforts being mostly localised in particular areas. for the development of societies therein, the opening of new areas, and the arrangement for their supervision rest primarily with the Assistant Registrar.

(19) 70 Award cases, 9 against societies and 61 against individuals.

(20) 120 Registration cases.

(21) 28 Cases of amendment of by-laws.

(22) 10 Liquidation cases.

APPENDIX III.

Statements of Mr. N. K. Roy and Babu Akhauri Gopi Kishore Lal, Assistant Registrars of Chota Nagpur and Tirhut Divisions, respectively, who were examined by the Committee.

(1) Mr. N. K. Roy.

Mr. Lyall.---What takes up most of your time, societies or central banks ?

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A. Central banks of course.

Q. With a fewer number of central banks, could you manage proportionately a larger number of societies ?

A. That is so.

Q. How many central banks or societies could one Assistant Registrar manage efficiently?

A. I should say 10 central banks and anything between 1,000 and 1,500 societies.

Q. With the same number of central banks a larger number of societies would not increase his work materially?

4.12

A. No, I don't think it would.

Mr. Collins.—He would have to read the audit notes ?

A. Yes, I meant apart from this work, his work would not increase proportionately to the increase in the number of societies as it would in the case of an increase in the number of central banks.

Mr. Lyall.—Considering all your duties, would you think that they could be entrusted to an officer of an inferior status to a Deputy Magistrate or Deputy Collector?

A. I think it is necessary to have a Deputy Magistrate and Deputy Collector for the duties of an Assistant Registrar.

Mr. Collins.—How many societies have you test audited ?

A. I have not carried out any regular test audit in the sense of a thorough re-audit. But I always take out audit notes when I go to a society and test the Local Auditor's work by testing the accuracy of the 'information gathered, the correctness of his checking of *Haisyat* registers, etc. I have had to remove two local auditors for inefficient work.

Q. Don't you think it would be desirable to have at least 5 per cent. of the societies test audited by the Assistant Registrar?

A. Yes, I think it would be a good thing.

Mr. Lyall.-Do you test audit divisional auditor's work?

A. During inspection of central banks, the divisional auditor's work comes under thorough scrutiny.

Q. Who is your divisional auditor? Is his work satisfactory?

A. Babu Paresh Chandra Chekerburty is my divisional auditor. I have found his audit of central banks and limited societies satisfactory.

Q. Did he have any special training?

A. Yes, he had six months' training in a Calcutta firm.

Registrar of Co-operative Societies—He had four months' training.

(2) Babu Akhauri Gopi Kishore Lal.

Mr. Lyall.—Do you do any test audit yourself ?

A. Of primary societies I do some and the per centage may be about 2 to 3 per cent. When I go to inspect a village society I generally take out its latest audit note with me and taking out the questions bearing on

the accounts I test the local auditor's work by reference to the books of accounts and vouchers, etc. This also helps me in judging the nature of the work of the inspecting clerks also.

Mr. Collins .- Do you do test audit of societies apart from what you do at the time of inspection ?

A. No, this is the only way in which I test the quality of the local auditor's audit.

Mr. Collins-You do not do audit of any society from the beginning to end as a local auditor would do.

A. No, I have not done so. This is done by divisional auditors, who are required to test audit 10 per cent of the societies every year.

Mr. Collins.-Do you not consider it very essential that Assistant Registrar should do some complete test audit himself ?

" A. Yes, it is desirable but the percentage of such test audit of primary societies cannot be very large.

Mr. Lyall.-How far do you check the assets of the members of every society ?

A. In every society inspected by me I go through the Haisyat register to find out how a member has stood economically since he joined the society. In cases where it is found that a member's liabilities have increased and the assets continue the same as before or has got reduced I try to ascertain the cause for it and to suggest remedies to the members for the betterment of the condition of the member.

Mr. Lyall-Do you actually test the number of cattle shown as assets in the register ?

 \mathcal{A} .—No, I have not counted them personally but in certain cases I have tried to verify the accuracy of it from the other members present. I do not remember to have come across any case in which the number of cattle was under or over estimated. In newly developed areas it has been often found that members do not give out their correct assets and liabilities under certain misapprehension but in older areas such cases are not many.

Mr. Lyall.-What propaganda work you had to do ?

A. Within the last two years I organized three new unions, viz., Hajipur, Samastipur and Chapra Sadr, where there were no central banks or primary societies before except a few in Samastipur in the Narhan Court of Wards' villages, which were practically lifeless for want of training, supervision and financing. Besides I had to do a lot of organization work in connection with stores in Sitamarhi area, grain golas, and guarantee unions.

Mr. Collins.-You had one special officer in Hajipur?

A. Yes, I had the services of a special officer in' all these three centres. He worked for about eight months in Hajipur, about six months in Samastipur and was then sent to Chapra. In organizing new areas special officers are essentially necessary, because the local workers require instruction on every little thing and it is not possible for Assistant Registrar to be present constantly in any one area for any length of time.

Mr. Collins.-What do your stores deal in at present?

A. Salt, kerosine oil, coal, cloth, etc.

Mr. Colling.-Have you got any agricultural sale society in your area ?

A. No.

Mr. Collins.-Do you not think it more necessary that arrangement should be made for the sale of seeds, manures and implements than for korosine oil and salt, etc. ?

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A. Yes, but before we can start societies for these purposes a lot of propaganda work is necessary to explain to the villages the use of artificial manures, and improved implements. At present they know very little of their utility and unless they can be convinced of their utility by actual demonstration it will not be practicable to start societies for their supply. As regards seeds we have tried to supply some through central banks. In Gopalganja good deal of Darjeeling potato seeds were supplied last year. In Sitamarhi area, a special variety of paddy seed from Belsand factory was distributed to several societies at the time of Mr. Mansfield. I had also tried to procure ground nut seed through the agricultural department for Gopalganj area but they could not supply the seed that year. After sufficient propaganda work has been done by actual demonstration and otherwise my idea is to arrange for the supply of such things to members through the central store and the village stores. In Tirhut I had not been getting any help from the agricultural department so far.

Mr. Collins.—Do you think there should be any member of agricultural department attached to the central bank ?

A. Yes, we require technical advice from and demonstration done by the agricultural department. Not being agricultural experts we cannot say what kind of soil is suitable for what kind of crops and so forth.

Mr. Lyall.—Is any other agricultural work being done in your area?

A. I tried to do a protective bandh in the Hajipur area on co-operative lines but I have not succeeded so far because the raiyats of different villages concerned in the scheme, have not come to any agreement yet.

Rai Sahib Raj PrakashNarain.—You say you organized three areas in two years. Can you tell me how these areas are working?

A. Samastipur is working very well, Hajipur is tolerably well and Chapra Sadr has just started work.

Rai Sahib Raj Prakash Narain.—How long has Samastipur been working now?

A. For about a year.

Rai Sabib Raj Prakash Narain.—Are you satisfied with the local workers there?

A. Yes, because Mr. Beevor takes a good deal of interest in the affairs of the central bank. A good deal of the success is chiefly due to him.

Rai Shhib Raj Prakash Narain.—Do you not think that as time goes on the honorary workers will do even better work?

A. Not necessarily, I know of exceptions also.

Rai Sahib Raj Prakash Narain.—But on the whole you are satisfied with the local workers of Samastipur and Hajipur.

A. It is difficult to say anything definitely on this. I find that in Samastipur the local workers (because of Mr. Beevor's interest) do not require help from me for every little thing whereas in Hajipur they do require constant help but they do carry out the instructions given to them,

Rai Sahib Raj Prakash Narain.—Do you not think that your work will be much lighter it an Honorary Assistant Registrar is appointed, who can relieve you from reading some of the audit notes and in doing inspect ons?

A. I do not think so. Call the Assistant Registrar by any name you like but so long as my responsibility for the entire area continues I would much rather like to keep myself constantly informed of the affairs of the entire area. I cannot have as much direct idea of the area as I should like to have in view of my responsibility for it if the audit notes of the area are read and inspections are carried on by somebody else.

Mr. Collins.-Who is your Divisional Auditor ?

A.-Maulavi Habibur Rahman.

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Mr. Collins.-What do you think about this man?

A.—He has been working very satisfactorily.

Mr. Collins.-Have you done any test audit of his work?

A.-No, but I have done superaudit of one bank every year.

Mr. Collins.—But you have not tested the nature of his audit by test auditing some. Do you not think it necessary that his work should also be test audited? Was there not a case of embezzlement in a central bank of your own area which should be guarded against by test audit?

A.—I have found his work satisfactory and one can rely on it. Besides there are educated men in the directorate of every central bank and in case of unsatisfactory audit they should be able to bring the matter to our notice. The embezzlement in question was detected by the divisional auditor himself in his very first audit.

Mr. Collins.-What training do the local auditors get ?

A.—They are attached with other local auditors for three months for training.

Mr. Collins.—Do you think their training is satisfactory ?

A.—Not at all. I am entirely dissatisfied with the present arrangements for training.

Mr. Collins.-What training do the divisional auditors get ?

A.—They are trained for four months by Messrs. Batliboi and Company.

Mr. Lyall.—Do you think there would be some facility if there be a chief auditor who will be able to do test audit of central banks and will be a sort of expert adviser to the Registrar in-matters of account?

 \triangle .—Certainly. We do often feel the need of such an officer. I felt such difficulty when Mr. Beevor of Samastipur wanted to change the present system of account keeping by introducing what he called ' loose sheet' system, etc.

Mr. Lyall.—There are two proposals before us—one is to keep one Assistant Registrar in each division and to give him Junior Assistant Registrars according as societies in the division go on increasing and the other is to reduce the jurisdiction of the Assistant Registrars and to add fresh Assistant Registrars where required. Which of the two, in your opinion, would be more desirable.

A.-I would prefer the latter.

Mr. Lyall.--What are the reasons for saying so?

A.—(1) The quality of the work will certainly be better. Assistant Registrars will be able to do better propaganda work than officers of any lower status.

(2) With Junior Assistant Registrars the jurisdiction of the Assistant Registrar will continue to be the same as now and his responsibility for the entire area will continue as now and he will have to keep the same watch over the entire area as now. But with Assistant Registrars his activities will be confined to a smaller area and he should be able to do extensive propaganda work and will be better able to supervise the smaller area.

(3) For propaganda work as well as for organization, etc., an Assistant Registrar has constantly to deal with Subdivisional officers, Collectors and Commissioners and carries greater weight with them than an officer of any lower status.

Mr. Lyall.—Do you consider that men of the status of Sub-Deputy Collectors will not be as useful as Assistant Registrars?

A.—I am not in a position to answer this question as I had never any occasion to supervise or judge of the work of Sub-Deputy Collectors.

Mr. Lyall.—Supposing you are placed in charge of Muzaffarpur alone, will you be able to manage even when there are 2,000 societies in it?

A.—Yes it may be possible to do so provided they are confined to fewer number of centres.

Mr. Lyall.-But you will have to read 2,000 audit notes.

A.—Yes, that will be a difficulty but I will have less of correspondence and diaries to deal with.

Mr. Lyall.-Would you be able to manage conveniently up to 1,500 societies?

A.—Yes, I think so. They will be grouped in fewer centres and it will be possible to inspect them more frequently by car.

APPENDIX IV.

REGISTRAR'S CIRCULAE NO. 9 OF 1922.

To

ALL ASSISTANT REGISTRARS.

Dated Patna, the 28th June, 1922.

The following instructions are issued in modification of instructions issued last year from time to time regarding the recruitment of probationary Managers, Local Auditors, Inspecting Clerks, and Bank Clerks :--

1. No application for employment as Bank Manager, Local Auditor, Bank Clerk, or Inspecting Clerk will be received by the Registrar except in special cases. If any such application is submitted to the Registrar direct it will not generally be attended to.

2. All such applications should be made to the Assistant Registrar in charge of the division in which the applicants reside or want to be employed.

3. Candidates for Managership must be graduates, those for Local Auditorship must have passed the Intermediate Examination in Arts or Science and those for Bank Clerkship or Inspecting Clerkship must have passed the Matriculation Examination.

4. All applications for these posts should be received between the 1st July and 1st August of each year.

5. Before 1st July of each year every Assistant Registrar will submit an estimate of the number of each class of officers to be trained in his area and is likely to secure appointments before the next batch is available. In making this estimate he will generally have regard to—

- (a) the number of existing societies and banks and their employees,
- (b) the number of societies or banks likely to be opened during the year, and
- (c) the number of probationers already trained and waiting for employment or under training in the Division.

The estimate should include 25 per cent. more than the number likely to be required during the year to meet unforeseen requirements.

6. On receipt of the Registrar's sanction to the number of appointments to be made in each Division every Assistant Registrar will nominate candidate for the sanctioned number of appointments from amongst the candidates before him and shall submit their papers along with the papers of all other candidates for final orders.

7. Each candidate will be required to join his appointment on or about the 1st September for three months' training and will be examined in the first week of January following.

8. Each Assistant Registrar will keep a register of probationers in his Division in the following form allotting different pages for each class of officers :--

Ferial No.	Name of probationen.	Qualification.	Date of joining.	Date of examination.	Result.	Rowarks.
1	2	8	4	5	6	7

He will also maintain another list of trained probationers in the following form :--

Serial No.	Name of trained probationer.	Qualification.	Home address.	Date of passing examination.	Date of appoint- ment.	R2m a' kr.
1	2	8	4	5	6	7

In the list the names of trained men will be entered in the order of the dates of their passing the examination and for candidates passing on the same date in order of their merit. A combined list of probationers and trained men will also be kept in the Registrar's office in the above forms.

9. In submitting recommendations for filling up the vacancies Assistant Registrars should have regard generally to the seniority in the list and in the case of vacancies in the post of Managers and Local Auditors the case of best Local Auditors and Inspecting Clerks respectively in their Division must also be taken into consideration along with the trained men in the list.

10. If for any reason any Assistant Registrar requires more than the sanctioned number of probationers in his Division in any year, he must obtain previous sanction of the Registrar before making any additional appointments.

MOHI-UD-DIN AHMED,

Registrar.

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APPENDIX V.

REGISTERS SUPPLIED TO CO-OPERATIVE SOCIETIES AT GOVERNMENT COST OR ON PAY MENT

- (1) Supplied at Government cost :---
 - 1. Cash book.
 - 2. Deposit register.
 - 3. Loan register.
 - 4. Register of members.
 - 5. Minute book.
- 6. Loan pass book, 15 copies.
- (2) Supplied on payment by societies :---
 - 1. Share register.
 - 2. Share certificate book
 - 3. Haisyat register.
 - 4. Bond form for societies, 3 copies:
 - 5. Bond form for members, 10 copies.
- (3) Supplied on payment by members individually :---
 - 1. Deposit pass book.

APPENDIX VI.

• No. 2106.

FROM

B. A. COLLINS, Eso., I.C.S.,

OFFG. REGISTRAR OF CO-OPERATIVE SOCIETIES,

BIHAR AND ORISSA,

THE SECRETARY TO THE GOVERNMENT OF

BIHAR AND ORISSA, REVENUE DEPARTMENT.

Dated Ranchi, the 12th June 1915.

SIR,

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I HAVE the honour to submit for the approval of Government a scheme for the formation of an Audit Pederation in this Province. As the law stands I have power to register a society for this purpose and I refer the matter to Government, partly because it, is an important question of policy to which it seems advisable to secure their assent, and partly because the Federation needs certain amount of financial support.

2. The object and constitution of the federation is explained at length in the accompanying note and it is only necessary to say here that no orders from. Government are required under section 43 (h) of Act II of 1912, as the societies will be affiliated voluntarily to the federation. Should any difficulty occur, however, in recovering the costs of audit, it might be necessary subsequently to frame an order authorising the federation to realize them.

3. The financial aspects of the proposals are also set forth in the note, and I now ask sanction to make provision in my budget for 1916-17 on the scale suggested there. The net result is that I shall require approximately an extra Rs. 30,000 that year, of which Rs. 15,000 only will be a recurring charge. The recurring charge is however, uncertain and the entry of any particular sum in the budget would be only in the nature of an estimate, the amount to be actually paid each year would be settled on the basis of the number of societies in existence and the Registrar would make an annual reference for the purpose. A statement showing the extra cost of these proposals is enclosed. The fact that there is an increase in the charges to be borne by Government is partly due to provision for the audit of the societies now audited by the Sub-Deputy Collectors serving as auditors. These I now propose gradually to replace by Deputy Collectors (vide my letter No. 2059, dated the 11th June 1915), who will do no original audit. In the meantime in the annual account Government would be given credit for those societies audited by the Sub-Deputy Collectors. This will reduce the immediate cost of the scheme by a considerable amount, but as it is impossible to estimate the exact saving due to this cause, I have not made any allowance for it.

4. In conclusion I may perhaps point out that though I am proposing an increase in the recurring charges for audit, the expenditure to be incurred by Government will be less by about Rs. 10,000 than that which would have had to be provided for the audit of 1,600 societies according to the scale of staff now sanctioned.

I have the honour to be, SIR, Your most obedient servant, B. A. COLLINS, Offg. Registrar.

THE FOUNDATION OF AN AUDIT FEDERATION FOR BIHAR AND ORISSA.

Under section 17 of the Co-operative Societies Act the Registrar is bound to "audit or cause to be audited by some person authorized by him by general or special order in writing in this behalf, the accounts of every registered society once at least in every year." It is added that the audit is to include "an examination of overdue debts, if any, and the valuation of the assets and liabilities of a society."

2. Besides this audit, which has always been made to include a very searching inspection of the society, all societies are subject to some sort of inspection and control, since experience has shown that no society can succeed without them. At present they are provided in various ways. Societies affiliated to central banking unions are supervised by the union, and as the source of practically all funds it has complete control over its societies. This it exercises, partly by means of inspecting clerks and other paid servants of the bank, and partly by the honorary efforts of the directors and other gentlemen interested in the movement. The salaries of the former are found by lending money to the affiliated societies at rates considerably in advance of that at which it is procured. So far this form of supervision where it is properly developed has been most effective and expansion on these lines promises the best hope of success. Societies not affiliated to central banks and unions depend for supervision chiefly on the efforts of honorary organisers. Their position is unsatisfactory, because there is no guarantee of continuity, and the death, retirement or transfer of one man may result in something like chaos. It will be the aim of the Registrar for the future, therefore, to combine all groups of societies into unions, if not for finance at least for the purpose of inspection and control. Without the responsibility entailed by associations of this sort, the members will never attain real independence and are unlikely to advance to other forms of co-operation. The question is how to provide satisfactorily for the audit and inspection of societies in the future. In 1908 there were 359 societies: in 1915 there are 1,100 of which 18 are central banks or unions : by 1923 unless something unforescen arises to check development, there will be at least 5,000 societies with over 200,000 members and there will be few subdivisions in Bihar and Orissa without their central bank. What is to be the organization by which such -a huge number of people are to be controlled and their accounts audited in , accordance with the Act?

3. Before discussing the solution of the difficulty I may lay down two axioms, viz, (1) that the Government paid staff is to be kept as low as possible and (2) that central banks cannot be entrusted with the duty of auditing. their own affiliated societies. Each of these requires a word or two of explanation. It has been the desire of the Government of India from the beginning that the movement should be officialised as little as possible. More recently they have informed Local Governments that the audit must fulfil two conditions. It must be such that Registrars may, by means of a staff on which they can thoroughly rely, be fully informed of the financial position of each society, the audit being not merely formal but practical, and it must be carried out by an agency which will command the confidence of the moneylending public. Subject to these conditions, they say, it is a great advantage to keep the number of Government agents employed as low as possible, but it is for Local Governments to determine how far these conditions (which are of primary importance) may be met by the entertainment of a staff which is under the control of the societies and how far it is advisable to maintain a staff appointed by and under the control of the Registrar. The Local Government must decide how far the latter kind of staff is to be supported by Government or whether its cost should be met wholly or partially by contributions from the societies. It is unnecessary to discuss at length the principles on which these orders are based. So far as they lay down any definite rule I venture to agree with them as sound, and I go further as indicated above, and would enunciate the principle that no central bank should conduct the audit of its own affiliated societies. My reason for this is as follows :-Financially, the interest of the central bank is to lend as much money as is safe to its affiliated

ocieties. If the central bank fails its shareholders will lose their share capital only, whereas a joint stock bank or the outside public who have financed stand to lose a far larger sum. All the assets of a central bank are invested in the societies, and though the central bank depends on the welfare of the societies, it might at any time be interested in concealing their true state from the public if they were in an unsound condition. If the public is to have complete confidence in the movement, therefore, the societies should be audited by an agency independent of the central banks and unions.

4. Accepting these two principles, we have now to decide the main question of how societies are to be audited and inspected in the future. For the audit staff there seems three possible organizations (1) a staff paid and controlled by Government; (2) a staff paid for altogether or in part by the societies and controlled by Government; and (3) a staff paid for and controlled by the societies. The first as a permanent measure may be dismissed at once. It is obvious that the Government of India will not agree to pay the , whole staff indefinitely and it will be shown that the societies can well afford to contribute. As between the remaining alternatives, there are advantages in both, but to my mind there seem most in the latter. The chief point in , the favour of a Government controlled staff would be that it would command the greater confidence of the investing public. As against this, even if an unofficial agency is chosen, under section 17 of the Actall auditors will have to be licensed by the Registrar and Government will always provide a staff sufficient to control the auditors and satisfy itself through the Registrar that the audit is being efficiently carried out. The staff would thus be under Government control and should satisfy the investor. On all other points the advantages appear to be with the other plan. It is the universal experience in Europe that a Government audit tends to develop into a routine, whereas the co-operative society, and especially the Indian co-operative society, needs more than a routine audit; and though the Government audit in Germany and other countries, where it is conducted by a Chartered Accountant without expert knowledge of co-operation, is and always would be a very different affair from that conducted by the Registrar out here, there is sufficient truth in this objection to make an unofficial agency preferable if possible. Again, the audit in Europe is carried out by large unions and societies, which are able by their position to do a great deal for the co-operative movement in other ways. The German unions and federations, for instance, carry on active propaganda work, train auditors and officials of societies, publish journals and newspapers, provide legal and technical advice and advance various special forms of co-operation. A union or federation of all the societies in the Province on these lines would, I believe, be of great benefit to the movement. Over and above the actual audit, it could undertake an active campaign for the spread of co-operation, it could interest itself in new forms of co-operation and especially agricultural co-operation, it could arrange for the training of its own officials and those of central banks, it could manage the printing of all societies cheaply and efficiently, publish a magazine and in a hundred other ways lighten the Registrar's burden and contribute to the life and growth of the movement.

5. A union for the purpose of audit is already in existence in the Central Provinces and is, I have ascertained, working satisfactorily. Its objects as stated in the rules are :—

- (i) to provide a regular and efficient system of supervision, audit and control for all banks and societies enrolled in membership;
- (ii) to secure uniformity of practice and unity in effort and in aim amongst all co-operative bodies in the Central Provinces and Berar;
- (*iii*) to work for the common good of all co-operators and especially to see that co-operative business is conducted on sound, safe and progressive lines.

The members of the Union are the central banks themselves, which collect a fixed contribution of Re. 1 from every member of t eir affiliated societies. With this money the Union employs one auditor for every 100

sccieties and one inspecting clerk for every 50. The former is under the control of the Union and the latter under that of the central bank, which receives a subsidy from the Union for his pay. I propose to proceed on some-what different lines, organizing a federation of which the primary societies and not the central banks will be the constituents. Each society would be a member and contribute yearly a sum equivalent to a fixed percentage of its working capital. With the money thus procured the federation would provide a staff similar to that employed in the Central Provinces, would maintain a provident fund and would have a sufficient margin to undertake various other kinds of work. Exclusive of the central societies, which for reasons discussed elsewhere should continue to be audited by Government and the non-agricultural societies (vide paragraph 9 below), the staff required may be put at one auditor, two inspecting clerks and one peon for each 100 societies. Although now the audit is up to date I hope that auditors, whose work is confined to a small area, will always complete from 120 to 130 societies, still for the purposes of this calculation, it is safer to adopt the figure of 100 so as to provide a leave reserve and meet all contingencies. Each auditor must ha e his peen, without whom he finds it difficult to collect the members. One inspecting clerk is needed for every 50 societies to keep the books in order and instruct the members. The cost of this staff will be Rs. 212 per mensem. For audit I find that suitable men can be procured if an incremental pay of Rs. $50-\frac{5}{4}-75$ is offered, with a smaller grade of Rs. $75-\frac{5}{4}-100$. If the proportion of lower paid post is fixed at 3 to 1, then taking the average pay at Rs. 66 and Rs. 90, respectively, the cost for 100 societies will be Rs. 72. Allowing Rs. 28 for travelling allowance, which experience shows is quite adequate, Rs. 100 may be fixed for each auditor. Their peons will require Rs. 12 a month, inclusive of travelling allowance. The pay of inspecting clerks is Rs. 25-1-45, and taking the average at Rs. 35 and their travelling allowance at Rs. 15, which is sufficient, they will each cost Rs. 50. This makes up the total of Rs. 212 a month or Rs. 2,544 a year, exclusive of provident fund, which at the rate of 6 pies in the rupee brings the total of Rs. 2,600. The cost of the auditing and inspecting staff for the 766 societies in existence on May 31st 1914, would thus be just under Rs. 20,000. To this must be added Rs. 620 for a headquarters clerk and his provident fund, Rs. 370 for peons and contingencies and Rs. 1,000 for printing and stationery or say Rs. 22,000 in all. Allowing this sum of Rs. 2,000 for headquarters and incidental expenses for each 1,000 societies, the average cost of the audit and inspection of each society would be Rs. 28 annually, of which Rs. 13 may be put down to inspection and Rs. 15 to audit.

6. My first idea was that all agricultural societies should contribute a proportionate share towards this sum, but after discussion at the recent provincial conference it was decided that it was necessary to exempt from audit charges societies in backward areas, such as Chota Nagpur, and new societies, ie, those of less than two years' standing-the former because owing to tle emallness of their working capitals they cannot contribute sufficient and what they did give would seriously hamper them, and the latter because it would be difficult for societics which have built up no reserve to make the contribution. After examining a number of individual cases I have come to the conclusion that these arguments are sound, and I think that Government should continue to audit at its own expense new societies as defined above and such societies in backward areas as the Registrar recommends for e.emption. If this is approved, there would be on June 1st, 1916, 667 old societies which could bear the cost of audit and inspection, and 100 backward societies and all societies registered since May 31st, 1914, which would only pay for the cost of inspection. Up to May 51st, 1915, the number of new societies registered is 330, and it would be safe to assume that more than 400 more will come into being by May 31st, 1916. On June 1st of that year the number of new and backward societies would thus be 530. The total cost of auditing and inspecting the whole 1,600 societies would be Rs. 43,500, and as according to the above calculations the cost of audit as against that of inspection would be roughly as 23 to 20, the share to be borne by the societies would be Rs. 30,000 and that by Government Rs. 13,500 per an nu n The combined working capitals of the 667 societies, which will be more than

two years old on June 1st, 1916, stood on June 1st, 1914, at Rs. 11,69,135 while the cost of their audit and inspection would be Rs. 18,676. It would take a levy of $1\frac{2}{4}$ per cent on the working capital to preduce Rs. 20,458; but if the working capitals have increased by June 1st, 1916, in proportion to those of the societies which were two years old on June 1st, 1914; they will by June 1st, 1916, stand at Rs. 14,00,010 and a levy of $1\frac{1}{2}$ per cent would produce 1s. 21,000 or more than sufficient to cover all expenditure.

7. The question is whether the societies can afford this large percentage. At present most of them borrow at $12\frac{1}{2}$ per cent from central banks and lend to their members at $15\frac{5}{8}$ per cent. thus making a gross profit on borrowed capital of $3\frac{1}{8}$ per cent. It is obvious that even when they have accumulated some reserve a contribution as large as $1\frac{1}{2}$ per cent on their capital would be beyond their resources. It is therefore part of the scheme that central banks should proportionately reduce the rate at which they lend money, *i.e.*, to $10\frac{1}{3}$ or 11 per cent. This they can afford to do. At present even after paying for their inspection staff, they make large profits, since they borrow at 7 and $7\frac{1}{3}$ per cent and by lending at $12\frac{1}{3}$ per cent make a good 5 per cent. profit on borrowed capital. When the federation is started, they will be relieved of the cost of the inspecting staff, and, as I have found by calculation, will still be able to carry on very comfortably. This arrangement will also enable new societies to contribute the cost of their inspection which they already do indirectly.

8. The method of assessing the audit levy now proposed has only been selected after careful consideration. There seem six possible ways of making the assessment :—(1) from the central banks; (2) at so much per member, (3) on the turnover of each society, (4) on the profit, (5) on the number of days taken for audit, and (6) on the working capital. A levy from the central banks would mean the perpetuation of the present rates of interest charged by them and may be discarded at once. A subscription of twelve annas per member (in the Central Provinces Re. 1 is charged) which would cover the cost of audit and inspection has several advantages. It is simple; it would not affect the profits of the society; the income of the federation could be calculated easily and it would bring home to each man that beacfits such as he receives from his society need some effort on his part. But the method is not really fair, as the poor member pays out of proportion to the use he makes of the society and the well-to-do pays too little. Difficulty would also be experienced in making the collection, especially from members who had not borrowed during the year; and it would arouse great opposition and suspicion as being some insidious form of tax imposed by Government. These objections seem to me fatal. An assessment on the turnover, which is adopted in some countries, will always be the best method for stores and other societies for purchase and sale, but these need not be considered yet. It also is fair because it would mean payment most nearly according to the amount of work involved for the auditor. But in credit societies a greater turnover does not mean a greater profit and owing to idle money very often means a smaller one as between societies whose working capitals are equal. Therefore this method would result in some societies having to pay more than they could afford. Assessment on profit is open to the objection that well managed societies would have to pay for their less energetic brethren, and so cannot be considered. A fixed charge for each day taken up by the audit is simple and equitable and is the method usually adopted in Germany, but it is not really feasible in this country at present, though I hope it may be adopted later. It would make the assessment uncertain and there would be constant disputes and objections over its incidence. On the whole therefore an assessment on the working capital seems best. It might occasionally happen that it caused a loss in badly managed societies, but as payment for audit and inspection is quite a legitimate c. args on the working expenses of a society, I can see no harm in this. It has the advantage of being easily understood, and is on the whole equitable, since usually the larger the working capital the more work for the auditor and the better the society can alford to pay. On these grounds I have adopted it for the scheme.

9. The case of non-agricultural societies yet remains to be discussed. Exclusive of the small societies of this type in Ranchi, which will be classed as backward, and the three societies for purchase and sale which are still new, there are 23 societies with unlimited liability, nearly all of which are formed from among ministerial officers drawing fixed pay. These societies certainly ought to pay for their own audit, and such of them as have replied to my circular admit they can afford a contribution of one per cent on their working capital. As their number increases and the co-operative stores and other business of the kind find their feet, their contributions will support 'an auditor and also pay for his travelling allowance. On June 1st, 1914, a levy of one per cent on their working capitals would have brought in rather under Rs. 1,000, while I calculate the cost of a first-grade auditor and his travelling allowance to be over Rs. 1,500. By June 1st, 1916, the societies should contribute enough to cover this, but if not, it may be necessary to ask for a small subsidy to meet the deficit.

10. The proposal to found a federation was approved by the second Provincial Conference and by-laws have now been drafted and circulated for opinion. They will be further considered at the next conference when all details will be settled, and are submitted in their present form to give Government an idea of the working of the federation. Subject to minor criticisms in one or two cases the scheme has been accepted by all concerned except four central banks and one amla society. Most of their objections are based on a misunderstanding of the objects and working of the federation, and will be removed after further discussion at the coming conference. Daulatpur and Khurda, however, both say the federation is premature as far as they are concerned, while Barh suggests that societies should be exempted from contribution for five years. The latter criticism may be dismissed at once, as the burden does not really fall on the societies but on the central banks and, as I have said, they can afford the charge. As to the view that the federation is premature, I can only say that Daulatpur and Khurda are two of the oldest areas and in my opinion can afford the contribution as well as, if not better than, most others. The federation itself is not really a great experiment. All the control remains in the hand of the Registrar and at present the federation is little more than a convenient organization for the collection of contributions, which by providing assured prospects and a provident fund will attract a good class of candidate to the inspecting staff. What it may develop into is another matter, and I have great hopes that in time it may prove of great benefit to the movement.

11. So far it has been only suggested that Government should contribute the cost of audit of new societies, and of those situated in backward areas. For reasons given below, however, I think that Government should go further and (a) make an initial grant of Rs. 15,000, (b) contribute one-quarter of the cost of the audit of old societies, and (c) present each new society with a set of registers free, or when the federation undertakes its own printing make a further grant for the purpose. (a) An initial grant is needed because the federation will get practically no funds till the conclusion of the first year of its existence and will need money to pay its This might be met by interest-free advances, year after year, but staff. an initial grant would be simpler and would eventually provide or help to provide the federation with suitable offices. (b) The contribution towards audit is in the first place politic, as is will tend to justify the Registrar's predominant position in respect of the audit, which I think it is important for him to retain. Secondly, it merely follows the example of Germany, the mother of co-operative credit. Mr. Wolff's writings tend to exaggerate as well as to glorify, the independence of German co-operation. In reality the various states usually give substantial subventions to help to defray the expenses of audit and in more than one case these amount to practically. half the cost.* In Wurtemburg, for instance, Mr. Cahill shows that the state has contributed from 50 to 70 per cent of the cost of audit since 1884. I see

• See Cahill's Report on Agricultural Co-operation in Germany, 226-272.

no harm but rather benefit in these grants, and I feel that in this country where Government takes such a prominent part, and the people who are to benefit chiefly by co-operation are so backward, the more control that Government retains over audit the better ; and he who pays the piper calls the tune. It is true that Government in any case will do a great deal by employing the Registrar and a Deputy Registrar or Registrars. But the cost is small compared to the benefit which it is hoped will accrue to the country from the movement and the way I suggest that one should look at it is that Govern-ment, besides helping new societies and those in backward areas, will undertake to bear a quarter of the cost of the staff which the societies themselves maintain for audit, while they contribute the whole amount spent on inspection and supervision. The Government subsidy will be small, Rs. 3-12 out of the Rs. 28 required for each society, but it will be much appreciated by all co-operators. (c) At present Government supplies all registers and forms free to agricultural societies, printing them at the Forms Press. I propose now to charge old societies for all extra registers and forms they require, and to continue to present new societies with sets of books as before. In all probability the federation will eventually undertake its own printing, and then the supply of registers can be discontinued and a grant made instead.

12. If these proposals are approved the total contribution from Government for 1916-17 will be approximately as follows:—(A) Rs. 15,000 non-recurring and (B) Rs. 15,000 recurring made up in round figures as follows:—

- (i) for the old societies (667 in all) at Rs. 3-8 per society, Rs. 2,500;
- (ii) for the 830 new and backward societies at Rs. 15 each, say Rs. 12,500.

This may at first sight seem a large recurring charge and there may be some fears as to the amount of the future obligations which Government is incurring. But if one bears in mind that Government has accepted the legal responsibility for the audit and at the same time admits the necessity of fulfilling the conditions laid down by the Government of India (vide paragraph 3 above), I think it is far from excessive. The societies will at once bear a proportion of the cost of audit and supervision which is quite substantial and certainly as much as they can afford. The recurring cost to Government will of course increase in the future, but as the number of societies grows, the proportionate amount paid from the public purse will fall rapidly. Further, the liability which Government will incur for each society will now be fixed; and I do not anticipate that the number of societies in the Province even in the more or less remote future will ever exceed 15,000 in number: indeed 10,000 is a more likely limit. This means that apart from the question of general control and the audit of central banks (vide my letter No. 2029, dated the 11th June 1915), Government will be quit of its responsibilities for audit and inspection in the whole Province by incurring a remote maximum recuring obligation of about half a lakh of rupees. In view of the great benefits anticipated from the movement to the people and the admitted importance of the audit, this can hardly be called extravagant expenditure.

B. A. COLLINS,

Dated June 8th, 1915.

Offg. Registrar, Co-operative Societies.

581

APPENDIX VII Staff maintained by other provinces:

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Total number of	Staff maintai	lued at Gove or au	rnment cost fo dit of societies	or supervision, control	Contributio Government of sudit exe sovered by	luding that	Any other co made by Go towards the not covered cola	movement	Contributi sadit n soci	
bocicies at the beginning of the last co-operative year, i022-23.	Designation.	No. of officers.	Pay and duty allowance.	Daties brießy deser bed,	Total amount.	Bate.	Total Amount,	Bate.	Toisi amount,	Bate
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68 Agricultural 4,333.	Deruty Begin- trar.	3	1,500	roeabe	i		, 54 7 (4H		ndred ru ta, 200, i udred ru
Non-Agr'ealtural	ABSistant Regis-	2	800 and 570	• •••••	•••		 	• •		0 per ha Bank,
	Junior Assistant Registrars,	28	•	*******		4.1		, 		(a) Re.10-5-0 per handred rupses, subject to a maximum of Ba, 200, in the case of a Contral Bank.
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8,533	1 Begistrar 2 Assistant	_ 1 7	I. C. S 800	Altention is solicited to	5117 - 11-1		860	 80 p. m.		
ν,	Registrars (including P, A.).		5:1050 750.	paragraph 102 of the Report of the Committee of Co-operation and also to the Co-operative So- cieties Act. Each A. R. is responsible for the general guidance and control of Co-operation in his division and agreat many of the powers of the Registrar are delegated to bim.	é				ttom 3, column 2,	
	8 Special Audi- tors,		301- Y - 690 50 750.	These are Auditors with special training and ex- perience required for the audit of banks and largor housing societies for whose audit men of these qualifications are reced-d. Their pay is practically covered by the fees re- covered from institutions of that class.				*	pay of Bpseial Auditors f	
	4 Auditors I Class II Class	14 33	700-10-304 160-5-200	Their duty is the andit of all primary societies as well as their general guidance.		144		•••	towards	
·	5 Agric Ita r a f Organizera— I Cass II Class	9	180—10—800 120—5—175	These organizers have now been paced moder the Divisional Baards and are responsible for the organization and guidance of Agri-non- uredit societies. They are men of special know- ledge.	} · · ·				nd Roueing Societies	As per ofreular attached.
	6 Spocial Agri- a a 1 t u r a 1 Organizers for cotton seed.	1	150	To provide an official of apolal technical and connercial knowledge to 'gridd industr'al Co-op- erative Societies in their methods of work.	-10			 ¢	r, Urbau Banks i	
	7 Fpecial Mam- latdars.	2	200	This officer is appointed by an arrangement with the Provincial Bank and at its request to assess the assets of societies, guide them and help re- coveries in rich ca-al areas in which the com- mitments of the Prov.n- cial Bank are particu- larly beavy.	461	E.r.			Bs. 17,617-3-0 paid by Central Banks, Urban Banks and Houving Societies towards pay of Bpeelal Aud;tors ite	
	8 Weaving Ins- pestors.	1	¹ 505300	These officials have been appointed specially to help weavers who are considered as a backward		**1			(s. 17,617-2	
	9 Assistant Ins- peators, 10 Uterks-	1	30 80	and illiterate class.					E.	
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etice at the buing of the o-operative ar 1922-28.	• Designation.	No, of officers.	Pay and duty allowance,	Duties briefly described.	Total amount,	Rate,	Total amount.	Bate,	y Total Amount,	Rate.
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Central Provinces.

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	e 1		Be.						1				
4,907	Registrar	a t) 	Pay on time-scale 1,850 D. A. 300 (150 as Rugistrar, 150 as D. L)	Half of the Rogistrar's pay is met by the Co-or- ertive Department and the other half by the Indus- tries Department as he is in combined charge, of both these departments.	1	* (•••	NII	* jj: . ::::::::: 1	allotm travell	oote t	budget o Gover sance and	No sudit fee is societies, E of societies by yearly subs Besi to Centr Federation w tains Feder Auditors and Wuharris for writing of accounts. It now to abol	ut member ave to pr cription
*	Senior Deputy Ergistrar, 	(D. 0.'3 grade.)	Pey on time-scale 1,525 17, A. 160.	Has all the powers of a Registrar and disposes of all award cases, orders under certain sections of the Act, and other routine work and assists Registrar generally in inspection and control,			•		e o e e o Notice e Notice e		•	substitute contributions ties from t for the cost o writing w (contributions	therefield from social heir profit of audit and ork. The p, ft 10 ant
e t.	let Junior Doputy Regis- trar.	(A. C.'s grade.)	Tfme-scale 45050 8*0, 800 1001,300 1,380, D. ∆, 100,	Under training, in charge of a sircle.				1	r G		•	ofpared, will about Re. 1 p working caph	tal.
4 .	2nd Junior Depùty Regis- tràr.	(P. C. S.)	Time-scale 45 - 50 - 800, 800 - 100 - 1,800 - 1,350, D. Δ. 100,	Post not filled : pay of post was reduced from hudget by Logislative Council.			-						
,	Officiir on . special daty.	(P. C. B.)	Time-scale 300-25 - 500, 500 30-650, 050-40- 850, D, A, 100,	For propaganda work for six months only,		•							
1	Circle officers	8	250 - 25` 600.	The Province is divided into 4 circles each con- taining from 7 to 10 Cent- ral Barks and about 800 to 1,500 primary societies. Back circle officer holds charge of one circle and is responsible for the control of audir, inspection, etc., and examines and reports ou applications for regis- tration, cancel attor, enquiry, etc;						-	- - -		
	Chief Auditor	1	150—10— 350,	Complies annual state- ments, inspects accounts of banks and encisites and dors super-audit.		*							
	Apsistant Chisf Auditor.	1	80—5—150	One anditor of ordinary grade assists the chief Auditor.				;					
1. a. 1. 	Auditors		80—5—150	Audit contral backs and a proportion of societies, control Federation Audi- tors, inspect contral backs and advire bonorary workers generally. There is roughly one Govern- ment Auditor to such Central Bank.				•					
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Total number of		ed at Govern or at	ment cost for dit of societi	supervision, control es,	Government	on made by towards cost cluding that column 4	Any other co made by G towards the not covered i Culu	overnmeet movement by previous	Contributi audit m socio	ade by
societ'es at the beginning of the last co-operative year, 1923-23	Designation,	No. of officers.	Pay and duty allowauce,	Duties briefly described,	Total swount,	Bate.	Totsl amount,	Bate.	Total amount.	Bato,
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	Head Ass'stant Rs. 150-10-260.	1	170							
	Head Assistants Re. 100-6-160-8- 300.	- 2	106 sach							
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	Inspector, Cattle Insurance.	1	108 7	To start Cattle Insurau ⁴⁸ Societies and to organize sattle breeding societies.	• • •		r	•••		•••
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- 	ing Personal Assistant to Registrar,		250	All the powers of the Re- gistrar under the Aot except powers under sections 39 to 42 thereof.	• ••••••••••••••••••••••••••••••••••••	* **** *		6		work espital.
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	Ditto	3	100-5-125 80-4-100	(a) Audit of Central Urban banks and Superaulis of Unions and other special work.	****					
	Inspestors Ditto		40-4-60-2-80 40-4-60-8-80 (8):	They are given jurisdic- tion over one or two unions. On an average their work is confined to 40 or 50 sociaties.	•**			•••		-
				They do inspection and audit work.					•	
I	Clerks	. 8	41-12-55-		*					•••

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• Under Labour Department. (a) Includes 6 Chief Inspectore, Clerks for Registrar's Office. (b) Includes 73 Inspectore, Clerks for Begistrar and Amistant Registrars' Offices,

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N	Personal Assis- tant to Regis- trar (B.0.5.).	1) ••••	Office		844	•••	-		14
	Assistant Begis- trars, (B.O.S.).	•	Grade pay with a duty allowance	Administration	•	*** .	•••		63,783 during 1931-23,	Rates di fi e for Ca
			of Bs. 100 each per month.			, ,		•		Banks, ted lin banks unlim i lisbi banks present der
	Chief Auditor	1	250-400	Audis	.	944		41	10)	sion),
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APPENDIX VIII.

No. 232-T., dated Ranobi, the 23rd August 1923.

From-Khan Bahadur MOHI-UD-DIN AHMED, Registrar, Co-operative Societies Bihar and Orissa,

To-The Secretary to the Government of Bibar and Orissa, Education Department.

I have the honour to address Government on the need for defining the financial policy which Government propose to adopt in regard to the future progress of the co-operative movement in this Provinco. The rate at which it is progressing is partially reflected in the numerical expansion of societies. In 1914-75 there were 1,088 societies, in 1918-19, 2,213 societies and at the end of 1922-23, 5,175 societies. The number of societies may be said to have more than doubled itself at the end of every four years. Eight years back, as Registrar of Co-operative Societies, you had in submitting to Government the scheme of the Audit Federation in your letter No. 2106, dated the 12th June 1915, estimated that by 1923, there should be at least 5,000 societies. The rate of progress was very correctly estimated and we may, therefore, expect that at this rate there should be 23,000 societies nine years hence in 1932.

2. The Government have recognised from time to time the benefits which the movement is conferring on the community of which the agricultural classes form the bulk. In reviewing the working of the department for the year 1920-21, the Government said very clearly that "the movement was fraught with benefit of all kinds to a considerable and increasing section of the community ". There cannot be any question therefore, of restricting its progress but Government should know for themselves and let the department know what financial support they must give it in providing for the necessary expansion, supervision and control. If societies are allowed to come into being, as they do now almost spontaneously in the older areas or as a result of active propaganda work in new and backward areas, and if effective means of supervising and controlling them are not ensured at thesame time, the consequence would be disastrous. If, on the other hand, after having preached the benefits of the movement for the last decade and more and particularly built up this edifice, registration of societies is now restricted arbitrarily or the movement is not actively supported, before it has penetrated into one in every 21 villages in the Province, it will at once be catagorised as an unsuccessful and dying organization, the credit on which it stands would be lost and the work done during the last 12 years at considerable expenditure from the public purse would in a few years be all practically wiped out. It may be said that the Government having at no time undertaken the financial responsibility of the movement, are not bound to provide funds for its growth and upkeep but this contention cannot be seriously urged at this stage. The moral responsibi-lity has never been denied and financial responsibility is a necessary corollary. Moreover financial aid is always the soundest plea for the Government control and supervision which will probably be essential so far as one can see, for all times in this country, for the success of the movement. This aid has been given so far in two forms, first by the employment of officers paid at the expense of Government and secondly by subsidies in cash. But both , classes of aid have been given till now in tentative measures, the requirements being examined at every stage, from year to year and sometime in the course of a year. The department has never felt certain of the aid being forthcoming in proper time or in proper proportions, and the Registrar has often been overcome by a sense of hesitancy in pushing on his scheme of development. The experimental stage having now passed, it is necessary that a financial policy to work automatically should be clearly laid down as a guidance for the future.

3. The activities of the movement may be classified under the following heads :--

- 1. Propaganda.
- 2. Organization of societies.
- 3. Registration of societies.
- 4. Financing.
- 5. Audit and supervision.

The first class of work must continue to depend upon the paid officers of Government. Honorary workers have never been of much practical assistance especially in new areas. For the second class of work, Government have sanctioned the appointment of honorary organisers from year to year, their travelling allowance being borne by Government out of funds provided in the budget estimates of the department. The honorary organisers are of use when the field has been previously prepared by a fair amount of propaganda work by paid officers of the department. The third class, registration, is of course done by officers of the department. Though apparently mechanical, it entails a good deal of labour in the framing of bye-laws according to the varying conditions of types of societies or by reasons of local conditions. The fourth class of work is mainly done now by the central institutions with the captial freely placed at their disposal by the public directly or through the Provincial Bank. Only in rare cases are the Government now required to finance any societies, as when they are composed of men in whom central institutions would hestitate to place any confidence but who, as a part of the community. cannot be neglected by Government. Such are the present fishermon's societies. in the province and experience of their working has justified the loan given them by Government. The last class of work audit and supervision, is mainly carried out by officers, of the department aided by subordinate inspecting agencies paid by central banks if they are old enough and have got the funds, otherwise paid by Government.

4. From the foregoing brief outlines of the work of the department it will appear clear in what large measure the movement depends upon the officers of the department. I am emphatically of opinion that more work than is being done at present cannot be expected from honorary workers and if the movement is to develop, increasing Government aid will be necessary in proportion as it grows from year to year.

5. The Secretary of State in his despatch No. 40, dated the 5th June 1919, sanctioned the following superior staff for this department :---

One Registrar.

One Indian Civil Service Deputy Registrara

One Indian Civil Service Assistant Registrar.

Six Provincial Civil Service Assistant Registrars.

At present the staff consists of one Registrar and six Provincial Civil Service Assistant Registrars. In the Resolution on the working of this Department for the year 1920-21 Government observed that "there was ground for believing that the present staff was barely adequate for the rapidly increasing duties which the expansion of the movement had thrown upon them and that an increase would have to be faced in the near future." I beg to emphasise the need for facing it without any delay and request Government to review for that purpose the present situation carefully and lay down a clear future policy. The staff of course includes the subordinate ministerial staff also.

6. The Committee on co-operation in paragraph 90 of the report recommended a scale of superior staff which clearly cannot be given effect to without an expenditure which Government at the present moment in any case, cannot meet. A practical working scheme has, therefore, to be framed. I submit herewith the outlines of such a scheme and request that Government may, consider the whole question at an early date, a committee being appointed if necessary to help the Government.

SCHEME.

The expansion of the superior supervising staff will be regulated on the following principle:—The expansion will be based on the increase of work in each division. The divisional Assistant Registrars will continue to manage the work in the division without any further assistance until the number of societies registered exceeds 1,000. As soon as the number of registered societies exceeds 1,000 in any division a junior Assistant Registrar will be appointed to assist the divisional Assistant Registrar in the work of supervision and expansion. This increase should be accepted as automatic and if the scheme is approved the Registrar will simply include the necessary new posts in the budget.

2. The junior Assistant Registrars will be placed under the administrative control of the divisional Assistant Registrars in the same way as other gazetted officers are placed under the Subdivisional Officer in a subdivision. Ordinarily they will be placed in charge of one or two districts where the number of societies is sufficiently large, and will do all the work of supervision and audit that the divisional Assistant Registrar has to perform. They will read and pass suitable orders on the audit notes of all societies placed under their charge. They will organize new societies with the help of honorary organizers. They will assist the divisional Assistant Registrar in making a close study of the needs and difficulties of all new forms of co-operation such as sale societies, distributive stores, and producers' societies.

3. Besides these junior Assistant Registrars, another post has to be created for the development of industrial areas. He should be an officer of the present Assistant Registrars' status. As the matter is already under the consideration of the Government, it need not be dealt with here. Its cost has not been included in this scheme but the post is an important one in the scheme of expansion.

4. The pay of a junior Assistant Registrar will be Rs. $250 \cdot \frac{25}{2}$ -400 and he will be a gazetted officer. A duty allowance of Rs. 50 will be attached to each post of a junior Assistant Registrar, as was the case with the Sub-Deputy Collectors who were in this department previously. The Registrar will select a suitable candidate for the post from amongst the experienced officers working under him and recommend him to Government for appointment. If no suitable officer is available he will move Government for the appointment of a Sub-Deputy Collector to this post.

5. Each junior Assistant Registrar will be provided with a clerk on Rs. 45-4 65 and 2 peons on Rs. 8 each. The total cost of the establishment of each junior Assistant Registrar is given in statement I.

6. The approximate cost involved in working the scheme for the next 10financial years, 1924-25 to 1933-34, is given in statement II. From column 2 of the statement it ' will appear that the number of societies more than doubles itself at the end of every four years. On the basis of these approximations the minimum number of societies of the future years is calculated after making an allowance for any unforeseen event which may stop the gradual progress or which may necessitate a rapid increase undesirable. Making all reasonable allowances we may expect to have at least 23,000 societies at the end of the co-operative year 1932. Column 4 shows the total number of junior Assistant Registrars required year after year. The total recurring cost of 23,000 societies standing at the end of the year 1932 will be Rs. 1,70,000. This expenditure must be considered to be moderate in comparison with the cost incurred in other provinces and is at any rate far from excessive in view of the immense importance, of the movement judged from any point of view. It is to be noted that the increase in the cost is much less than what the recommendations of the Committee on co-operation warrant. The increase has also the advantage of being gradual.

7. There is another form of help from Government which the needs of expansion demand. In the future the Co-operative Federation will play an increasing part in the development of the movement. The growing financial needs of the movement as well as the development of new forms of co-operation depend to a very large extent on propaganda and a better education of the public. For these purposes the Federation should be made as strong as possible. Recently an organized effort has been made to enlist financial support for the Federation from every affiliated society by a contribution in proportion of the working capital employed by each. It is only fair that the Government should also give a recurring grant to the Federation for these purposes. I estimate that a grant of Rs. 5,000 annually would serve these needs. Both Bengal and Bombay have made considerable recurring grants to analogous institutions.

8. Government should also continue the grant for travelling allowances of honorary organizers. The cost of this will be included as usual in the yearly travelling allowance budget of the department.

9. As a partial set off against the increased expenditure, I propose a saving in the matter of audit contribution paid by Government for societies in the backward areas. For these societies Government are at present paying (a) Rs. 15 per society. It seems to be no longer necessary to pay it. They are getting sufficient working capital to be able to pay for their audit. The 11 per cent of the societies in the year :- total number of societies of all classes 1923 608 of which audit contribution would be

ar her eer	TP: OF MA P		10000	1
1923	· · ·		***	608
1924			***	699
1925			·	825
1926				990
1927	•••			1,210
1928		••• •		1,430
1929	•••	•••		1,678
1930				1,953
1931		•••		2,200
1932	•••			2,630
				-

total number of societies of all classes of which audit contribution would be payable from 1924-25 to 1933-34, will be those in existence at the end of each co-operative year 1923 to 1932, that is those at the end of 1923 would come to be paid for in 1924-25, those at the end of December 1924, would be paid for in 1925-26 and so on. 11 per cent. of such societies or 2,530 would be those in backward areas. The Government would

according to present practice pay Rs. 2,11,845 during the 10 years 1924-25 to 1933-34 or an average of Rs. 21,185 per year. According to my proposal, Government will only pay @ Rs. 15 so long as they are not more than two years old and after that @ Rs. 3-8-0 as in all other cases. The total number of the former class will be 4,039 and of the latter class 10,084. The total cost to Government will therefore be Rs. 95,879. The actual saving to Government will thus be Rs. 1,15,966 giving an average of Rs. 11,597 per year.

10. To sum up I suggest that Government should definitely commit themselves to the following yearly expenditure as a part of the financial policy to be adopted by them in developing this movement.

1. Pay of five Divisional Auditors (a) Bs. 16,672.

2. Audit contribution of societies less than two years old @ Rs. 15 each and above two years of age @ Rs. 3-8 each.

3. Provision for inspecting clerks in new and backward areas—Rs. 10,000. \rightarrow

4. Subsidies to central banks in new or backward area and for clerical aid to certain classes of societies—Rs. 5,000.

5. Training allowance for probationers-Rs. 5,000 per year as at present. No increase will be necessary.

6. Free supply of account books — an average of Rs. 7,500 per year on the supposition that the average rate of increase would be 1,500 societies per year.

7. Provision for junior Assistant Registrars as in the scheme.

8. The usual budget provision of the present staff excluding subsidies, for the Co-operative Federation.

9. An additional grant of Rs. 5,000 yearly to the Federation for the Development Branch.

10. Usual contribution of travelling allowance for organizers provision for which will be made in the yearly travelling allowance budget of the department. If these proposals are accepted, the expenditure by Government per 100 societies will gradually decrease as will appear from statement III. It will be seen from that statement that the total cost of Government in the year 1933-34 is estimated to be Rs. 4,94,335 which is less than what Bombay or Bengal is spending even now, on 3,411 and 6,679 societies respectively. Statement IV attached shows the cost per 100 societies in different provinces at present. The cost in this Province is less than in Madras, Bombay, Bengal, Burma or Assam.

MOHIUDDIN AHMED, Begistrar.

STATEMENT. I.

1.

	·• ··	、 -		nd his	-;••	-	Rs.		Rs.	
1.	Pay of the o	fficer on Re	250	- ²⁵ -40	0	• •••	865	per montl		per yea
2.	Duty allows	ince of the	officer			•••	50	.– .))	600	- ,- ,
3.	Pay of one	lerk on Rs.	45-4	-65			60	22	720	
4.	Pay of 2 peo	ons on Rs.	8 each	1 '			16	, ,,	192	te
5.	Travelling a	llowance		•••		•••	1\$5	44	1,620	39
	Officer	** *		Rs.	100.					
	Clerk	•••		Rs.	25.					
	One peon			Rs.	10.			•		
•	Total	•••		Rs.	135.		٥n		966	
	Office contin	igencies		**1	-	•••	80 80	29	\$60 040	'n
	Office rent Liveries for	••••		•••		•••	20	"	240 40	, ,
	Stationery	two peons		•••		•••		•••	50	» »
	Unforeseen	•••		•••		•••		•••	298	ي ا
	Total	recurring o	ost req	luired				•••	8,500	
31	Office furnit	, 1170 (1101) 100	neeina	-)					200	······································

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	STATEMENT II.

				•								68			·					
· · · · · ·										55 STATEMENT II.								· .		
	1 \$											8			4	' 5	6	,		
Number of societies actual in each division.							ach	N	mper (di eosfe di	ties ex vision.	pected.	in each a	ut Regir- ore 1,000 the finau- tave to be	Assistant	Assistant	! 			
At the end of—.				Palua.	Tirbut,	Bhagalpa+.	Chota Nagpur.	Óriea.	Total for Province.	Patna.	Tirbat.	Rhagalpur.	Chota Nagpur.	Oriesa.	Total for Frorince.	Total number of junlor. Assistant Regir- trars required for societies above 1,000 in each division in a year and the flush- cial year in which they would have to be provided.	Reverting acat for junior Registrats.	Non-recurring cost for junior Registrare.	Total of columns 5 and 6.	
															-		Es,	Rs.	Rs.	
1919-13				168	111	103	211	103	581			•••				4 +#			- ** - e	
1913-14			•••	296	191	98	111	129	809			<u>.</u>			· · · · ·		+0	•••		
1914-15		• 19		403	235	163	141	151	1,088	•••	•••				•••			•••		
1915-16		•••		463	203	190	167	195	1,208						· •••]			•••		
2916-17		649	•••	494	816	22 6	178	216	1,629							•••				
1917-18			•••	607	878	273	190	276	1,724			и.								
1918-19		***	***	740	487	815	815	896	2,318	***					•••	 		a 	·	
1091-22		, . 1+4	114	1,117	843	798	650	924	4,261			-	۰. ۲۹۹					·		
192-23		***		1,355	1,013	894	790	1,135	5,176	- 444						***				
Desembe	r 19 93	-10	ein .				1 ,1			1,448	1,092	044	843	1,199	5,62 5	1934-25 S	25,500	600	28,100	
27	1934									1,645	1,255	- 1,085	969	1,876	6,350	1935-26 4	81,000	200	84,200	
	1935			l	l					1,966		1,293	1,145	1,625	7,500	1926-37 5	43,500	200	43,700	
	1916	191	•••		-			4-1	4,1	-	1,779			. 1	9,000	-19:7-28 6	51,000	\$ 00	- 51,200	
**	1927	748		1							2,174		ì	1	11,000	1928-29 8	69,000	400	68,400	
¥1	1918	***		•••				441			2,589				13,000	1929-80 10	85,000	`400	85,400	
••	1929				1443				3,4		8,014				15,250	1930-31 13	1,10,500	600	1,11,100	
**		•••	•••								8,508				17,750	1931-32 15	1,27,500	400	1,27,900	
41	1930	•••	***		-			\				· .			20,000	1932-33 18	1,53,000	600	1,53,600	
** 	1031 1932				 				 		8,963 4,548				23,000	1932-33 15 1933-34 20	1,53,000	400	1,70,400	
.,				[l 		ļ		

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STATEMENT III.

1	2			•	9 •·	4	5	đ	7	6			
icial at.	<u>،</u> ۲			, , , , , , , , , , , , , , , , , , ,	8absidos,		.	oorres					
	Normal expenditure excluding subsidies Federation.	Pay of Ave divisional auditors.	Audit contribution to scrioultarel eactétice.	Pr.vision for inspecting clerks.	For central banks sud sociaties in back- ward areas.	Training allowncoe for probationers.	Average cost of free supply of Account books.	Grant to the Federation for the Deve- loyment branch.	Provision for Junior Assistant Registrant.	Potal.	Number of cooloties at the end of the o poulling co-operative year.	Cast per 100 sociaties.	Remarks.
.	1,63,000	16,672	\$2,530	10,000	5.000	5,00 0	500	5,000	26,100	3,70,802	5,625	4,903	
	1,63,000	16,673	\$3,276	10,000	5,000	5,000	7,500	5,000	84,200	2,79,648	5,350	4,404	ŗ
+++	1,63,000	16,672	85,976	10,000	5,000	6,000	7,500	5_000	43,700	3,90,84 8	7,500	3,878	
	1,63,000	16,673	₩ ,061	10,000	6,000	8,000	7,500	5,000	51,200	3,07,433	9,000	, 3,416	
6 8 1	1,69,000	16,673	\$5,778	10,000	5.000	5,000	7,500	5,000	68,400	3,36,350	11,000	3,053	-
	1,63,000	16,673	70,875	10,000	5,000	5,000	7,500	6,000	85,400	8,68,447	13,000	2,534	
֥,	1,63,000	16,672	. 83,850	10,000	5,000	5,000	7,500	\$,00 0	\$,11,100	4,05,523	15,250	3,600	1
3 4 5	1,63.000	16,672	93,025	10,000	5,000	5,000	7,500	5,000	1,27,900	4,32,097	17,750	2,634	
.	1,69,000	16,672	1,05,075	10,000	\$,000	5,000	7,500	5,000	·I,53,600	4,70,847	20,000	2,354	
.	1,63,000	18,073	1,12,164	10,000	8,000	5,000	7,500	5,000	1,70,000	4,94, 385	23,000	3,149	

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. Number of societies at the end of the year 1921-23. Budget estimate for the financial year 1923-34. Cost per 100 societies, Names of Provinces, Remarks. • , , 1 8 4 6 5 ۰. à, Rs. Rs. . Madras 7,387 6,61,400 8,953 ... ••• Bombay 3,411 4,54,000 19,309 Bengal 6,679 7,471 4,99,000 *** United Provinces 5,137 1,97,000 8,835 Punjab 9,310 4,27,000 4,587 Burma 5,279 12,616 6,66,000 Central Provinces and Berar 4,967 1,76,000 3,548 ... Assam 631 40,500 6,418 ... 824 4,261 5,151 Bihar and Orissa 2,19,500 ... ***

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STATEMENT IV.

APPENDIX IX.

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APPENDIA 1A		
1. Present normal expenditure as in budget for 1923-24 (excluding subsidies to Federation and to societies in backward areas and including Rs. 10,000 for unforeseen expenditure		. Rs. 1,63,00 9
2. Provision for one Deputy Registrar :		
Rs.	Rs.	· · ·
Officer's pay @ 1,642 average	19,704	
Do. overseas pay @ 250	8,000	
	1,800	
	4,800	
The statement and and and a state of	3,000	
Clerks' pay :		
	i.	
One on ,, 100-5-125		
One on ,, 75-5-100	6,714	
Two on 33 45-4-65	÷.	
One on , 40-3-70	· · · ·	
Servants' pay :		
Rs.		
One on 15 (Duftry))	,	
One on 18 (Jamadar)		
Two on 12 (Orderlies)	756	
One on 11 (Office pecn) 5		
Travelling allowance @ Rs. 40 for tour olerk and peons	480	
Contract contingencies	800	
Stationar	150	
Liveries for mone 1 (80) 8(90)	90	
Office rents @ 50	600	
		38,894
3. Provision for 11 Assistant Registrars :		00,003
, Rs.	Rs.	
Officers' pay @ 550 each	72,600	
Do. duty allowance @ 100	13,200	
Dor travelling allowance @ 210	27,720	
Clèrks' pag:		
11 on Rs. 75-5-100		
22 on , ,, 45-4-65	36,132	
22 on ,, 45-4-65 11 on , 40-3-70		
Servante' pay :	•	
. 88 on Rs. 11 each		•
	4 ,856	•
Travelling allowance for tour clerks and peons	·	
	5,280	
Contract contingencies @ Rs. 500 for each Assistant Registrar		
Stationery @ Rs. 80 for each Assistant	5,500	
flegistrar	880	
Liveries @ Rs. 40 for 2 neons		
under each Assistant Registrar	440	
Office rents @ Rs. 20 for each Assistant Registrar		
	2,640	
· ·		1,68,748

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^{1,68,748}

	•	72			
4. Provision for one Chief Aud	litor :	71 / E			
•	•	•	•'	Re.	. Į
Officer's pay @ Rs. 614	average	C	1*. •••	7,368	ť
Do. travelling Auditor, tour clerk	allowance and peons)	(Chief	•••	4,000	
Clerk's pay 1 on Rs. 40		•/ · · •••	•••	720	
Servants' pay 2(11)		*		264	
Contract contingensies	i Sjanst i st	£		150	
Stationery 6 4.4	•••			40	•
Liveries	1	÷ E		49	
		بولایه ا	ستها در از ا		17,5
5. Contribution to Co-operative	Federation				
(a) For Divisional Audit			44日 夏子	16,672	
••	•	001), <u>,</u> ,	-	THE P
(b) For audit of agricult	-	1 · · · ·	***	1,41,058	
(c) For free supply of f to new societies	orms and	registers		13,669	
· (d) For Development Fo	and				
(,,		•			1,76,9
6. Subsidies to central bank		intion in	-	ד +	
backward areas	*** 78 991101 BOG		***		5,0
		1 		÷ _	- <u> </u>
	Total				5,64,6
	For roundi				+ 9
	Total	•			5,65,0
	TONAL	***	••••		د و د دو: ایندور ولکورو
	•••	••		× 5,65,000	
Cost per 100 societies	is			in the second	= 2,4
ACRA PAT TOA BOUTORION			. 8	3,000	

6	Proposed	-	charges of A	sqistant Regist	rars.	λ. α _{τα} φ
Are	8. 	e 1	Number of villages.	Population.	Number of central banks.	Total number of societies.
······································	-		2	8 €. ₹*	4	€7 ,
Снавсе	No. 1,			f. - f.	a gergan azegene	
Muzaffarpur '' Champaran '' Saran ,	*** *** 4 ¹ f		4,092 2,556 4,314	2,75 4 ,945 1,940,841 2,839,953	-14	309 257 288
Total	£.a.	125.34 जन्म ा		7,035,759	8	85
CHARGE	No. 2.					
Darbhanga North Monghyr	***	•••	3,182)	2,913,529	4	31 12
North Bhagalpur			\$,303	2,031,868	· 1 1]	175 61 51
Purnea	•••	•••	4,181	2,029,608	1	5
Total	***	•••	10,666	6,970,005	9	77
	No. 3.*					
Patna South Bhagalpur	*** ***	*** ***	2,325 } 3,302	1,574,287 2,031,867	3 1 1	85 13 6
South Mongbyr Santal Parganas	 641		∫ 3,302 10,161	1,798,639	1	6 6 1
Total	•••		15,788	• 5,404,793		69
CHARGE	No. 4.					
Gaya Shahabad Palamau	••• •• ••	••• •••	6,039 4,710 3,122	2,152,930 1,816,821 738,394	4 3 	64 19 2
Total		•••	13,871	4,708,145	7	85
CHABGE Ranchi	No. 5.		3,879],834,478	3	40
Hazaribagh Dhanbad	647 647	•••	6,171 1,557	1,276,946 458,946	1	8
Total	***		11,607	8,065,365	4	48
CHABG 8	No. 6.					
Manbhum Sadr Singhbhum Sambalpore Balasore	***	•••	3,255 3,016 1,972 9,487	1,094,831 759,438 789,466	1	7 2 17
Total	•••	•••	3,487	980,504 3,624,239	2 	<u>20</u> 47
CHARGE	No. 7.				· · · · · · · · · · · · · · · · · · ·	•••••••••••••••••••••••••••••••••••••••
Cattack Puri Angul	••• •••	•••	5 ,632 3,041 1,562	2,064,678 951,351 182,574	5 2,79 1	52 52 82 7
Total	•••	•••	10,235	3,198,603		91

APPENDIX X: Proposed seven charges of Assistant Begistrars

• For the present Patna Sadr and Dinapur Subdivisions may remain in charge of the Assistant Registrar et headquarters.

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APPENDIX XI.

The eventual distribution of the Province among 16 Assistant Registrars is proposed to be as follows :---

1. Saran	district.	9. Gaya	district
2. Muzaffarpur		10. Balasore	N
Champaran	Sh	11. Cuttack	1)
5. Darbhanga	, p	12 Puri	,,
4. Monghyr	*7	13. Sambalpur	32
5. Bhagalpur	u	Singhbhum-	U
6. Santal Parga	188	14. Ranchi	- 22
Purnea	● Ø :	15. Hazaribagh	į 5
7. Patna	1 2	· · Palamau	p
8. Ayrah	- 24	-16. Manbhum	
• •		Dhanbad	

B. & O. G. P. (C. C. S.) No. 68-200-22-12-1928-J. P.

GOVERNMENT OF BIHAR AND ORISSA.

MINISTRY OF EDUCATION.

RESOLUTION.

No. 2489-D.

Dated the 25th September 1924.

READ-

(1) Resolution no. 598-D. R., dated the 3rd September 1924;

(2) the report of the Committee on Co-operation in Bihar and Orissa.

In September last a committee was appointed to consider what arrangements should be made for the future control of the co-operative movement in Bihar and Orissa, the adequacy of the audit system and the financial assistance required from Government. The committee was also asked to make recommendations regarding the amount of staff to be provided by Government and the constitution and working of the Bihar and Orissa Co-operative Federation. The committee consisted of —

- (1) Mr. F. F. Lyall, C.I.E., I.C.S., Chairman.
- (2) Rai Bahadur Radha Gobind Chaudhuri, M.L.C., Ranchi,
- (3) Mr. B. A. Collins, I.C.S.,
- (4) Mr. E. L, Tanner, I.C.S.,
- (5) Rai Sahib Raj Prakash Narain, Fatwa,
 - (6) Khan Sahib Sàghirul Haque, Siwan,
 - (7) Rai Sabib Prafulla Chandra Patnaik, Balasore,
 - (8) Rai Sahib Bijay Kumar Ray, Banka,
 - (9) Khan Bahadur Mohiuddin Ahmad, Registrar of Co-operative Societies, Member and Secretary.

The report of the committee was received later in the year, and is now published for general information.

2. This is the second committee appointed to consider the position of the co-operative movement in Bihar and Orissa. The first committee sat early in 1922, and considered the financing of the co-operative movement. Its report was published as an appendix to the annual report of the Registrar for 1921-22, and its conclusions were accepted by Government. The present committee was concerned chiefly with the control of the co-operative movement by Government, the adequacy of the audit system and the financial assistance which Government should afford. The main question which the committee had to consider was the arrangements which should be made for the superior staff appointed by Government. At the time when the committee was appointed this staff consisted of the Registrar and his Personal Assistant and tive Assistant Registrars, one in charge of each civil division. All these six

Members.

officers working under the Registrar were members of the Bihar and Orissa Executive Service. Most of the powers of the Registrar under the Co-operative Societies Act have been delegated to the Assistant Registrars in charge of the civil divisions, whose main duties are to register and liquidate societies, to control the audit and by means of inspection and advice to guide the movement in their respective areas on right lines. This work involves the reading of every audit note recorded on the societies in their charge, and owing to the growth of the movement the Registrar had approached Government pointing out that at least two of the divisions viz., Orissa and Tirhut, were now too large for one Assistant Registrar to manage. Previous to this some relief had already been given to the Assistant Registrar of Patna by placing the Patna district under the control of the Personal Assistant. The Registrar suggested that a junior Assistant Registrar from the Subordinate Executive Service should be appointed for each thousand societies in a division in order to assist the Assistant Registrar. The committee after examining two of the Assistant Registrars, obtaining written statement from all of them and considering the arrangements in other provinces, came to the conclusion that the better method would be to split up the charges of Assistant Registrars as they grew too large and so gradually to increase the number of Assistant Registrars. This would avoid the disadvantage of introducing another storey in the official structure, and at the same time leave the audit and control of societies directly in the hands of the most responsible officers available for the purpose. It was found also that the cost of this arrangement was no greater than that of the scheme put forward by the Registrar. Government have accepted this recommendation and have already appointed two new Assistant Registrars, thus increasing the number of circles to seven. The committee estimate that 16 Assistant Registrars will eventually be necessary. Government do not consider it necessary to commit themselves to any definite number of appoinments, but will continue to appoint more Assistant Registrars as the number of societies increases and extra officers are necessary.

3. The committee consider the appointment of a Deputy Registrar to be absolutely necessary. They have arrived at this conclusion after considering the recommendation of the Retrenchment Committee that the post, which, though sanctioned by the Secretary of State, has never been filled up, should be abolished. They consider that even now the work of the Registrar is heavier than it should be, and that it would be a great advantage to make over Chota Nagpur and Orissa to a Joint or Deputy Registrar, but that in any case the appointment cannot be put off when the total number of societies reaches 7,500. The committee further recommend that this post should be included in the Indian Civil Service, though it would usually be given to the holder of a listed post. Government have considered the above recommendation of the committee and without at this stage committing themselves to such an appointment, they will consider the desirability of appointing a Deputy or Joint Registrar when the number of societies reaches 7,500. In any case they see no reason why the post should be added to the cadre of the Indian Civil Service, since so far as pay is concerned, it will be easy to make it sufficiently attractive by fixing a special pay or a special allowance for it. The local Government have, therefore, finally accepted the recommendation of the Retrenchment Committee regarding this post, and have proposed that it should be removed from the cadre of the Indian Civil Service.

4. Another important suggestion is the appointment of a chief auditor on a pay not less than Rs. 500 rising by two-yearly increments of Rs. 25 to Rs. 750. The committee point out that the Registrar has now to control a complicated banking system, while new types of societies, such as stores, are increasing in number and require an expert knowledge of commercial accountancy. An expert is, therefore required to check the working of the audit staff, to train its members and to advise and assist the Registrar in all matters connected with accountancy and audit. Government consider this recommendation to be sound. The rapid development of the movement on all sides makes it essential that the Registrar should have expert advice of this kind at his disposal, and Government consider that the appointment of a chief auditor, which has been recommended from time to time for the last 10 years, cannot be any longer postponed. They have, therefore, decided, subject to the vote of the Council, to create such a post, and are at present investigating the rate of pay which it will be necessary to offer.

5. The committee considered in detail the various subsidies which Government are at present giving to the Bihar and Orissa Co-operative Federation and have made various recommendations.

(a) At present Government contribute the whole cost of the audit of societies of less than two years' standing, which is placed in accordance with the original estimate at Rs. 15 per society. For older societies they pay onefourth of the cost, except in the case of societies in aboriginal and backward areas, for which they pay the whole cost. The societies themselves contribute their share of the audit by a levy at the rate of 6 annas per cent on their working capital, but hitherto societies in backward areas have been exempted from this contribution. The committee recommend that subsidies should continue to be paid at these rates, but that societies in backward areas should pay the usual audit contribution at the rates to be fixed from time to time by the Federation. As their contributions, however, will be too small to cover the whole cost of audit, Government should make up the deficit. At present these subsidies have been sanctioned for a further term of three years, and the committee recommend that they should now be placed on a permanent basis. Government accept these recommendations, except that they do not think it advisable to promise these subsidies for an indefinite period. All that it is necessary to say is that Government have no intention of withdrawing them for the present, and they will continue to be paid at any rate for some years to come.

(b) Government have been paying a subsidy at the rate of approximately Rs. 17,000 in order to enable the Federation to maintain the five divisional auditors who help the Assistant Registrars in auditing central banks and other societies with limited liability, and conduct test audits of the local auditors' work. This subsidy has been paid because divisional auditors were originally appointed in order to avoid the necessity of increasing the number of Assistant Registrars at a time of financial stringency, and this subsidy has, in fact, saved Government from larger expenditure. It is not proposed to make further grants, as new auditors of this type are required, but the committee recommend that, as a compromise, this subsidy should be made permanent. While Government see no reason to promise that the subsidy will be paid for ever, they have no intention of withdrawing it and it will continue to be paid for the present without any definite renewal.

(c) The Federation also receives subsidies of Rs. 10,000 for elerical assistance to primary societies in new and backward areas, and Rs. 5,000 to cover the cost of training probationers for the post of local auditors, etc., while special grants are paid to certain central banks and unions in aboriginal areas where the profits made per society are so small that they are insufficient to cover the cost of supervision. The committee recommend that the first subsidy should be reduced from Rs. 10,000 to Rs. 6,000 when the present term of sanction expires, but consider it probable that it will have to be paid at this rate for some time. They think that the necessity for this subsidy should be reviewed and that it should be gradually reduced as new areas are opened up. The subsidy for the training of the probationers should be reduced at once from Rs. 5,000 to Rs. 2,500, and the Federation ought eventually to be able to relieve Government of this charge entiroly. Finally, the committee give strong reasons why central banks in backward areas should be given special assistance to enable them to maintain a proper staff to supervise their constituent societies, while special help should also be given to societies among depressed classes and village artisans. The last recommendation is, however, conditional on the rate of interest paid by members to their societies being fixed at a higher rate than is usual in other areas. At present the customary rate of interest paid by these people varies from $37\frac{1}{3}$ to 75 per cent. per annum, or even higher. It cannot, therefore, be regarded as a hardship that they should pay interest at the rate of 18 $\frac{3}{4}$ per cent. until their societies are solvent, all the more because, a great part of this interest goes to form the reserve fund or to pay for the necessary supervision. In all new areas, therefore, or among fresh communities where the customary rate of interest exceeeds 25 per cent. per annum, it is considered that the rate to the borrower should be fixed at $18\frac{3}{4}$ per cent as long as they receive special assistance from Government. Government accept all these recommendations, and will review the rates at which the subsidies are paidperiodically.

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(d) Hitherto, Government have presented all new societies with a set of registers. These were for a long time printed at the Government press and supplied to the Registrar free of charge. Recently, the printing of the registers has been taken over by the co-operative press and Government have made a grant sufficient to cover the cost of printing. The committee recommend that these grants should be continued, but Government consider that now that the movement is firmly established the need for this concession is past. The actual cost to each new society is very small, and will easily be covered by the entrance fee of eight annas which each member pays. The subsidy to be paid for the whole province is, however, very large and during the last two years a grant of nearly Rs. 10,000 was made. In view of the substantial assistance given to the movement from public funds, Government consider that the members of new societies might now well bear the cost of their own registers and they have decided, therefore, to discontinue these grants with effect from next year, except that free registers will continue to be given in entirely new areas to those societies which are registered in the first three years from the date of the registration of the first society.

(e) Besides the existing grants, the committee recommend that an entirely new grant of Rs. 5,000 a year should be made to assist the Federation to undertake propaganda work, on condition that at least double this amount is raised by the Federation, the whole to be earmarked for propaganda and development and a separate account kept of it. The contribution should be reduced proportionately, if the funds raised by the Federation fall below Rs. 10,000. As the Federation has recently decided to levy 2 annas per cent. on the working capital of all its affiliated societies for this purpose, and much yet remains to be done to attract honorary workers to the movement, Government accept this recommendation, subject to the vote of the Council, and a new demand for this sum will be made in the budget for 1925-26.

6. The committee carefully considered the adequacy of the present audit system and point out that the safety of the movement entirely depends upon it. They consider that the audit of primary societies by local auditors is not entirely satisfactory, and as the movement cannot afford a higher rate of pay for them, it is advised that the check on their work should not be relaxed. They recommend that the number of societies placed in charge of each, viz., 120, should be reduced to 100 in order to improve the quality of audit and at the same time to relieve the strain that is put on the auditors owing to the arduous and monotonous nature of their work. They, further, draw particular attention to the necessity of a satisfactory test audib by Assistant Registrars and divisional auditors, and point out that this work is at present being neglected, especially by the Assistant Registrars. The committee were strongly of opinion that at least 10 per cent. of the societies audited by the local auditors should be re-audited and of these 5 per cent should be tested by Assistant Registrars and 5 per cent by the divisional auditors, the test audit to be a complete re-audit of the society. Government accept these recommendations and trust that the Federation will be able to carry into effect the reduction of the standard required from each local auditor, but Government cannot on thi ground

increase their subsidy to the Federation. It is to be feared that the attention of the Assistant Registrars has been diverted too much to special types of societies which require constant help and tend to absorb the interest of the supervising staff. It cannot be strongly emphasized that the primary duty of the Assistant Kegistrars is to safeguard the interest of the village societies with unlimited liability, and that on the maintenance of a satisfactory audit of these societies rests the whole stability of the movemement. The mere reading of the audit notes, however careful it may be, is useless, unless the actual audit is itself checked, and it can only be checked by a complete re-audit of a certain number of societies. The percentage recommended by the committee is certainly not too large, and Government desire it to be clearly understood that a test audit of five per cent. of the societies in his circle is one of the most important duties, if not the most important duty, of the Assistant Registrar. The Registrar should, therefore, satisfy himself personally that these test audits are properly conducted, and should always mention the results of the year's work in his annual report. The committee considered that the arrangements for the audit of central banks and limited societies are reliable and quite satisfactory, provided that the audit is supervised on the technical side by an expert chief auditor.

7. The committee report that the constitution of the Federation is satisfactory and does not require any alteration. One member of the committee has attached a note of dissent recommending that instead of the Registrar being ex-officio Governor of the Federation, the Governor should be elected. This suggestion, as the other members of the committee explain, was never put before them at the meetings of the committee and they were unable to consider it. Government consider that it is too early at present to make this change. In only one province has a Federation for audit purposes been given the privilege of electing its own Governor, and the position of the co-operative movement there is not such as to make it advisable to follow this example too quickly. Government are anxious that the co-operative movement should be emancipated from official control, as far as possible, as soon as and to the extent that this is wise, and they will be prepared to consider any recommendation from the Federation on the subject when and if it is made. They cannot, however, agree to any arrangement by which the ultimate responsibility for an efficient audit would be taken from the hands of the Registrar. It is understood that the appointment of honorary assistant registrars which is also recommended by two of the members of the committee, although the other seven members were opposed to it, is being considered by a committee of the Federation Congress, and Government will await the recommenda ions, if any, which the congress may make as a result of its report.

8. The committee especially commend the work done by honorary organizers and emphasize that their appointment is a cheap way of insuring good supervision for primary societies. They recommend that honorary organizers should be freely appointed and that, where necessary, first class travelling allowance should be allowed. Government appreciate very highly the self-sacrificing work which is being done by many honorary organizers for the co-operative movement, and each year record their thanks to these gentlemen in their resolution on the Registrar's annual report. They agree with the committee that honorary organizers should continue to be appointed and will consider applications for first class travelling allowance on their merits.

9. Lastly, the committee endorse the necessity of appointing special officers for developing new areas where honorary organizers have themselves to be trained and non-official assistance cannot at first be expected. Government agree that these officers are necessary for new areas, and will continue to appoint them so long as there are places in the province which have yet to be opened up.

10. The thanks of Government are due to the members of the committee for their report, which has, dealt in a horough manner with the various questions which were referred to them, and has enabled Government to lay down afresh the lines on which the supervision and control of the movement shall. proceed. Government trust that all those interested in the co-operative movement in Bihar and Orissa will study this document, as well as the report on the finances of the movement mentioned in paragraph 2 above.

11. ORDER.—Ordered that the resolution be published in the Bihar and Orissa Gazette, and copies be forwarded to the Registrar of Co-operative-Societies and all members of the committee.

By order of the Government of Bihar and Orissa

(Ministry of Education), B. A. COLLINS.

Secretary to Government.

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No. 443-S.E.C./P.

OFFICE OF THE SANTAL PARGANAS INQUIRY COMMITTEE, PATNA.

FROM

R. E. RUSSELL, Esq., C.I.E., I.C.S., CHAIRMAN, SANTAL PARGANAS INQUIRY COMMITTEE,

PATNA,

То

HIS EXCELLENCY SIR THOMAS ALEXANDER STEWART, K.C.I.E., C.S.I., I.C.S., GOVERNOR OF BIHAR.

Patna, the 10th September, 1938.

YOUR EXCELLENCY,

I HAVE the honour to submit herewith the report of the Santal Parganas Inquiry Committee.

I have the honour to be,

Your Excellency,

Your Excellency's most obedient servant,

R. E. RUSSELL,

Chairman, Santal Parganas Inquiry Committee

REPORT

OF THE

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SANTAL PARGANAS INQUIR Y COMMITTEE.

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REPORT OF, THE SANTAL PARGANAS INQUIRY COMMITTEE.

CHAPTER I.

CONSTITUTION OF THE COMMITTEE, TERMS OF REFERENCE AND PROCEDURE AND SCOPE OF INQUIRY.

Appointment of Personnel of the Committee.

On the 2nd September, 1937, the Bihar Legislative Assembly passed a resolution that

"this Assembly recommends to Government to appoint forthwith a Committee to inquire into the present administration of the Santal Parganas and report necessary changes to be made therein ".

Government accepted the resolution and by notification no. 4562-A., dated the 22nd November, 1937, appointed the following Committee:—

1. Mr. R. E. Russell, C.I.E., I.C.S. -Chairman.

2. Dr. H. C. Edmunds of Hiranpur

3. Mr. Devendra Nath Samanta, M.L.A.

4. " Krishna Ballabh Sahay, M.L.A.

5. Pandit Binodanand Jha, M.L.A.

6. Professor Abdul Bari, M.L.A.

7. Mr. Maheshwar Prasad Jha, Pleader of Deoghar

- 8. " Charan Murmu, M.L.A.
- 9. Rai Bahadur Shyam Narayan Singh, C.B.E.,—Member and Secretary.

... § Members,

2. Dr. Edmunds was obliged to resign his place on the Committee after the first meeting for private reasons and the Rev. R. Rosenlund was appointed to take his place. The services of Rai Bahadur Shyam Narayan Singh were also not available for administrative reasons and in his place Rai Sahib Nandalal Sinha was appointed to be Secretary to the Committee.

Tems of reference.

3. The terms of reference of the Committee were "to inquire into the system of administration of the Santal Parganas and to suggest such changes and improvements in it as will best conduce to the well-being of the inhabitants".

Procedure of inquiry.

4. The Committee met in Patna on the 10th December, 1937, for preliminary discussions. In order to obtain as much information as possible about the problems to be examined and to give all the interests concerned an opportunity to express their views the Committee decided to issue a questionnaire. This was issued in two forms: A general questionnaire to non-officials dealing with the broader aspects of the inquiry, and a more detailed questionnaire to officials, which included a number of more detailed points of administration. The non-official questionnaire was issued to all public bodies and associations in the Santal Parganas, to all members of the Bihar Legislative Assembly representing constituencies covering the district, to leading representatives of various classes and interests such as landlords, merchants, money-lenders, the bar, etc., as well as to leading *pradhans*, vaiyats, *parganaits* and *sirdars*. In addition, a number of copies of the questionnaire were supplied to the Deputy Commissioner and to the members of the Bihar Legislative Assembly representing the Santal Parganas constituencies in order that they might be able to supply them to any other persons who wished to give their opinion.

5. The questionnaires were issued between the 15th and 18th of December, 1937, and the recipients were asked to send their replies by the 15th of January, 1938. In all 230 replies were received. The Committee after studying the replies re-assembled on the 26th and 27th of January for general discussion of the replies and to decide the points on which oral evidence should be taken and the witnesses to be examined. The Committee then proceeded on tour to the Santal Parganas from the 29th of January to the 8th of February. One hundred and eleven witnesses representing all the leading interests and classes in the district, official and non-official, were examined at the following centres: Deoghar, Dumka, Pakaur, Burhait, Amrapara, Katikund and Godda. Owing to the exigencies of time the Committee was not able to visit Rajmahal and Jamtara. The witnesses from Rajmahal-were examined at Pakaur, Burhait and Dumka and those from Jamtara at Deoghar. The Committee returned to Patna on the 9th February and examined official witnesses there on the 10th February. The Committee their re-assembled at Ranchi from the 19th to 21st February to frame their proposals.

6. The draft report was completed early in March but owing to preoccupation with the prolonged session of the Legislature from then onwards it was not possible to arrange final meetings of the Committee to consider its report until the end of June. The final meetings of the Committee took place on the 28th June to 1st July and the report was signed on the 30th August, 1938.

Scope of the inquiry.

7. In view of the very wide terms of reference the Committee found it necessary to impose some limits on its inquiry. Many of the issues raised in the replies to the Committee's questionnaires concerned matters which were only indirectly concerned with the general administration of the district, some were purely questions of private or local interest and there were other matters of detail, which it was impossible for the Committee to examine closely in the time at its disposal. The Committee did not consider that its function was to examine every detail of the working of the administrative system or of the operation of the special laws of the district, nor was it possible for it to do so in the time at its disposal. The inquiry was therefore restricted to investigation of the main features of the system of administration and its special laws to see how far these are still suitable to the needs of the district, what is obsolete, what should be retained and what requires modification. Since the special tenancy law of the district is closely bound up with the question of the protection of the aboriginal cultivator and the special system of administration. the Committee has also made a general examination of the state of the tenancy law, the protection of cultivators and the village community system and pradhani system. Further, since the suitability of the system for present-day conditions is closely affected by economic factors, an examination of certain general aspects of the economic condition of the people was necessary. The Committee has also examined the question of local self-government and the possibilities of economic development in the district.

8. Our investigation has been somewhat handicapped by lack of time and we recognize the shortcomings of our report. Owing to the necessity of completing our inquiries before the commencement of the budget session of the Legislature and for other reasons we had to make our investigation within a period of one month. There are several matters which we would like to

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have studied more fully before coming to a decision. It has not been possible for us to examine the guestion how the amendments in the existing laws necessitated by our recommendations should be carried out in detail. This is a matter of importance requiring expert examination and advice which there has been no time to obtain. This matter will require subsequent detailed examination by Government:

9. We do not wish to conceal the fact that the issues involved in the administrative system of the district are such as to give reasonable scope for honest differences of opinion. We have been regretfully compelled to record a few instances of such, differences of opinion; but we have endeavoured at some sacrifice to the individual opinions of some members to produce a report containing unanimous decisions because we believe that therein lies the best, hope for expediting the carrying out of our proposals.

10. The Committee desire to place on record their appreciation of the services rendered by Rai Sahib Nandalal Sinha, Secretary to the Committee who has been of great assistance to them in organizing the details of the inquiry and in seeing the report through the Press. His arrangements have appreciably lightened their task. They also desire to acknowledge gratefully the help received from Rai Bahadur Shyam Narayan Singh, the Deputy Commissioner of the Santal Parganas, and of his Subdivisional Officers who have responded promptly and fully the many demands of information and statistics that the Committee were, obliged to make. Without their ready assistance the Committee could not have completed the work in time.

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CHAPTER II.

INTRODUCTORY.

Description of the present system of administration.

11. It is not necessary in this report to enter into the history of the Santal Parganas administration or the steps by which it has developed. All this may be found clearly described in the preface to the Santal Parganas Manual. But before considering any changes in the existing system it is necessary to describe in outline the main features of it.

12. The system was designed and created to meet the needs of an area which contains a large proportion of somewhat primitive aboriginals and semiaboriginals intermingled in varying proportions with a more advanced population. The problems arising out of this mixture of population are intensified by the fact that, unlike the other large aboriginal tracts in the province, the district is almost surrounded by areas inhabited by more advanced peoples and suffering from an excessive pressure of population on the soil. This has throughout the last century produced a steady tendency for the surrounding population to encroach upon the land of the aboriginals and to exploit that population. The necessity of protecting the aboriginals against this continued pressure led to the creation of the special system of administration which still survives.

13. The essential features of the administration are the control of all departments of the administration by one officer, the Deputy Commissioner, and the maintenance of direct personal contact between the Deputy Commissioner and his subordinates, the Subdivisional Officers, on one hand and the villagers on the other. For this reason all courts, revenue, criminal and civil were placed under the control of the Deputy Commissioner with appellate and supervising powers vested in the Commissioner. The civil courts were removed from the jurisdiction of the High Court, except for cases valued above Rs. 1,000 in which the ordinary villager is seldom concerned, and the criminal courts were removed from the jurisdiction of the High Court, except for the trial of Sessions cases and cases involving Europeans and the hearing of appeals against acquittals. To ensure direct contact between the Hakims and the people the employment of legal practitioners was restricted and all the courts were directed to hear cases as far as possible without such intervention. The admission of pleaders to practice was also restricted in order to protect the public against the evils resulting from overcrowding of the bar and excessive competition which elsewhere has led to malpractices. Further, to protect the population against the complication and expense of litigation a special simplified code of procedure was framed for the trial of all suits below Rs. 1,000. The object of these measures was to protect the cultivator and the poor men against harassment and exploitation by the more wealthy.

14. A further protection against exploitation by the money-lender was provided by the special Usury Law which limits the rate of interest, places a limit upon the accumulation of interest, forbids compound interest and empowers the courts to go behind the bond, ignore fictitious intermediate adjustments of account and try to ascertain the debt that is really due.

15. The Settlement Regulations form the next important feature of the system. Under these the determination and enhancement of rents was entirely removed from the hands of landlords and all rents are fixed by the Settlement Officer. Between settlements no modification of the rent is allowed except in certain restricted cases. The settlement record has the conclusive force of a civil court decree and the record of rights and duties which regulates the rights of all interests in the land has the force of law.

16. From the people's side the administration is based upon the village community and the *pradhani* system. The rights in the village land vest primarily in the village community, and its rights prevail over those of the individual. The record of rights contains a code for the internal selfgovernment of the village in matters of tenancy rights and duties. Where the pradhani system exists the internal government of the village in such matters is vested in the pradhan, who is responsible to the landlord for the payment of rents of the village, and to the village community and to the Deputy Commissioner and his Subdivisional Officers for the maintenance and observance of the village rights. The pradhan has been made the representative of the people in their dealings with the landlord on one hand and with Government on the other. On the one hand, it excludes the landlord from the village except in certain very restricted matters and thus protects the raiyats from the harassment and oppression of zemindari Amla. On the other hand, it preserves the community spirit and independence of the village community to an extent which is rare in the rest of the province, while "the provisions throughout the record of rights for direct access to the Hakim in matters of dispute is designed to maintain that contact between the Government and people which is so precessary to good administration.

17. Lastly, there is the law prohibiting the alienation of land in any form which was designed to keep the genuine cultivator on the land and to prevent expropriation by money-lenders, landlords, immigrants and land-grabbers.

18. We believe that the essential features of this system are sound and that it is, necessary substantially to maintain them. On the other hand, defects have developed with the lapse of time, and some features of it no longer fit in with modern conditions. The district has advanced in many respects since the system assumed its present form. Modern progress has brought with it complications and problems for which the administration does not provide satisfactory solutions and there is a growing body of criticism against the restrictions which a system devised for a simple and somewhat primitive population imposes upon the more advanced classes. Besides the aboriginals of today are not like those of 1855 or of 1871 and the people of the district have obtained other means of contact with the Government and of ventilating their grievances. There are also other large tracts of the province inhabited by aboriginals and semi-aboriginals which have a less conservative system of administration. We are therefore of opinion that although the essential features of the existing system have got to be maintained the aim of Government should be to approximate the administration progressively to that of Chota Nagpur. We agree therefore that changes are desirable and we think that in any case the system must be modified progressively as the district advances further. In the paragraphs that follow the main features of this system are examined and the changes that seem necessary are indicated.

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CHAPTER III.

THE STAFFING OF THE DISTRICT.

19. Our investigation has led us to the conclusion that in recent years the administration of the district has in one important respect failed to live up to its own traditions and the principles laid down for it. The development of a more democratic form of provincial Government during the last two decades has increased and complicated work in the district considerably. Both the Deputy Commissioner and his Subdivisional Officers have to spend far more time than formerly in reports and correspondence and in office work generally. The increasing volume of legislation has multiplied the subjects with which local officers have to deal and the amount of civil litigation has grown. This is particularly so in the case of suits valued above Rs. 1,000 which occupy an undue proportion of the time of both the Deputy Commissioner and of several of the Subdivisional Officers. The result has inevitably been that these officers are more and more tied down to headquarters, and can devote less and less time to direct contact with the people and the settlement of their disputes and problems than was formerly possible. We have been much impressed with the loss of contact which has taken place in recent years. This has had serious effects on the efficiency of the administration. Not only is the control over the work of the courts less effective, but officers are in many instances out of touch with the people and their troubles. The administration has tended to sink into routine grooves and to work by rule.

20. There is another factor which has contributed considerably to this unfortunate result and that is the lack of continuity in the administration. Formerly officers were sent to the district for long periods at a time. It was usual to find officers stationed in it for ten years or more at a stretch and many officers spent almost their whole service there. These officers obtained a thorough knowledge of the language and of the people, they were known throughout the district and they inspired confidence. The efficiency of the system depends on such continuity. Of recent years owing to the pressure of other demands this policy has fallen somewhat into abeyance and officers are now freely transferred to and from the district at short intervals. At the date of our visit to the district out of the seven senior officers in the district, viz., the Deputy Commissioner and the six Subdivisional Officers, only two had been in the district for more than a year and three of them had been in the district for six months or less. As regards the rest of the gazetted staff, the position is not so bad. Out of 17 officers, five have been in the district more than six years ; six have been there between two and five years and five have been less than two years. But very few of the officers have any knowledge of the Santali language. There are two Santal officers on the cadre. But otherwise no gazetted officer at present stationed in the district has passed the language examination though several of them have passed in other aboriginal languages. The result of frequent transfers is that some of the principles of Santal administration have tended to be forgotten or ignored, and we found that some of these officers were ignorant of well established rules and instructions which had formerly guided the Santal courts. Frequent changes of Deputy Commissioner have also resulted in too many minor changes of policy. Much of the supervision of the Deputy Commissioner has in recent years been exercised more through notes of instruction and circular orders than by personal contact and supervision ; these circulars have accumulated to such an extent that it has been difficult for officers to see the wood for the trees and confusion has to some extent resulted.

21. We consider that it is essential to re-establish more direct contact between the magistracy and the people and we recommend that this should be done, firstly, by relieving the senior officials, the Deputy Commissioner and the Subdivisional Officers, of a portion of their court work sufficient to enable them to devote more time to touring and to the direct disposal of revenue cases; and secondly, by keeping officers in the district for much longer periods.

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- 22. Our recommendations are :---
 - (1) That the Deputy Commissioner should be posted to the district for a period of not less than four years and, if possible, longer. Where possible he should be given some experience of the district as a Subdivisional Officer before he becomes Deputy Commissioner. Since the charge is an abnormally heavy one and makes great demands upon the energy and activity of the officer who holds it, young officers rather than officers who are approaching retirement should be appointed to it.
 - (2) Subdivisional Officers, Deputy Collectors and Sub-Deputy Collectors when sent to the district should be sent definitely for a period of not less than five years and, provided that sufficient officers of the required ability are forthcoming, the Subdivisional Officers should ordinarily be selected from Deputy Collectors already serving in the district or who have already served in the district or in Chota Nagpur.
 - (3) All officers posted to the district should be obliged to pass an examination in the Santali language within two years on penalty
 - of stoppage of further increments. In order to compensate for this condition, which may make officers avoid service in the district, a special allowance should be paid to all Deputy Collectors and Sub-Deputy Collectors serving in the district who have passed in the language, the existing rewards for passing the examination being abolished.
 - (4) All officers newly posted to the district should be under training for two months before taking up regular duty to enable them to learn the ground-work of the Santali language and to learn the special laws of the district and the civil rules. At the end of this period they should be required to pass an examination on the Santal Parganas Manual to the satisfaction of the Deputy Commissioner.

23. The proposal to compel officers to learn Santali within a fixed period will be unpopular, since it places these officers under a disability in comparison with the officers posted to other districts. Although this is beyond our terms of reference, we suggest that in a province of which more than a third consists of aboriginal districts there would be sound justification in requiring all members of the Civil Services to pass in one aboriginal language as a supplement to their departmental examinations, though not necessarily within the time limit ordinarily allowed for passing those examinations.

24. The importance of relieving the Deputy Commissioner and the Subdivisional Officers of unnecessary court work has already been mentioned. The Deputy Commissioner has during the last 9 years disposed of an average of 871 original, appellate and revision cases every year. It is calculated that this occupies the whole time of the Deputy Commissioner for 130 days in the year at least and this is an excessive burden to an officer who ought to spend at least 100 days a year on tour, who has to control, inspect and supervise six subdivisions under a system which demands close personal contact and who has at the same time to administer a District Committee. The work has, if anything, tended to grow in recent years and experience has shown that it is impossible for the Deputy Commissioner to carry out his other duties as they ought to be done so long as he has to deal with such a volume of case work. In the next following chapters of this report we discuss in detail the means by which this burden of case work may be lightened. Briefly, we propose that he should be relieved of all criminal appeals from 1st class magistrates and most of the criminal revision and that he should be relieved of all work as District Judge except the hearing of rent appeals from the courts of Subordinate Judges. This would probably reduce the volume of his file by about 250 cases which would include all the heavier criminal and civil appeals. The reduction on paper amounts to a little more than one-fourth of the volume of work but in practice would probably reduce the time spent on court work by nearly half.

25. It is more difficult to lighten the burden of the Subdivisional Officers but it is possible to relieve them of that branch of their case work which makes most demand on their time, viz. the suits and execution cases valued above Rs. 1,000. This is particularly urgent in the Deoghar subdivision where there is an average of about 45 Sub-Judge suits per annum and about 33 Sub-Judge execution cases. This work alone would employ a regular Subordinate Judge for more than four months in a year. It would also give substantial relief to the Subdivisional Officer, Dumka, who hears about 25 Sub-Judge suits and deals with 49 execution cases per annum. Further proposals which will relieve the Subdivisional Officers of a portion of case work of the value of less than Rs. 1,000 will be considered in the chapter dealing with Civil Justice.

26. We now turn to a more detailed examination of the various branches of the administration.

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CRIMINAL JUSTICE.

27. There is a divided criminal jurisdiction in the Santal Parganas. The jurisdiction of the High Court at Patna extends only to Sessions cases, cases involving Europeans and appeals by the local Government against acquittals. The Commissioner of Bhagalpur is the High Court for all other courts and the course of appeal lies through the Deputy Commissioner, not through the Sessions Judge.

28. This special criminal jurisdiction was established for various reasons : partly as an element in the scheme of co-ordinating all branches of administration under one head; partly because in the early days it was necessary to simplify the course of justice and do away as far as possible with technicali-ties; partly because the investigation of crime over a large area of the district was and still is performed by an untrained indigenous police agency; partly to safeguard the integrity of the special laws of the district and to prevent differences of interpretation between the Santal civil and revenue courts on the one hand and the High Court on the other. This unification of control of all courts under one head has to the present day been an important factor in securing stability of the local law and continuity of interpretation. For the special laws of the Santal Parganas are far from fully codified and, even where this law has been reduced to statute form, it is often imperfectly drafted. There is also a body of customary law, and of revenue and civil case law, which has not been reduced to statutory form. It is contained in the rulings of the revenue and 'civil courts of the Commissioner and the Deputy Commissioner which have never been collected and published and have undergone development as times and circumstances changed. Many criminal cases, particularly those which arise out of agricultural disputes, contain elements which concern the civil or revenue laws and a criminal court trying such cases has to decide points which require special local knowledge not contained in the general law of the land. To much of this law the Judge at Bhagalpur and the High Court have no easy access; yet if appeals in such cases came before them they would have to interpret the local law, record of rights and other matters often without complete information about them. It was difficult to foresee the consequences which might ensue and it is for these reasons that the 'special arrangements governing the criminal courts have been retained so long.

29. We consider that the continuance of the present system is difficult to defend and the fact that the law is imperfectly codified is not a valid We do not deny that the difficulties mentioned above reason for retaining it. exist, but we think that they would be greatly reduced if the tenancy law is codified in a more complete form. We recognize the difficulties of a complete codification and the danger that if too much is attempted it may produce excessive rigidity, but we think that that risk must be faced. The more advanced classes of the population have for a long time demanded that all criminal courts should be under the High Court of Patna. The High Court is regarded throughout India as the palladium of the people's rights, and the control of criminal courts by executive authorities is distrusted in many quarters. There is a feeling that criminal justice may be coloured by executive considerations and the power of the Deputy Commissioner to enhance sentences on appeal—a power which elsewhere is not vested in any authority lower than the High Court-calls forth special criticism. The separation of the judicial from the executive has for long been a plank in the programme of all progressive parties in India. The court should not be exposed to the oriticism which this system has in recent years evoked or else confidence in it will be undermined. We therefore propose that Chapter II (Criminal Justice) of Regulation V of 1893 should be repealed and that the criminal courts should now be transferred entirely to the ordinary jurisdiction of the High Court.

30. At the same time we suggest that the Deputy Commissioner should retain jurisdiction in one matter. He should be empowered under section 406 of the Criminal Procedure Code to hear appeals from orders passed under section 118 of that Code except where such an order relates to a case under section 108, Criminal Procedure Code. This arrangement is in force in the Chota Nagpur Division and may suitably be applied to the Santal Parganas.

CHAPTER V.

CIVIL JUSTICE.

31. There are two sets of civil courts in the district :----

- (a) The regular civil courts established under the Bengal and Assam Civil Courts Act of 1887 which deal with suits valued above Rs. 1,000. These courts are under the jurisdiction of the High Court at Patna, and are governed by the Civil Procedure Code. The suits are tried by the Subdivisional Officers or by Deputy Collectors specially empowered, who are vested with the powers of a Subordinate Judge. The Deputy Commissioner is, under section 8 of Regulation V of 1893, the District Judge.
- (b) The Santal civil courts established under section 2 of Act XXXVII of 1855 which deal with all civil suits up to a value of Rs. 1,000. These courts are not governed by the Civil Procedure Code but by a special set of rules—the Santal Civil Rules—framed under section 1(2) of Act XXXVII of 1855.

32. By virtue of orders issued under section 14 of Regulation V of 1893, money suits of every description, and rent suits against raivats only, up to a value of Rs. 200, may be tried by Sub-Deputy Collectors, suits of any kind up to a value of Rs. 500 by Deputy Collectors and suits valued above Rs. 500 are triable only by the Subdivisional Officers. Appeals from suits tried by Deputy Collectors and Sub-Deputy Collectors lie in the first instance to the Subdivisional Officer. The course of appeal is to the Deputy Commissioner and the Commissioner. The High Court of Patna has no jurisdiction and for these suits the Commissioner of Bhagalpur is the High Court.

A.-THE REGULAR COURTS.

33. The arrangement by which the Deputy Commissioner exercises the power of the District Judge in the Santal Parganas is part of the system of concentrating all courts under the Deputy Commissioner. The reason for this is that cases involving points of special local law occur which it is desirable that the Deputy Commissioner should handle. Taking the average of the last nine years the Deputy Commissioner has had to do the following work as District Judge :—

(a) Appeals: 36.2 appeals from the courts of Subordinate Judges.

(b) Special Act cases :

opecial Act cases .			• 1	
Guardian cases	•••			13 .7
Succession certificat	e cases	:• * •		9.5
Letters of administr	ation and j	probate cases	···	9.0
Intestate cases	•••	(*_ * *		8.7
Insolvency cases	•••		•••	16-3
	,			·
		Total	•••	57.2 cases per

The figures in the case of insolvency are those of the last three years only as there has been a very marked increase in the volume of insolvency work in that period. The appeals from Subordinate Judges are not very numerous (36.2 per annum) but they do occupy an undue proportion of the Deputy Commissioner's time. The great majority of them raise no points in which the Deputy Commissioner is concerned as head of the district, and it will not be so necessary to keep the powers of the District Judge in the hands of the Deputy Commissioner if the tenancy laws are more completely codified, as we propose elsewhere in this report. In addition to the appellate work there is an average of 57.2 cases under the special Acts. These do not concern the general district administration or the local laws to any extent and they are, as far as the Deputy Commissioner is concerned, largely a waste of time which

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annum.

might better be spent on other work. We consider therefore that the Deputy Commissioner should cease to exercise the powers of a District Judge except in appeals in rent suits. These must remain under the supervision of the Deputy Commissioner, because they are primarily concerned with questions of tenancy and revenue law; under the special law affecting transfer the decrees have to be transferred to the revenue courts for execution and the cases coming from Subordinate Judges on appeal nearly always concern *pradhans* who are the particular care of the Deputy Commissioner.

The combined effect of the changes proposed in the civil and criminal jurisdiction of the Deputy Commissioner should reduce his court work by nearly 50 per cent.

II.—The courts of the Subordinate Judges.

34. The present system of administering these courts is not satisfactory. There have been many excellent Subdivisional Officer-Sub-Judges; but not by any means all Subdivisional Officers are suited for this type of work and in any case they have so much else to do that the Sub-Judge suits tend to be neglected. Piecemeal hearing is almost unavoidable, delays have for many years been common and instances are not unknown in which suits have dragged on for seven years or more before judgment was delivered. This causes much harassment and unnecessary expense to the parties. It is equally inconvenient to the Subdivisional Officers who have to devote a quite undue proportion of their time to this work. The most extreme case is that of the Subdivisional Officer of Deoghar. This subdivision is a very heavy charge requiring four officers. But the Subdivisional Officer in addition to all his ordinary work has to try on an average 45 Sub-Judge suits annually and the proportion of these cases that is contested is unusually kigh. We understand that the average output of a regular full time Subordinate Judge-trying original suits only is about 116 suits per annum. It is apparent therefore that the Sub-Judge work at Deoghar would occupy a regular Subordinate Judge for nearly five months a year. This volume of civil work seriously interferes with the ordinary duties of the Subdivisional Officer and it is essential that this burden should be lightened. None of the other subdivisions presents the problem in so acute a form, but Dumka has 25 Sub-Judge suits a year and Godda and Pakaur 18.3 each. The figures taken throughout are those of the last three years.

35. We consider that the Subdivisional Officers should cease to exercise the powers of a Subordinate Judge except in the case of rent suits. The latter are not numerous and most of them are uncontested. They averaged four suits only per subdivision in the last three years and only one out of every five was contested. These will therefore not form any serious burden to the Subdivisional Officers and it is necessary to leave them to the Subdivisional Officers for reasons which we have given in the preceding section.

36. In all about 130 Sub-Judge suits are filed yearly taking the average of the last ten years. Excluding an average of 14.2 rent suits, there remain 116 to be dealt with. There are two possible methods, (a) by empowering Deputy Collectors other than Subdivisional Officers, (b) by employing regular Subordinate Judges. The former method, at present employed to some extent at Deoghar, is not very satisfactory. It gives the Subdivisional Officer some relief but does not meet the general objections to the trial of Sub-Judge suits by executive officers. We, therefore, recommend that the Sub-Judge suits at present tried by Subdivisional Officers should, with the exception of rent suits, be tried by officers of the regular judicial cadre.

B.—THE SANTAL CIVIL COURTS.

37. The existence of two sets of civil courts, one under the High Court at Patna and the other under the Commissioner of Bhagalpur, and still more " the exercise of civil jurisdiction by officers other than those of the judicial cadre has often been attacked. The general criticism made on the Santal civil courts is that the officers lack that training in civil law which is necessary to enable them to decide cases correctly, that their decisions are often arbitrary and summary and that the Santal Civil Rules under which they work are defective and inadequate. This leads to injustice and Government have often been urged, therefore, to abolish these courts and to place all civil courts under the rule of the High Court and the Civil Procedure Code. The legal profession in particular is opposed to the present system and all the Bar Associations in the district have suggested its abolition.

38. Nevertheless we are of opinion that it is necessary to retain separate Santal civil courts. These courts with their simplified procedure possess very definite advantages for the poorer classes of litigants. Their working is based on the principle that the ordinary litigation of the cultivators and of the poorer classes which forms the vast bulk of the litigation coming before the courts, should be tried in the simplest, cheapest and the most expeditious manner and as far as possible by direct dealing between the parties and the court. The Santal Parganas is a poor district and an examination of the statistics shows that over 92 per cent of the total litigation consists of suits valued below Rs. 200. The vast majority of these suits are of a petty nature. Cheap and speedy justice is more important to the people than technical perfection. We believe that the simple procedure of these courts gives less cause for harassment, delay and expense to the parties, and in these courts a rich man has not the advantage over the poor man that he has in the regular Injustice may and has occurred owing to the ignorance of officers courts. or the adoption of too summary methods, but the regular courts also are not immune from the infliction of injustice; and we believe that the good features of the Santal civil courts are so valuable to the great mass of poor litigants that they should not be abandoned. We agree that the code of procedure under which these courts work-the Santal Civil Rules-is susceptible of improvement and we make proposals on that subject in chapter VIII of the report. We also think that, if officers are retained in the district for longer periods and if the Deputy Commissioner and the Subdivisional Officers are given more time to supervise their work, it will be possible to improve greatly the standard of judicial work in these courts. These measures, we consider, should remove most of the substantial causes of complaint against the Santal civil courts and we therefore recommend that they be retained.

39. We have next to consider whether the present limits of jurisdiction of the Santal civil courts should be modified. A number of witnesses including several of the Bar Associations take the view that if these special courts are retained, their jurisdiction should be reduced to suits of a value not exceeding Rs. 250 on the model of the Small Cause Courts in the regulation districts. The Santal civil courts are suitable for the ordinary litigation of the agricultural population and they should have a jurisdiction sufficiently wide to embrace this. But they are not equally suited to more complicated litigation and are unnecessary for money and title suits of comparatively high value in which aboriginals and cultivators are hardly concerned. There is no doubt that among the more advanced classes the regular courts and a right of appeal to the High Court would inspire more confidence. We are of opinion therefore that the present limit of Rs. 1,000 is too high. At the same time we think that it would be dangerous to reduce it as low as Rs. 250. It is generally admitted that an extension of the jurisdiction of the regular civil courts is likely to lead to increased litigation ;.and if the limit of jurisdiction of the special courts is placed so low as Rs. 250 there is a danger that the more affluent plaintiffs or those who wish to attract the jurisdiction of the regular courts, will over-value their This device may be exploited to the disadvantage of the aboriginals suits. and the poorer classes. We think therefore that the limit fixed should not only cover all the normal litigation of the poorer classes but should also provide a sufficient margin of safety against the tendencies which we have just described. We think that both objects will be secured if the level is fixed at Rs. 500. It may be argued that even at this level over-valuation will not be avoided; but we think that the risk is small. We accordingly recommend that the jurisdiction of the Santal civil courts be fixed at Rs. 500 and that suits over that value should be tried in regular courts under the jurisdiction of the High Court and the Code of Civil Procedure.

40. Rent suits require special treatment. They are, as we have alread y explained, essentially concerned with questions of tenancy and revenue law peculiar to the district, under the special law affecting transfer the decrees must in any case be executed in the revenue courts and the rent suits of higher value are almost invariably against *pradhans* who are the special concern of the Deputy Commissioner. Therefore all rent suits irrespective of value must be tried by officers under the supervision of the Deputy Commissioner. While, therefore, we would in the case of rent suits also limit the jurisdiction of the Santal civil courts to Rs. 500, those suits which are above that value should continue to be tried by the Subdivisional Officers, not sitting as Santal civil courts, but exercising regulation civil powers under the High-Court. The appeals from their orders should lie to the Deputy Commissioner similarly empowered. This retains an essential feature of the existing system. This arrangement is not peculiar to the Santal Parganas. In Chota Nagpur all rent suits are tried in courts under the Deputy Commissioner. In Orissa rent suits are tried in the revenue courts under the Collector.

41. It follows from our proposals therefore that only money and title suits between Rs. 500 and Rs. 1,000 will be transferred from the jurisdiction of the Santal civil courts to that of officers of the regular judicial cadre. The number of such suits is not large, in the last three years the average number was 75 a year. It is probable that this number will increase, but at present and for some time to come it would not provide full work for one munsiff in the whole district. We recommend therefore that the jurisdiction for Subordinate Judges should be lowered to Rs. 500. The position then would be that—

- (1) all suits of every description up to Rs. 500 will be tried by Santal Civil Courts,
- (2) all money and title suits over Rs. 500 will be tried by regular Subordinate Judges, and
- (3) all rent suits above Rs. 500 will be tried by Subdivisional Officers empowered as Subordinate Judges, the appeal lying to the Deputy Commissioner exercising the powers of a District Judge.

42. The statement at the end of this Chapter shows in tabular form the arrangement of jurisdictions under our proposals.

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Proposed arrangements. Present arrangements. Santal Civil Courts. Class and valuation Regular Civil Courts. Sental Civil Courts. Regular Civil Courts. of suits. Appellate. Original, Original, Appellate. Origina'. Appellate. Original. Appcllate. 1 4 6 7 8 3 9 8 5 Rent Suits. Rs. 1-200 Sub .DeputyCollec-Subdivisional Officer, Subd ivisional Sub-De, uty Coliec-*** *** ****** against raiyats Officer, tor. Deputy Commis-Deputy tor. only. Commissioner, sioner, Commis-Commissioner. sioner. . Rs. 1-500 ... Deputy Collector Deputy Collector Rs. 501-1,000 Subdivisional Officer Deputy Deputy Commis-Subdivisional Commis-...... Commis-Officer-Sub-Judge. sioner-D is trict sioner, Judge, High Court. sioner. . Over Rs. 1,000 Deputy Collector-or Sudd ivisional Deputy Commis-Deputy Commissioner ****** -District Judge, Subdivisional Officer-Sub-Judge. sioner - Dist riot. Officer-Sub-Judge, Judge, High Court. High Court. • Money Suits. Sub-Deputy Collec-Sub-Deputy Collec-.... --------.... Rs. 1-200 ... Subdivisional Officer. Subdivisional Officer. tor. tor. Deputy Commis-Commis-Deputy Commissioner, Commissioner, . sioner. sioner. B. 1-500 ... Deputy Collector ... Deputy Collector ----*** *** Rs. 501-1,000 Commis-Subdivisional Officer Deputy Regular Sub-Judge District Judge, High ----Commissioner, Court. aioner. Over Rs. 1,000 Deputy Collector-or Deputy Commis-Regular Sub-Judge District Judge, High ****** Subdivisional sioner-District Court. Title Suits. Officer-Sub-Judge, Judge, High Court. Rs. 1-600 ... Deputy Collector ... Subdivisional Officer. Deputy Collector Subdivisional Officer. *** *** ****** Commis-Deputy Deputy Commis-Commissioner. sioner, Commissioner. sioner. Rs. 501-1,000 Subdivisional Officer Deputy Commis-Regular Sut-Judge District Judge, High ----..... sioner. Commis-Court.

sioner.

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.....

Deputy Collector-or

Subdi visional

Officer-Sub-Judge.

Deputy

Commis-

sioner-District

Jadge, High Court.

.....

Over Rs. 1,000

Administration of Civil Justice in the Santal Parganas.

14

Regular Sub-Judge

......

D'strict Judge, High

Court.

CHAPTER VI.

METHOD OF CARRYING OUT THE PROPOSED REORGANIZATION OF THE COURTS.

(1) The courts of the District Judge and Sessions Judge.

43. Our proposals will relieve the Deputy Commissioner of all the work of the District Judge (except rent appeals from Subordinate Judges). This amounts to about 35 appeals and 57 cases under special Acts annually. They will also transfer 168 criminal appeals and about 40 criminal revisions and motions to the Sessions Judge. The figures under both heads are likely to increase once the change is made.

44. At present the Sessions Judge, Bhagalpur, tries about 16 sessions cases a year at Dumka ; while the Special Magistrate empowered under section 30 of the Criminal Procedure Code hears 66'2 more. We are informed that if this Special Magistrate were abolished, a full-time District and Sessions Judge would be required for the Santal Parganas. The criminal work alone is practically a full-time job. We understand also that, even if the Special Magistrate is retained and most of the District Judge's case work under the Insolvency Act, Indian Succession Act, Probate and Administration Act and Guardian and Wards Act is delegated to Subordinate Judges, it is still doubtful whether the District and Sessions Judge at Bhagalpur could cope with the criminal and civil appellate work that remains unless he has a permanent Assistant or Additional Judge. It is apparent that either a separate District and Sessions Judge for the Santal Parganas or else an Additional Judge at Bhagalpur will be required; and in either case the Special Magistrate at Dumka becomes unnecessary. It would cortainly be much more convenient to the public to have a Judge at Dumka; it would be somewhat cheaper to have an Additional Judge at Bhagalpur. We consider that the public convenience should prevail.

45. There is a possible alternative, namely, that instead of a post of District and Sessions Judge a post of Additional Deputy Commissioner should be oreated and that the Additional Deputy Commissioner should be a senior officer of the provincial service with Santal experience who would exercise the special magisterial powers under section 30, Criminal Procedure Code, and also do all the District Judge work. The criminal appeals from 1st and 2nd class magistrates could go to the Sessions Judge at Bhagalpur. Administratively this would be a convenient arrangement, but we do not recommend it, because we think that the transfer of the sessions, criminal appellate and District Judge files to the judicial side should be complete. We therefore recommend that the Special Magistrate empowered under section 30, Criminal Procedure Code, be abolished and that a separate District and Sessions Judgeship be created for the Santal Parganas with headquarters at Dumka.

46. The Committee is not in a position to work out the recurring cost of these proposals with any approach to accuracy. But the following figures are of interest :---

(a) The recurring cost of setting up a separate Judgeship at Dumka would be roughly Rs. 3,979-8-0 a month or Rs. 47,754 a year on the basis of a third class judgeship (vide statement A attached to the chapter). But we think that a smaller staff would suffice, at any rate for some years to come and we recommend that the office should start with a skeleton staff. The only saving to be set off is the present cost of travelling allowance incurred by the Sessions Judge of Bhagalpur in travelling to and from Dumka. This amounts to Rs. 1,084 a year on the average of the last 3 years. The Sessions Judge of Bhagalpur reports that there will be no reduction of staff in his office as the proposal merely relieves him of 16 sessions cases a year. There will also be no reduction in the Deputy Commissioner's office since he will still require his judicial Peshkar for his other appellate work. There is no other separate staff for the work done by the Deputy Commissioner as Judge.

- (b) An Additional District and Sessions Judge at Bhagalpur would cost less. The charge for his pay would be the same as that of a District Judge, but his staff would be much smaller. He would probably require only a bench clerk, a stenographer, possibly two other clerks and four orderly peons. The cost of these would average Rs. 267-8-0 per mensem against Rs. 1,841-8-0 for a separate Judge at Dumka. This gives a saving of Rs. 1,574 a month or Rs. 18,888 a year in comparison with the scheme (a). Presumably it would not be necessary to build a court for him nor a residence since private houses are obtainable in Bhagalpur.
- (c) The appointment of an Additional Deputy Commissioner would be cheaper still. His pay would amount to about Rs. 1,400 per mensem against Rs. 2,158 for a District Judge. The only staff required would be a Peshkar, a stenographer and two orderly peons costing Rs. 156-S-0 per mensem or Rs. 1,878 a year. The total annual cost, therefore, would be Rs. 18,678. It would not be necessary to build a residence for him as he could occupy the old settlement bungalow at Dumka at present allotted to the Special Magistrate.

47. In calculating the additional cost under schemes (a), (b) and (c) above we have not made any deduction for the cost of the post of Special Magistrate of which we have recommended the abolition, because we understand that no addition was made to the cadre of the Provincial Civil Service to provide for it. But we think that this saving ought to be taken into account because if the post is permanently retained provision would have to be made for it in the cadre in future. If this is done, the additional cost will be reduced by Rs. 6,756 a year in each case.

(2) The courts of the Subordinate Judges.

48. We have recommended that civil suits (other than rent suits) above Rs. 500 should be tried by Subordinate Judges of the judicial cadre. On the average of the last three years, there are annually 75 suits valued between Rs. 500 and Rs. 1,000 and the average number of suits valued above Rs. 1,000 is 116. These figures may be expected to increase in time specially for the lower values; but at present they will not provide quite full-time work for two Subordinate Judges. The average outturn of a full-time Subordinate Judge is taken at 116 suits a year. It is, therefore, impossible to have a Subordinate Judge at every subdivision and we suggest that there should be two; one stationed at Deoghar for the work of Deoghar and Jamtara sub-divisions, and the other at Dumka for the other four subdivisions. In the latter case we think it desirable that the Subdivisional Officers of Rajmahal, Pakaur and Godda should be empowered to receive plaints as the distances from Dumka are considerable. This does not appear necessary in the case of Jamtara which is within easy distance of Deoghar by rail; but if it is found necessary similar arrangements can be made there also. The Subordinate Judges should conduct the hearing of suits at the headquarters of the subdivision to which the suit belongs and on such visits should also deal as far as possible with the preliminary stages of cases that are not ready for hearing. But it is inevitable that a part of this work will have to be done at the headquarters of the Subordinate Judge. The courts of the Subordinate Judges will of course execute their own decrees.

49. It should be clearly understood that the introduction of regula^r Subordinate Judges will not permit of any reduction of posts on the executive side. The proposal relieves only the Subdivisional Officers and we have decided that it is necessary that they should have this relief to enable them to do other work which at present they are forced to neglect. Nor will it involve any noticeable reduction in clerical staff.

50. We have not been able to frame even an approximate estimate of the cost of establishing the courts of Subordinate Judges at Dumka and Deoghar,

for the reason that reliable data for such estimate are not forthcoming. We are however of opinion that in the beginning and for some years to come the district will not require full-fledged establishments for the Subordinate Judges at Dumka and Deoghar. We need not, therefore, prepare estimates on the standard scale. The conditions in the Santal Farganas approximate more or less to those prevailing in the Chota Nagpur Division. We note that the Subordinate Judge's establishment at Ranchi consists of :--

1 Subordinate Judge,

1 Sheristadar,

1 Peshkar,

2 Clerks, including stenographer,

1 Daftry,

2 Orderly peons,

1 Chaukidar,

and that the establishment of the Subordinate Judge at Dhanbad consists of :--

1 Subordinate Judge,

1 Sheristadar,

5 Clerks, including stenographer,

1 Probationer,

1 Daftry,

2 Orderly peons,

1 Office peon,

1 Chaukidar.

The Nazarat and Process-Serving establishment is not separately mentioned. Probably one of the clerks acts as Nazir and processes are served through the Additional Deputy Commissioner at Dhanbad. We consider, however, that four process-servers should be attached to the establishment of the Subordinate Judge at Deoghar.

51. Statements B and C appended at 'the end of the chapter will give a rough idea of the approximate cost of the, establishments of Subordinate Judges at Dumka and Deoghar' on the scale prevailing in Ranchi and Dhanbad with the addition of process-servers mentioned above.

The establishment may be increased as experience is gained and work expands.

(3) The Santal civil courts.

52. Our proposals do not necessitate any alteration in the organization of these courts.

STATEMENT A.

APPROXIMATE COST OF A THIBD CLASS DISTBICT AND SESSIONS JUDGE'S ESTABLISHMENT.

I.-Recurrent-

-Recr	urrent—				1 0	
(_) T					R8.	
• •	District Judge	••	• •	••	2,158	
5	Sheristadar	••	•	• •	130)	Grade Rs. 105-5-155.
1	Nazir	• •		, • •	130∮	GIAGO RS. 105-5-155.
1	Franslator and	head clerk			ر 105	
J	Accountant	••	••	• •	65	• ixed.
1	Record-keeper			••	65 J	
	Lower Division	clerks		••	•.	rade Rs. 30-2-50-1-60
4 (Orderly peons	••	••	••	41	•
,2 J	Daftries	••	••		20	÷
1 (Chaukidar	••	••	••	10	
6 (Office peons	••	••	••	60	
6]	Process-servers	•	••	••	60	,
					3,384	monthly.
(b)	1 Typist	••			45	
• •	2 Copyists	••	••		90	
:	2 Probationers	••	••	••	40	
	Stenographer	s special pay	••	• •	46 1	•
	Leave salary	••	• •	••	34	
	Contingencies	••	••	- ••	300	
	,				5551	monthly.
(c)	4 Additional p	rocess-servers	••	••	40	
				•	40	monthly.
		•	Total	••	3,9791	monthly.
	Annual	l total	. 3,3	$84 \times 12 =$	40, 608	
			5	55 <u>}</u> ×12=	-	
		•		40×12	=480	
	•				47,754	
						,

(a) The estimate of Rs. 3,384 monthly has been furnished by the District Judge, Bhagalpur. The number of Lower Division clerks includes---

1 Naib Nazir.

1 Nazir's clerk.

1 Second clerk.

1 Stenographer.

2 Record-room mohurrirs.

1 Peshkar.

3 Sessions clerk and appeal mohurrirs.

2 Comparing clerks.

12

(b) Additions indicated in the note of the Registrar, High Court.

(c) The additional process-servers are for the Court of the Subordinate Judge at Dumka who will have no separate Nazarat of his own.

II.-Non-recurrent-

(a) Court buildings which Subordinate Judge	h will ale 's establie	so accommodate shment at Dumka	the	Rs. 50,000 roughly.
(b) Residence	••	••	••	Nil.

N. B .- The District and Sessions Judge may occupy the old settlement bungalow at Dumka.

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STATEMENT B.

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APPROXIMATE COST OF A SUBORDINATE JUDGE'S ESTABLISHMENT AT DUMKA.

.

.

1.—Recurrent—			. ·			
					Rs.	
1 Subordinate Judge	••.	• •	••	••	760	
1 Sheristadar	••	••	••	••	130	
1 Peshkar	••	••	••	••	4 5	
1 Clerk	••	••	••	••	45	
1 Stenographer	••	••	••	••	5 5	
2 Orderly peons	••	••	••	••	20	
1 Daftry		••	• •	••	10	
1 Chaukidar	••	••	••	••	10	
. Leaye salary	••	••	••	••	10	
- Travelling allowance	• • -	••	••	••.	35	
					1,120 monthly	
					× 12	
II.—Non-recurrent—	·			• •	 13,440 annually.	
					Rs.	
(a) Court buildings	••	· · ·	••	* •	Nil.	
		will be account ons Judge's Co				
(b) Residence	••	••	••	••	14,645 rough)	y

20

STATEMENT C.

.

APPROXIMATE COST OF A SUBORDINATE JUDGE'S ESTABLISHMENT AT DEOGHAR. · .

I.-Recurrent-

					41
					Rs.
1 Subordinate Judge	••	••	••	••	,760
1 Sheristadar	••	••	••	••	130
1 Accountant	••	••	••	••	130
1 Record-keeper	••	••	••	••	130
1 Nazir	••	••	••	••	130
1 Stenographer	••	••	••	••	55
1 Peshkar	••	••	••	•	45
1 Probationer	••	••		••	20
1 Daftry	••	••	••	••	10
2 Orderly peons	••	۶.	••	• •	20
1 Office peon	• • •	••		••	10
1 Chaukidar	6 . .	••	• •	••	10
4 Process-servers	••	••	••	••	40
Leave salary	••	••	• •	••	15
Contingencies	••	••	••	••	120
Travelling allowance	• •	• •		••	100

1,725 monthly \times 12

4"*

.

20,700 annually.

II.--Non-recurrent-

.

	(Rs.
(a) Court buildin	igs	••	• •	••	40,000 roughly.
(b) Residence	••	••	• •	••	Nil.
N.BRented houses will be available.					•

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CHAPTER VII.

THE POSITION OF PLEADERS.

53. Closely related to the administration of justice are several questions affecting the position of legal practitioners in the Santal Parganas. This position is unusual and the following questions have come under our examination :---

- (a) Whether the admission of legal practitioners to practise in the district should continue to be restricted;
- (b) The procedure for admission of legal practitioners;
- (c) Disciplinary control;
- (d) Restrictions on the right of legal practitioners to appear in certain courts;
- (e) Whether pleader's fees should be included in the costs of a suit in a Santal civil court;
- (f) Renewal of pleaders' certificates for Santal civil courts;
 - (g) The position of petition-writers registered under rule 62 of the Santal Civil Rules.

54. The Legal Practitioners Act, 1879, has never been extended to the Santal Parganas, but in view of the first proviso to section 2 of Act XXXVII of 1855 and clause (2) of section 3 of Regulation III of 1872 the Legal Practitioners Act does apply so far as regards the trial and determination of suits in which the matter in dispute exceeds the value of Rs. 1,000, i.e., in the courts under the jurisdiction of the High Court at Patna. But the criminal courts, the Santal civil courts and revenue proceedings lie outside the scope of the Act. The present position then is that while the High Court admits legal practitioners to practise in the courts under its own jurisdiction, the Deputy Commissioner by executive order admits them to practise in the Santal civil courts. In theory the High Court could admit legal practitioners to practise in its own courts without restriction, but it has hitherto been the principle in the Santal Parganas that the number of legal practitioners practising in the courts should be limited according to the volume of work that has to be done, regard being had on the one hand to the necessity of preventing excessive competition and on the other hand to the needs of the public, so that there shall not be so few lawyers as to create a monopoly. The number of pleaders has in the past been regulated by the Deputy Commissioner, and the High Court has in practice consented not to appoint pleaders in excess of the number fixed by the Deputy Commissioner without consulting his opinion.

(a) Restrictions on the admission of pleaders to practise in the district.

55. The first question that we have to examine is whether the existing restrictions on the admission of legal practitioners should now be relaxed. These restrictions have been criticized on many occasions on public platforms, in the press and in the legislature; but the opinions that we have received in the course of our inquiries are somewhat divided on the question. There is a fairly general consensus of opinion that the restrictions should be relaxed in favour of persons native to or domiciled in the district and that these should be admitted without restriction. But there is also a fairly general recognition of the evils which are likely to result from unrestricted competition in the bar. The Bar Associations themselves have almost unanimously favoured a restriction against the indiscriminate admission of persons from outside the district. The principle that some form of restriction is desirable has, therefore, been very widely accepted and the Committee agrees that it is necessary. Unrestricted recruitment would probably lead to touting, the fostering of litigation and other malpractices. The majority of the Committee consider that the number of pleaders and mukhtars should continue to be restricted in accordance with the volume of work handled by the courts; but that there should be an exception in favour of qualified persons who are genuinely native to or

domiciled in the district who should be admitted without restriction. The Chairman considers that if the number of persons so qualified were large, this relaxation might lead to overcrowding. For this reason he considers that it would be more satisfactory to prescribe as in the past that the number of legal practitioners should be restricted according to the volume of work, but that in admission preference should be given to the natives or domiciled inhabitants of the district. This is in accord with the orders issued by the High Court in May, 1927, in the matter of the admission of legal practitioners to practise in the courts subordinate to it in the Santal Parganas. Our colleague Mr. Maheshwar Prashad Jha has not taken part in our discussions on this question, because he felt that as a pleader of the district it would be embarrassing for him to express an opinion on this particular question.

(b) and (c) Admission and discipline.

56. The procedure for the admission and control of legal practitioners in the district will require some adjustment. It has been suggested to us that the Legal Practitioners Act should be extended in toto to the district. As far as admission is concerned this is inadvisable, because the Santal civil courts, as we propose, will still remain independent of the High Court and therefore admission to practise in them will continue to be regulated by the Deputy Commissioner. Further, extension in toto would not be in consonance with our recommendation that restriction on the admission of legal practitioners should continue. On the other hand, if our proposals for the reorganization of the courts are accepted, all criminal courts and all civil courts trying money, title and rent suits valued between Rs. 501 and Rs. 1,000 inclusive and the courts of insolvency, probate, etc. will in fature be under the jurisdiction of the High Court; but in view of the provisions of section 3(2) of Regulation III of 1872 this fact will not automatically extend the application of the Legal Practitioners Act to these courts. Therefore it will be necessary to extend those provisions of the Legal Practitioners Act which deal with admission to the regular civil courts operating above Rs. 500 and up to Rs. 1,000 in money, title and rent suits, to the courts of insolvency, probate, etc. and to the criminal courts. It is necessary however to ensure that this extension will not interfere with the operation of the restrictions upon the admission of legal practitioners that we have recommended in the last paragraph. It is perhaps unnecessary to make statutory provisions to implement that recommendation. All that is necessary is that the existing convention should be so operated as not to exclude from admission persons who are natives of or domiciled in the district if they are otherwise qualified for admission. But it would clarify the position and set at rest any doubts as to the application of sections 8 and 9 of this Act if the High Court would issue a rule under section 6(a) of the Act to give effect to that convention, and we would suggest that course for consideration. . . .

As regards discipline, it seems to us desirable also to extend some parts of the Legal Practitioners Act to the Santal civil courts in order to deal satisfactorily with touting and professional misconduct. There is at present no statutory procedure for dealing with touting in the Santal civil courts and the only means of dealing with professional misconduct in those courts is by an executive order of the Deputy Commissioner removing or suspending the person concerned from the list of legal practitioners approved for practising in those courts. The legal profession feels that it is entitled to a less executive control and that there should be a prescribed procedure for enquiring into alleged misconduct and a right of appeal. The reasonableness of this demand is uncontestable. We think therefore that the portions of the Legal Practitioners Act which deal with disciplinary action should also be extended to the district so as to apply to the Santal civil courts as well as to all proposed regular civil courts and criminal courts.

We do not consider it necessary that revenue proceedings should be brought under the Legal Practitioners Act, because legal practitioners do not appear in them. 57. We therefore suggest that appropriate action should be taken under section 92 of the Government of India Act, 1935, to extend the relevant portions of the Legal Practitioners Act to the district with such modifications, adaptations and consequential amendments as may be necessary, and these we leave for expert examination.

Our specific suggestions in the matter are briefly as follows :---

I.—Admission and discipline of legal practitioners in the proposed regular civil courts and in criminal courts.

The portions of the Legal Practitioners Act to be extended for purposes of admission and discipline in these courts are section 3, chapter III (sections 6 to 15), chapter V, and sections 27, 32 to 35, 36, 37 and 40 with the exception of all references to "revenue office", "revenue agents • and "agents".

Section 3 gives the interpretation of certain terms.

Chapter III deals with the admission (section 6), certificates (section 7), enrolment (sections 8-9), qualification (section 10), functions (section 11), suspension and dismissal (sections 12-13) of pleaders and mukhtars, and the procedure for investigation on a charge of unprofessional conduct (sections 14-15).

Chapter V lays down how a certificate is to be drawn up (section 25) and when it is to be surrendered (section 26).

Section 27 empowers the High Court to fix fees on civil proceedings.

Section 32 provides penalty for illegally practising; section 33, for failure to surrender certificates by suspended or dismissed pleaders, etc.; section 34, for practising during suspension or after dismissal; and section 35, for revision of fines by the High Court.

Section 36 deals with touts.

Section 37 empowers the provincial Government to appoint examiners to facilitate the ascertainment of the qualifications of pleaders and mukhtars for admission.

Section 40 provides that pleaders, etc. are not to be suspended or dismissed without being heard.

II.—Discipline of legal practitioners in the Santal civil courts.

(i) A proviso may be inserted in section 3, after the interpretation of "subordinate Court", on the following lines :—

"Provided that a court established under Act XXXVII of 1855 shall be deemed to be a subordinate court for purposes only of sections 13, 14, 15 and 36 of this Act."

(ii) At the end of the penultimate clause of section 14 a new sub-clause (e) might be added as follows :---

"When made by a court established under Act XXXVII of 1855, he made through the Deputy Commissioner."

(*iii*) Section 36 should also be amended so as to include courts established under Act XXXVII of 1855 in the enumeration of courts and Judges in sub-section (*i*) empowered to frame lists of touts.

(d) The right of pleaders to appear in courts.

58. There is no restriction on the appearance of pleaders in civil courts under the jurisdiction of the High Court of Patna (i.e. in suits valued above Rs. 1,000). In the criminal courts also there has been in practice no restriction since 1923. In any case under the recommendations made by us in the preceding section no restriction could continue in these courts, and the regular civil courts proposed by us will also be free from restriction. In the Santal civil courts pleaders are, under rule 62 of the Santal Civil Rules, entitled to appear in cases where both parties are Dikkus. In other cases they can only appear with the consent of the court "which shall not be given except for special reasons".

59. Restrictions therefore exist only in the Santal civil courts and apply only to cases in which a non-Dikku is concerned. They arise from two considerations: firstly, the desire to protect the aboriginals from exploitation and the excessive cost of litigation; for the employment of pleaders adds considerably to the cost of law suits and confers a definite advantage on the party which has the longer purse. Aboriginals are mostly poor and can illafford to engage lawyers. Secondly, 'the general principle underlying the system of the Santal civil courts is that the trial of cases in which aboriginals are concerned, should, as far as possible, be conducted by direct contact between the *Hakim* and the parties rather than through intermediaries. For both these reasons Government limited the appearance of pleaders in suits in which aboriginals are parties, but there is no similar restriction in suits between Dikkus. We think that the existing restrictions are still necessary subject to one modification. In cases where one party is an aboriginal and the other is not, the present rule 62 allows permission to be given for the appearance of a lawyer only "for special reasons". We would allow permission to be given to both sides to employ a lawyer if the non-Dikku party wishes to be so represented. We accordingly recommend that the first sentence of rule 62 be redrafted as follows:—

- "(1) A pleader or mukhtar may be employed in a civil suit in which all the parties are Dikkus.
 - (2) In suits between non-Dikkus no pleaders or mukhtars may be employed except with the consent of the court which should only be given for special reasons.
- (3) In suits between Dikkus and non-Dikkus the court may, if the non-Dikku party wishes to employ a pleader or mukhtar, permit the other parties to employ a pleader or mukhtar."

This modification leaves the question to be decided by the conduct of the aboriginal party in the suit.

(e) The question of including pleader's fees in the costs of a suit in a Santal civil court.

60. The Deoghar Bar Association has urged that where pleaders are permitted to appear costs on account of lawyer's fees should be allowed as costs in the decree. We doubt whether the matter is of much importance as far as the bar is concerned, because fees are usually paid in advance; but it is arguable that where the rules allow pleaders to appear as of right the successful party in the suit should be entitled to costs on that account. The inclusion of pleader's fees in the costs for Santal suits has been forbidden partly with the object of encouraging parties in simple disputes to present their cases personally and partly with the object of protecting the poor litigant against a wealthier opponent.

But this argument has not the same cogency where the parties have a right to appoint pleaders. We therefore see no serious objection to modifying rule 62 of the Santal Civil Rules so as to allow the inclusion of pleader's fees in the costs in cases only where pleaders are entitled to appear as of right. The fees should be based on the valuation of the suit and should be assessed at not more than $2\frac{1}{2}$ per cent on such valuation subject to a minimum of Rs. 2. The new clause might run as follows :---

"(4) No pleader's or mukhtar's fees shall be allowed as costs except only in cases where pleaders or mukhtars are entitled to appear as of right. The fees in such cases shall be based on the valuation of the suit and shall be assessed at not more than $2\frac{1}{2}$ per cent on such valuation subject to a minimum of Rs. 2."

(f), Renewal of pleaders' certificates for Santal civil courts.

60A. Hitherto when legal practitioners were admitted to practise in the Santal civil courts a certificate of approval was granted by the Deputy Commissioner, which remained in force until it was withdrawn for misconduct or other cause. In recent years a practice has been introduced of calling upon these legal practitioners to renew their certificates annually. We consider that this is unnecessary and should be dropped.

(g) The position of petition-writers registered under rule 62, Santal Civil Rules.

61. Any considerable increase in the number of pleaders practising will affect the position of petition-writers, but we consider that it is still necessary to retain this class for the purposes for which they are at present enrolled.

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CHAPTER VIII.

THE SANTAL CIVIL RULES.

62. Since we recommend that the special Santal civil courts for suits below Rs. 500 should be retained, it is also essential to retain the Santal Civil Rules which form the simple code of procedure under which cases in these courts are tried. The Committee has, however, received many suggestions for the amendment and amplification of these rules. As the subject is a technical one, the Committee does not feel competent to make recommendations as to what amendments should or should not be made and in any case it has not in the time at its disposal been able to examine the working of these rules in any detail. We therefore propose to furnish to the provincial Government a list of suggestions that we have received and we suggest that the question of the amendment and expansion of the Santal Civil Rules should be referred to the Deputy Commissioner for a report to Government through the Commissioner after obtaining the views and examining the suggestions of the local Bar Associations.

63. There are however some points on which we think it necessary to express our own opinion.

In the first place we consider that the Santal Civil Rules should continue to be as far as possible a self-contained code. We have received from several sources the suggestion that a rule should be introduced to provide that where the Santal Civil Rules are silent on any point. the provisions of the Civil Procedure Code should be applied. The Santai Civil Rules are a short and simple code; they are based, with certain notable exceptions, on the principles of the Civil Procedure Code but naturally they are far less elaborate and many details will be found in the Civil Procedure Code which have not been found necessary in the Santal Civil Rules. If the courts were required to apply the Civil Procedure Code wherever the Santal Civil Rules are silent, they would practically be forced into the position of applying the greater part of the Civil Procedure Code. This would stultify the object of the Santal Civil Rules and would lead to a complication of procedure with which the Santal civil courts could not cope. In fact, if such a rule were introduced, it is doubtful whether the Santal civil courts could continue to function. It is essential that the procedure in the Santal civil courts should be as simple as possible and while we recommend that the Santal Civil Rules should be revised, the aim of simplicity should be kept in view. If cases arise which the rules do not cover, the courts should, as in the past, deal with them in the light of equity and good conscience. In such cases they may feel it necessary to refer for guidance to the Civil Procedure Code, but we do not consider it necessary or desirable that the courts should be compelled by rule to apply the Civil Procedure Code in every matter on which the Santal Civil Rules are silent,

64. The suggestion has also been made that the limitation for execution proceedings provided in rules 35 and 36 should be altered and that the ordinary rules of limitation in force elsewhere should be applied. This is in our opinion most undesirable. These rules provide that execution must be taken out within a year of the date of the decree and that a decree shall be incapable of execution except as regards pending proceedings at the end of three years from the date of decree or of the final order of the appellate court. Under the general civil law a decree-holder may take out execution at any time within three years from the date of the decree and as regards pending proceedings may make a further application at any time within three years of the last step in Under this procedure the execution of decrees may and often does execution. continue for many years. The reduced limitation prescribed under the Santal Civil Rules was deliberately provided to ensure for the decree-holder speedy realization of the decretal dues and to protect the judgment-debtor against harassment by the undue protraction of proceedings. It is particularly necessary in the case of rent decrees in order to protect the pradhan and the raivat. Hard cases occur under every law, but the existing rules are undoubtedly salutary and a valuable protection to the public. It has been urged that the rule is unfair to decree-holders whose decrees have been transferred for execution from courts outside the district to the Santal civil courts; the argument is that such decrees should carry with them the law of limitation of the court from which they came. This argument cannot be accepted for two reasons. In the first place, it is a general principle of law that limitation is governed by the law of the court in which the decree is executed and it would be a contravention of that principle to import into the Santal Parganas a separate limitation for decrees transferred from outside. Secondly, it is necessary to insist on the application of the Santal law of limitation in order to prevent Mahajans and others from suing in the courts of the surrounding districts for debts due in the Santal Parganas. At one time it was a common practice for such persons to frame their bonds, etc. in such a way as to secure the jurisdiction of an outside court and the harassment inflicted on debtors by such a device need not be emphasized.

65. There are certain subjects on which the Santal Civil Rules are silent. There are no provisions for the appointment of guardians ad litem, for dealing with pauper suits or for mortgage suits, and we think that an examination should be made to see how far provisions to deal with these questions in the Santal Civil Rules are necessary. As land is inalienable throughout most of the district, the question of mortgage suits is not of general importance, but there are areas in which agricultural land is transferable and mortgage suits are becoming more common in Basauri lands in urban areas where the right of transfer also exists. It appears desirable therefore to make provisions for dealing with these suits. In this connection it may be necessary to consider whether the Transfer of Property Act or any part of it should be extended to the district. The Committee did not make any inquiry into this matter and is therefore not in a position to make a definite recommendation and we suggest that it should be referred to the local authorities for examina-" tion in consultation with the Bar Associations in connection with the related question of the amendment of the Santal Civil Rules. We understand that some of the provisions of the Act are already applied in principle by the Santal civil courts although the Act is not actually in force. Our colleague Mr. Maheswar Prasad Jha considers that the Act should definitely be extended to the district.

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CHAPTER IX.

CODIFICATION OF LAW.

66. We have noted in dealing with the transfer of the criminal courts to the jurisdiction of the High Court at Patna that it will be necessary to codify more fully the special laws of the Santal Parganas. We refer particularly to the Tenancy Law. This is in any case desirable on other grounds. There is at present no self-contained Tenancy Act for the district. Some of the provisions of a Tenancy Act are contained in Regulations III of 1872 and II of 1886; others are found in the settlement records of rights and duties, in the rulings of the Commissioner and Deputy Commissioner and of civil and revenue courts interpreting these records and in executive instructions of Government and the revenue authorities which have issued from time to time. The simplicity of the Settlement Regulation was well adapted to the circumstances for which it was created. It came into being at a time when Tenancy Acts had not yet been fully evolved and in, the Santal Parganas tenancy rights were unrecorded, uncertain and inchoate. It provided a means for ascertaining the customs and rights of the people and of giving legal force to them. Owing to the uncertain and unsettled state of these rights the Settlement Officer was given very wide powers and the settlement became not only the recorder, but to some extent the creator and moulder of these rights and of the law. It comes about in this way that a large part of the tenancy law is contained not in the statute law but in the record of rights and the case law of the district. The Deputy Commissioner and the Commissioner were the guardians of what the settlement achieved. The periodic recurrence of settlement brought the records of rights up to date and modified them as circumstances changed. The absence of a fixed codification also enabled Government to modify their measures for the protection of the cultivator from time to time in order to meet the varying forms of pressure which were exerted upon him.

67. But there are also serious drawbacks in this system. For it enables the executive government and the local officers to legislate concerning the rights of the raiyat and the landlord without reference to the legislature. It is not necessary or desirable that this state of affairs should continue. There have now been three settlements of the district and the rights and duties of the various interests in the land are fairly stabilized. There have been few changes in the record of rights and duties since the last settlement and it has been found necessary to make few changes in the laws in recent years except on points of detail. Except on the question of the right of transfer, which must necessarily undergo modification as time goes on and the necessity for protection of the more backward classes grows less, the rights in land in the district have reached a fairly settled state. It is now time that codification was attempted.

68. The existing position is confusing. The rulings and orders which guide the Santal civil courts have never been collected and published and are not easily accessible to the public or the bar. They have not always been consistent, and where rulings have diverged there is not always certainty as to which ruling is binding upon the courts. This breeds uncertainty. It is confusing also to officers who come new to the district, for the material upon which they have to work is not collected and the actual law cannot be ascertained by any means completely in the Santal Parganas Manual. It therefore takes a new officer a considerable time to become familiar with the law that he has got to administer. One evil effect of this is that new officers are necessarily for some time too much in the hands of their peshkars and this has led to malpractice and corruption.

69. Also the boundaries between the jurisdiction of the civil and of revenue courts are not always apparent. This has not been a matter of great importance while all courts were under the control of one authority; but it will become important with the transfer of further jurisdiction to courts under the High Court. The jurisdiction of the revenue authorities and the determination of the matters in which their decisions are final require to be clearly laid down as has been done in the Chota Nagpur Tenancy Act, 1908.

70. We therefore recommend that a measure of codification should now be undertaken. We wish to make clear exactly what we contemplate. There is a real danger that an attempt at complete codification may result in a rigidity and fixity of law which would remove the elasticity of the system which is so essential in dealing with a district that is gradually advancing from a state of backwardness. This must be avoided. We do not wish to remove or to restrict the discretionary powers of the Deputy Commissioner and the Subdivisional Officers. It is in our opinion essential that wide discretionary powers should be retained. Questions of the internal government of the village and the exercise of village rights, transfer, eviction, the exclusion of Mahajans and aliens from the village, dealings with pradhans and many other questions require the use of considerable powers of discretion. The substance of the law in this respect should not be materially changed, but the spheres in which that power is to come into operation and its extent, and the jurisdiction of the revenue and civil courts should be defined. The main outlines of the rights of landlords, pradhans, raiyats, etc. should be incorporated in the statute law to which the record of rights should be a supplement having statutory force. This is necessary since there are local variations in these rights and they also deal with some matters which would not come into the scope of a Tenancy Act. There should be wide rulemaking powers also to deal with ancillary matters and here also provision should be made for the exercise of discretionary powers wherever they exist or are necessary. Generally, therefore, we do not wish to alter the law but to state it as clearly and as fully as possible.

71. There are however points in which the law does require both amending and supplementing. There are some ambiguities in the Settlement Regulations. For instance the terms "proprietor" and "zamindar" are not defined and the terms "proprietors or under-proprietors" [section 13 (c) of Regulation III of 1872], "proprietor" (section 28 of Regulation III of 1872) and "zamindar or other proprietor" (section 28 A of Regulation II of 1886) are used indiscriminately in the Regulations and it is difficult to determine exactly in what sense they are used or the difference, if any, in the meaning of the different terms used. Ambiguous terms cause legal difficulties.

72. Again, there has been uncertainty whether eviction from part of a holding is legal under the law and divergent rulings have been given at different times. Indeed the provisions authorizing eviction itself are not stated in the law as clearly as they should be. Such examples could be multiplied.

73. The inauguration of the new constitution has also created some anomalies in Regulation III of 1872. Under section 3 (2) no enactment of the Legislature applies to the Santal Parganas unless the Santal Parganas is expressly named therein. Accordingly all Acts of the Legislature now-a-days name the Santal Parganas. But under section 92(1) of the Government of India Act, 1935, no Act of the Legislature applies to a partially excluded area unless the Governor acting in his discretion by public notification so directs. The result of this is that the provisions of section 3 (2) of Regulation HI of 1872 are superfluous and are made nugatory by section 92 of the Government of India Act, 1935. This section therefore might be repealed.

74. The last sentence of section 25 (3) of the same Regulation has been repealed in view of the mandatory provisions of section 296 of the Government of India Act, 1935. The result is that there is now no power to correct material errors in the settlement record. We have suggested elsewhere that a tribunal to exercise these powers is a desideratum.

75. There are also some matters of substance for which no provision exists in the law of the Santal Parganas. These concern mainly rights which have elsewhere been given to raivats throughout the province in recent years and we recommend that additions to the substantive law of the district should be made to provide for these. They include the following matters:

(1) Rights in trees on raiyati holdings.—Under clause 15 of the last record of rights raiyats have complete rights in bamboos, babul, sisu and other trees grown by them on their holdings. They have the right to enjoy the fruit of trees planted by them; but with the exception of Tal trees they may not cut fruit trees without the proprietor's consent. If the tree dies or is lawfully cut, they are entitled only to half the timber. We consider that the raiyat should have full rights in all trees grown by him on his holding both as regards fruit and timber. We also consider that he should have the right to grow lac on trees grown by him on his holding without addition to the rent.

(2) Manufacture of bricks, etc., and sinking of tanks and wells.—The raiyat has the right to erect buildings for the domestic agricultural purposes of himself and his family on his jamabandi holding. This right is not mentioned in the record of rights but it is unquestioned. It should be made clear that he possesses this right and that it extends to the erection of pukka houses for his own domestic purposes. The record is also silent as to whether he can make bricks or tiles on his holding for his own use. This right should be clearly given as in section 23 of the Bihar Tenancy Act. A raiyat can make a tank for drinking purposes only with the permission of the proprietor and it is not clearly stated whether he has a right to dig a well. These rights should be given.

(3) Landlord's transfer fees.—In the areas where transfer of raiyati holdings is allowed by law the landlords are by a custom entered in the record of rights entitled to receive transfer fees which amount to 25 per cent of the transfer price except in pargana Muhammadabad where it is $6\frac{1}{4}$ per cent. The question of transfer fees has now been settled on a uniform basis for the whole of Bihar in the recent Bihar Tenancy Amendment Act. There is no reason why the question should not be treated in the same way in the Santal Parganas and we recommend that the law regarding the payment of transfer fees there should be brought into conformity with the law now prevailing in Bihar.

(4) Provisions for revision of rents which are discussed in the next chapter.

(5) We suggest elsewhere certain modifications in the law of transfer and in the execution of rent decrees which may be incorporated in the statute or in the rules to be framed under it.

76. Our recommendations may therefore be summarized as follows :----

- (a) The Santal Parganas Manual should be revised and brought up to date.
- (b) A compilation of the Rulings of the Courts of the Commissioner and of the Deputy Commissioner (where there are no binding rulings of the Commissioner's court) should be made and published as a 2nd volume of the Santal Parganas Manual.
- (c) Regulation III of 1872 and Regulation II of 1886 should be amended or replaced by fresh legislation —

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- (i) to remove ambiguities;
- (ii) to incorporate the main principles of the tenancy law;
- (iii) to clarify the jurisdiction of the revenue authorities and the limits of civil jurisdiction ;
- (iv) to provide for certain matters for which there is at present no provision in the Regulations;
- (v) to provide rule-making powers.

In making these amendments care should be taken to preserve the necessary discretionary powers of the Deputy Commissioner and the Subdivisional Officers.

CHAPTER X.

SETTLEMENT.

77. The settlement in the Santal Parganas is distinct from other settlements in three important respects. It includes an investigation and a determination of all questions of right, interest and title in land and the resulting record has the final and conclusive force of a civil decree except in the matter of disputes of title between proprietors. Secondly, the record of rights, duties and customs governing the relations between landlords, *pradhans* and raiyats which forms a code for the internal government of the village has the force of law. Thirdly, every settlement in the Santal Parganas is also a rent settlement and determines the rent payable for all agricultural land in the district and the rent so fixed cannot be altered within the period of 15 years from the date the rent is settled. In other districts certain parts of the record of rights are final; but nowhere else is the finality of the record so comprehensive.

78. This finality has bad the great merit of giving stability to the rights of and of effectively preventing a great volume of litigation. all parties Although mistakes do and must occur this has in the past undoubtedly been a boon to a district where most of the population is poor. But we have received a large number of representations that the record of rights prepared in the last revision settlement of 1922-35 is so defective owing to numerous errors of fraud and negligence that an opportunity to contest it in the civil courts should even now be allowed, and that future settlement records should have no greater force than that of presumptive evidence. It was not possible for us to investigate the extent to which the recent settlement record is defective. There must be a number of errors in every settlement record, no matter how carefully it is prepared, and there must always be a number of persons who are dissatisfied with the decisions given in the settlement courts. It is a fact that a large number of petitions have been received by the Deputy Commissioner for correction of the settlement record and a large number of such petitions are now pending. But we consider that it is impossible to yield to the demand that special legislation should be undertaken to throw open to question in the civil courts the revision settlement record some of which has been in force for the last ten years. This would merely cause a flood of litigation, much of it frivolous or unnecessary, and great unsettlement and harassment of the tenantry. It would do more harm than good. At the same time we have reason to think that there are numerous errors which do require correction and we consider that steps should be taken to provide for Section 25 of Regulation III of $187\overline{2}$ formerly. provided that "in the this. case of the discovery of material error it shall be lawful for the Lieutenant-Governor to direct that the record of any village shall be revised ". But this clause has been repealed owing to the provision in section 296 of the Govern-. ment of India Act, 1935, which divests the provincial Government of the appellate and revisional jurisdiction formerly exercised by it in revenue cases. As the law now stands, there is no means of correcting errors in the settlement record however obvious they may be. Section 296(2) of the Government of India Act, 1935, empowers the provincial Legislature to make provision by legislation for the exercise of such jurisdiction and the Governor is required under the same section to constitute a tribunal to exercise these powers until. such provision is made. We think that such a tribunal should be constituted and we recommend that the Commissioner of Bhagalpur should be the tribunal, cases being submitted to him through the Deputy Commissioner. We suggest that he should be empowered to correct the record in case of material error.

79. We do not consider it necessary to make any recommendation on the question whether the records of future settlements should be final or not. Since a fresh settlement is not likely to take place for many years, the matter is not at present a live issue and may more suitably be examined before a fresh settlement is due to take place. We have in any case not reached complete agreement on this point. The majority of the Committee think that it is important to maintain the finality of the record generally, but that in the case of (a) title disputes between proprietors *inter se* and (b) disputes between raiyats concerning the title to a raiyati holding there should be a right to contest the settlement record in the civil court; but that this right should in no event extend to questions between landlord, *pradhan* and tenant, to questions of rent or to any entries in the record of rights and duties.

80. It has been suggested to us that since three settlements have taken place in the district further settlements in future are superfluous. We do not agree with this view. Further settlements will certainly be required but we consider that the interval between settlements should be not less than thirty years. It is also desirable that steps should be taken to reduce the duration of settlement operations. The last revision settlement took thirteen years to complete and the length of the operations unduly increased the cost and had an unsettling effect on the district. We realize the difficulty of larger programmes in a settlement which produces a final and conclusive record, since the programmes must be such as to admit of adequate supervision; but we think that it should be possible to cut this period down to about eight years without sacrificing efficiency. We also consider that there should be more continuity in the tenure of the post of Settlement Officer. During the last settlement no less than six Settlement Officers held charge and the operations suffered owing to these frequect changes.

81. The rents determined during the settlement cannot under the existing law be altered within 15 years from the date of determination except that under section 19 of Regulation II of 1586 a landlord may apply for enhancement of rent on the ground of an improvement effected by him or at his expense. This provision was intended to secure stable rents and to protect the raiyat from harassment by landlords. But if it secures the raiyat against frequent enhancement it equally prevents him from obtaining a reduction of rent if economic conditions deteriorate. We think therefore that section 6 of Regulation II of 1886 which prevents any general modification of rents within 15 years is too rigid. Both the Bihar Tenancy Act and the Chota Nagpur Tenancy Act empower the provincial Government to order a fair rent settlement or to reduce rents if they are satisfied that this is necessary. We think that it would be inequitable to exclude from the Santal Parganas a provision which has been found necessary for the rest of the province, and the existing depression adds force to this view.

82: We consider however that where any action is taken for a reduction of rents during the currency of a settlement, it should be taken on the initiative of Government by a general or special order made after due inquiry and not upon applications made by individual raiyats. After an examination of the Tenancy Acts we consider that provisions for this purpose based upon either section 85 of the Chota Nagpur Tenancy Act with such modifications as may be necessary or sections 112 and 112A of the Bihar Tenancy Act should be made in the law.

63. There is one minor matter in which the present settlement record should be revised, namely in the treatment of certain brahmottar and shivottar lands. In the first two settlements of the district certain lands recorded as brahmottar and shivottar were excluded from the raiyati jamabandi lands of the village. They were treated as non-raiyati and accordingly were not bound by the law which prohibits transfer of raivati land. In the last revision settlement it was found that people had been taking advantage of this loophole to convert raiyati land into brahmottar and shivottar and so withdraw it from the corpus of raiyati land and secure a right of transfer. Accordingly a fresh examination of the status of all lands claimed as brahmottar or shivottar was made as a result of which a considerable quantity of land recognized in the previous settlements as brahmottar and shivottar was entered as raiyati and the transfers treated as illegal alienations. We realize that it was necessary to examine the validity of all new claims of *brahmottar* and *shivottar* and to decide their true status on the evidence. The principles laid down in Mr. Lewis' letter no. 9633, dated the 3rd November, 1926, should apply to these cases. But we do not think that there was sufficient justification for altering the status of lands which had been recognized as brahmottar and shivottar in the two preceding settlements. We, therefore, suggest that steps should be taken to revise as material errors the entries in the settlement record in this respect and to record as brahmottar and shivottar and to exclude from the jamabandi lands of the village any lands which had been entered as brahmottar and shivottar in the settlements of both Messrs. Wood and McPherson.

CHAPTER XI.

ECONOMIC CONDITIONS AND RENTS.

84. Before turning to that side of the administration which concerns the village community, the *pradhan* and the raiyat it is necessary to consider certain aspects of the present economic condition of the district; because several of the major problems to be considered are closely affected by it. This is true especially of the problem of maintaining the *pradhani* system, the question of rents and rent realization and the question whether the laws governing the transfer of land require any modification.

85. Although it is impossible to obtain any statistics to show the total amount of indebtedness in the district or how-far it has increased, it is fairly clear that debt has increased during recent years. This is reflected, for instance, in the marked rise in the number of rent suits. During the period 1920 to 1929 rent suits averaged about 6,000 a year. Some addition must be made to this figure, because during the whole of that period the district was under settlement and in the areas under settlement rent suits were dealt with by the settlement courts. But even if an allowance of 20 per cent is made for the rent suits dealt with by the settlement department in the areas under settlement the total average incidence of rent suits during that period cannot have much exceeded 7,500. From 1929 onwards the figures began to vise and reached 15,443 in 1933. In 1934 there was a drop to 12,496 and in 1935 and 1936 the figures mounted again to 15,234 and 17,575. This phenomenon is of course not peculiar to the Santal Parganas. In the rest of the province the rent suits in civil courts rose from 118,503 suits in 1932 to 176,122 in 1935 but dropped again to 148,364 in 1936. Arrears of rent are very heavy all over the district and there is a general reluctance on the part of *pradhans* to continue their obligations and great difficulty in securing new men to accept the office. The number of rent suits decreed against pradhans has never been less than 2,200 in any of the last five years, though of course evictions have only taken place in a much smaller number of cases. The arrears of revenue in the Damin-i-Koh Government estate have also in the last three years risen from Rs. 1,53,324 to Ks. 3,07,39'. In January of this year it stood at Rs. 3,76,575. These figures are the more telling because prior to 1930 serious arrears in the Damin-i-Koh were practically unknown. The lowest depth of the depression seems to have been reached only now.

86. The severity of the depression in the district is due to various factors. First of course comes the general fall in prices which for the last six years have been lower than at any time since 1900. The collapse of the lac industry has also been an important factor in many areas, particularly in parts of Dumka, in Pakaur and in the Damin-i-Koh where many raiyats depended on this to pay their rents. There has also been a succession of unfavourable years. In three out of the last five years the rice crop has been below normal and in 1935 and 1926 it fell as low as 58 per cent of the normal figure.

87. It is commonly alleged in the district that crops have deteriorated in recent years because rainfall has decreased and the fertility of the soil has deteriorated. The first statement does not appear to have any solid foundation, except as regards the Godda subdivision. The average rainfall of the district for the 21 years, 1887—1907, was 54.67 inches and the average for the years 1911—1937 was 54.43 inches. The district average, therefore has been maintained at almost exactly the same level for the last 50 years. In Godda subdivision the position is different. The average rainfall of the period 1887— 1907 was 48.68 inches whereas the average in the period from 1911 to 1937 was only 42.03 inches, and it is also remarkable that in the last 11 years the rainfall in the subdivision has been below even this reduced figure. The rainfall therefore has always been much less favourable in Godda and this difference appears to be growing more marked. This is probably related to the fact that the zamindari tracts of Godda are more denuded of jungle than any other part of the district.

88. As regards the proposition that the fertility of the land has decreased, 14 is difficult to come to a general conclusion. Many witnesses have stated to us that it has decreased and many people hold that opinion strongly. Forests are being gradually destroyed here as in the rest of the province, and where the forests disappear the land leses some of its ability to retain moisture. In the Santal Parganas, like Chota Nagpur, the crop-producing capacity of the land depends rather on the capacity to retain moisture than on the nature of the soil, and where forests disappear a change for the worse gradually takes place. But the progress of deforestation has not been so rapid in the last 30 years as formerly and the changes that have occurred appear to be local and limited rather than general Witnesses may very well be correct in speaking of individual localities which have been so affected, but this is not necessarily a proof that deterioration has been general.

89. The argument is frequently supported by reference to the figures for crop outturns given in the various settlement reports. Sir Hugh McPherson in paragraph 116 of his final report estimated as follows :---

]	Maund§.	Seers.
	First class Dhani	• •	••	••	28	8
	Second class Dhani	••	••	••	25	0
•	Third class Dhani	••	••	••	13	20

The corresponding figures estimated at the revision settlement are :-

				ľ	launds.	
First class Dhani		••		••	22	
Second class Dhani	••	••	••	. .	18	
Third class Dhani	• •	•	• •	••	8	

The difference is very striking, but there are good reasons for considering that Sir Hugh Mcl'herson's figures cannot be accepted as accurate. In the first place no crop-cutting experiments were made during Sir Hugh McPherson's settlement and the figures that he gives are based on a very small number of crop-cutting experiments made by the district staff in the previous five years. The total number of experiments made in that period was only about 167 and they were not made on a scientific basis or under expert supervision. The system followed in those days was that the officer sent to make crop-cutting experiments selected what he thought was a suitable field, cut the crop and weighed it. Experience has shown that under this system the crop is nearly always over-estimated. Some years after the close of Sir Hugh McPherson's settlement the whole question of cropexperimenting was examined and a new and much more accurate system was developed and has been followed in all succeeding settlements. When Sir Hugh McPherson's figures are compared with the crop outturns of the rest of the province it seems improbable that they can be accurate. A comparison can most suitably be made with Chota Nagpur where the conditions of soil, climate and geological formation are similar. Settlements have been carried out in the whole of Chota Nagpur Division in the last 25 years and the average outturn figures for those districts are as follows :--

		Rauel	bi.	Hazarii	agh.	Palan	nau,	Manbhum.
	M	launds	Seers.	Maunds	Seers.	Maunds	Seers.	Maunds.
Dhani I	••	19	5	22	22	22	20	27
Dhani II	••	15	0	14	32	15	16	17
Dhani III	· • •	9	0	9	24	.9	13	9

From these figures two results appear: firstly, that there is fairly close agreement between all the four Chota Nagpur districts with the exception of first class Dhani in Manbhum which is abnormally fertile; and secondly, that the figures of these districts agree very closely with the average figures obtained for the Santal Parganas, in the revision settlement. This leads to the conclusion that the revision figures are more reliable than Sir Hugh Motherson's. Sir Hugh McPherson's figures for second class Dhani are particularly open to doubt; for if they are correct, second class Dhani in the Santal Parganas was more productive than any rice land in the whole of Bihar proper except the canal-irrigated land in the Bettiah subdivision, which is very improbable. We think therefore that arguments based on a comparison of Sir Hugh McPherson's figures with the present outturns do not furnish a reliable basis for the conclusion that fertility has generally decreased. We think that in some local areas, particularly Godda, it probably has decreased. We think also that the progressive denudation of forests must have a gradual effect, but it is doubtful whether there has been any serious general decrease in fertility over the district as a whole. Godda of course is much less fertile than the rest of the district owing to deficient rainfall, but it has been so for a long time. Except in the zemindari portion of Godda therefore loss of fertility and lack of rain need not be considered as factors in the situation.

90. An important factor in the present difficulties of the cultivator is the increase of rents at the revision settlement of 1922-1935. The total rent of the district increased by 30.6 per cent over the previous settled rent. The increase in the Damin-i-Koh was even greater, 39.95 per cent. This is a bigger increase than has taken place in most other settlement operations in the province. A large part of this increase came into force after the depression had set in, and the subsequent collapse of the lac industry together with a succession of short crops has aggravated matters. We shall return later to the question whether the rents are too high and whether any action is desirable with regard to them.

91. There is lastly a widespread feeling in the district that the introduction of the outstill system of liquor shops has added to the difficulties of the cultivator.

92. It remains to be seen what can be done to mitigate the effects of the depression or to afford any relief. We have therefore considered the facilities for obtaining credit, the present rent levels, modifications in the rent execution laws and the possibility of economic development in the district.

(1) Credit.

93. Owing to the fact that in the greater part of the district land is inalienable the cultivator finds it difficult to obtain credit on easy terms, because the Mahajan has no security for his debt. This has led to evasions both of the Usury law, which limits the rate of interest, and of the transfer law, which forbids alienation. Since the raiyat can neither mortgage nor sublet, the Mahajan is in some cases given possession of the holding as Bhaolidar illegally and in other cases he takes de facto possession of the holding and the raiyat cultivates for him on Bhaoli. Both these processes are illegal, but many witnesses have told as that it is becoming very common, especially in the Damin-i-Koh. We are informed that in some cases the Mahajans, although they have no legal status, have been allowed to pay the rent and in other cases the Mahajan enjoys the holding or the best part of it and leaves the raiyat to pay the rent if he can. In normal times it has not been difficult for the cultivator to obtain loans from Mahajans, because the raivat in the Santal Parganas has had the reputation of being a good payer; but, since the depression has become general and the ability of the raivat to repay has diminished, the Mahajans are much more shy of advancing money except under the illegal arrangements described above. Co-operative societies do not exist in many parts of the district and even where they do they do not seem to have helped very much. We were struck by the amount of criticism of the co-operative societies that we received. It was not possible for us to investigate the working of these societies and the evidence that we have heard came mainly from those who have complaints to make, but many people feel that the rates of interest are too high and that they are nearly as oppressive in realizing their debts as the Mahajans themselves. This is largely inevitable since land is inalienable and the only method of recovering debts is by attachment of crops. The Santal law does not allow attachment of standing crops for Mahajan's debts. Even in the case of rent decrees attachment of standing crops is restricted to the amount sufficient to cover one year's rent, but under section 35 of

the Co-operative Societies Act there is no limit to the extent to which standing crops can be attached to recover a society's debts. Since the co-operative societies must recover their loans if they are to function at all and since they have had to resort increasingly to this procedure, borrowers feel that they are being as harshly treated by the co-operative societies as they would have been by the Mahajans. There is also much complaint that in the Rajmahal subdivision where the right of transfer exists too little care and discrimination is used when putting property to sale for the recovery of co-operative dues, and that excessive areas are sold. The movement is distrusted. If it is to make further progress in the district, it will require re-modelling. At present it is identified with all the oppressions of the Mahajan and there is no constructive side to its work. If it is to succeed it will be necessary to reduce the rates of interest, to insure that much more care is taken in the granting of loans and to develop the constructive side of co-operation.

94. We think that there is more immediate hope in the development of grain golas and grain banks. These have existed in the Damin-i-Koh estate for many years. They have worked, we understand, successfully in the Deoghar subdivision. In the Damin their success has not been so consistent, but this is probably due in part to insufficient supervision. The successful working of these banks requires constant attention from the Subdivisional Officers which in recent years they have not always been able to give. It should be the particular duty of one of the subordinates of every Subdivisional Officer responsible for the administration of the Damin to visit all grain golas regularly to see that the accounts are correctly kept, scrutinize and report on the manner in which loans are granted and keep the recovery of loans up to mark. One of the defects of the present grain golas is that there are no arrangements for storing different kinds of grain separately; all are kept in one receptacle. Consequently a raiyat who wishes to obtain a seed loan has to take a loan of mixed grain from the grain gola and then exchange it at the godown of the local Mahajan for the kind of seed that he requires. This causes unnecessary loss to the borrower which could be avoided by proper arrangements at the golas. Inside the Damin the grain gola system is widespread and except in the Pakaur subdivision most bungalow areas have a gola. Outside the Damin it is less common and we think that, apart from the subdivisional grain golas, experiments might be made in organizing village grain golas to be run by the pradhans of the village communities themselves. We understand that experiments on these lines have been made with fair success by some of the Missions in the Ranchi district and we see no reason why they should not succeed in the Santal Parganas if sufficient supervision is given. They would make the villages largely self-contained in the matter of seed loans and would be a valuable influence in educating the villagers. If such banks fail, there is no real loss to the village community since the debtors and the creditors are all within the village and they do not fall into the hands of the Mahajan. We believe that many of the difficulties of purely agricultural credit might be solved on these lines. But such banks cannot deal with the larger borrowings for social purposes, etc. For that we see no satisfactory solution; it is a problem which is common to the whole of the province. One obvious method by which credit can be made easier for these purposes is by relaxing the restrictions on transfer, but for reasons that will appear later any general relaxation of the transfer law is undesirable.

95. Before leaving this subject it is necessary to glance at the protection given by the present Usury law contained in section 6 of Regulation III of 1872. The maximum rate of interest allowed by that section is 24 per cent per annum except on leans for one year or less in which case there is no limit on the rate of interest that may be charged. The maximum rate is too high and on the model of the Bihar Money-lenders Act, 1938, should be reduced to 12 per cent for unsecured debts and 9 per cent for secured debts. The law gives the courts power to go behind the documents and to ignore intermediate adjustments of account in order to arrive at the actual debt incurred by the defendant in the suit. But it is often very difficult to arrive at the truth. The law should be amended so as to oblige all money-lenders firstly to keep regular accounts and secondly to furnish their debtors with an annual up-todate statement of account. The defence that the lender does not keep accounts should not avail. Such a provision his already been made in the case of rent accounts of village pradhans; it is equally necessary in the case of Mabajans and their debtors. Section 6 is also not free from ambiguity. The provisions in clause (a) regarding compound interest are not clearly drafted and it has been argued that while compound interest is forbiddon on intermediate adjustments of accounts compound interest on the original debt is not forbidden. There is no doubt that the intention of the law is to prohibit all compound interest, and it has always been administered in that sense, but it would be well to put this beyond the possibility of question. The section should also state clearly that payments of interest whether made in court or out of court should be taken into account and set off against the claim if credit has not been given in the Mahajan's account. It has been suggested to us that the onus of proving the consideration for handnotes or bords should be placed on the creditor; but that is neither fair nor practicable. It has also been suggested that the courts should have power to reduce the rate of interest below the maximum allowed by law. But if these maxima are reduced to the levels that we suggest no such power appears to be necessary or equitable.

96. We have considered whether the Bihar Money-lenders Act, 1938, should be extended to the district either in supersession of, or as a supplement to, section 6 of Regulation III. But we have decided that it is not necessary and in some respects gives less protection than the existing law and the amendments of it that we propose. For instance, the Act would make valid any contracts involving compound interest which had been made before the Act is extended; whereas under the existing law compound interest is illegal. We therefore do not recommend that it should be extended.

(2) *Rents*,

97. There is a widespread demand in the district for the reduction of rents. In examining this question it is necessary to look into the history of rent settlement in the district. At the first settlement in 1872 the zamindars contended that the fullest rates of rent that the land could bear should be assessed upon it. This was resisted by Government on the ground that the political and economic conditions which led to the enactment of Regulation III of 1872 did not admit of a general rise in rents and that enhancement could only be given where existing rates were exceptionally low. The raiyats on the other hand did not ask for the reduction of excessive rents but for fixity of rent. They claimed to hold on the same rates for ever. As a result Wood's settlement adopted approximately the traditional rates of rent which had come down from the past and these have remained practically unchanged to the present day.

98. The first settlement was based on nazar paimaish and it had for its main object the settlement of lump village jama as little different as possible from the previous jama, and the distribution of this lump jama among the mombers of the community was left to the village panchayats. The Settlement Officer adopted after enquiry rates of rent which would more or less maintain the existing rental of the taluq and applied these rates to the classification of land previously estimated by nazar paimaish. If he found that the result produced a serious increase or decrease in the lump rental of any village he re-estimated the different classes of land and drew up the final assessment. Thus both classification and rates of rent were manipulated so as to bring out the required result, namely as small departure as possible from the pre-existing rents. In Mr. Craven's settlement of 1886 to 1894 a new departure was made and rents were fixed for individual raiyats, but here also the governing factor was the total rent of the village and the increase in total rent was not allowed to exceed 50 per cent irrespective of the amount of additional land reclaimed. When the total amount was fixed the rents were apportioned among the individual raiyats. This system of spreading the increase in rent over the whole village instead of assessing each tenant according to the exact area held by him caused hardship. Accordingly in Sir Hugh McPherson's settlement the system was abandoned and the settlement of rent was based entirely on the holding of each individual raiyat.

The full rate rent was not assessed and abatements of rent were allowed (1) to ease off heavy increases and (2) to compensate raivats for the result of their own improvements. The rule followed for abatement of rent was that no raiyat should have his total rent enhanced by more than 50 per cent for the first five years of settlement, or by more than 100 per cent for the rest of the period. The last revision settlement followed similar principles. The old rates of rent were maintained except in the Patsanda estate and in 66 villages of Manihari estate. It was held that the increase of rent which resulted from the extension and improvement of cultivation and the assessment of the full rate rents for the land measured at the previous settlement would give as much increase in the rent as the tenants could bear. In order to avoid hardship to individual raivats and to give due consideration for the special efforts of raiyats who had improved their holdings abatements were as revised. This given as before; but the rule regulating these abatements rule provided that if the full rate rent assessable exceeded the existing rent by more than 25 per cent an amount half way between the full rate ront and the pre-existing rent increased by 25 per cent was to be settled. This revision of the rule had important effects because in practice it gave less liberal abatements than the former rule.

99. The principles governing rent settlement in the district may therefore be summarized as follows :---

- (1) The traditional rates of rent in villages should not be enhanced save in very exceptional circumstances.
- (2) An increase of rent should be allowed only for extension and improvement of cultivation.
- (3) To avoid hardship consequent upon a sudden and heavy increase of rent a limit should be fixed to enhancement.
- (4) Sufficient allowance should be made to the raiyats for improvements effected by them by means of abatement.
- (5) The settlement should be based on soil classification.

100. We may now turn to an examination of the existing rents. The average rent in the zamindari areas is Rs. 1-3 6 per acre of all cultivated land and in the Damin-i-Koh is annas 13 and pies 3 per acre. The average for the whole district is Rs. 1-2-2 per acre. This is the average rent per acre of rice land and upland both taken together. The average for rice land would of course be much higher and for upland much lower, but we cannot calculate these separately as there are no separate figures for the assessment of rent on each class of land.

101. These rates are of course lower than the rates of any Bihar district, but conditions there are quite different and it is more appropriate to compare them with the rents current in Chota Nagpur. It is very difficult to make any accurate comparison. If the average incidence of rent on the total cultivated area is taken the comparative figures are as follows :--

					Rs.	a.	p.	
Ranchi	• •	••	••	••	0	9.	1 per ac	ere.
Hazaribagh	• •		••	••	1	1	4 ,,	
Palamau	••	` 	••	••	1	4	2,,,	
Manbhum	••	••	••	• •	. 0 .	14	2 ,,	
Santal Parga	nas	••	••	••	1	2	2 "	

But these figures are misleading because rice land is much more valuable than upland and carries a much higher rent. The proportion between the amount of rice land and the amount of upland varies enormously in different districts. These proportions are roughly as follows :—

•	U a	-	•		
Ranchi	••	••	••	1:2	
Hazaribagh	••	••	••	1:1.6	
Palamau	••	•• •	••	1:5	
Manbhum	••	••	۰.	1:0.7	
Santal Parganas	••	• •	••	. 1:09	

The figures of average rent per acre therefore give us no idea of the comparative level of rents for rice land which is the important point to determine.

102. We have there fore examined the various rates of rent in force for different classes of land in the districts of Chota Nagpur and in the Santal Parganas. Figures showing the maximum and minimum rates are given in the statement annexed o this chapter. The mean figure for the Santal Parganas in the case of rice land is higher than that for any other district except Palamau; but again these figures do not furnish reliable guidance. because the average rent paid for rice land is not the same thing as the mean between the highest and the lowest rate of rent. This may be illustrated by examining the rates in the Santal Parganas. Sir Hugh McPherson in his settlement report of the Santal Parganas classified the rice land in the district into (a) "low rates" which do not exceed Rs. 3, Rs. 2 and Re. 1 per acre for 1st, 2nd and 3rd class land respectively, (b) "average rates" which lie between Rs. 3 to Rs. 4, Rs. 2 to Rs. 3 and Re. 1 to Rs. 1-8-0 per acre for the three classes of land; and (c) "bigh rates" which were above Rs. 4, Rs. 3 and Rs. 1-8-0 respectively. On this classification he and Mr. Allanson found that 3,068 square miles or 60.35 per cent were on low rates, 1,436 square miles or 28.25 per cent were on average rates and 580 square miles or 11.4 per cent were on high rates. The highest rate of rent is Rs. 9 and the lowest is Re. 0-10-0 and the mean of these is Rs. 4-13-0. Therefore more than 88.5 per cent of the land in the Santal Parganas is held on rentals lower than the mean between the highest and the lowest rates. We do not know the proportions in which rice land is held at rates above or below the mean rent rate in other districts as these figures have not been calculated in the settlement reports. It is clear therefore that a comparison of mean rates or of maximum and minimum rates is of no help and we can come to no accurate conclusion from them.

The general impression which we have formed is that the rates of rent in the Santal Parganas as compared with those of Chota Nagpur occupy a middle position, higher than those of Ranchi, very slightly higher than Manbhum, but less than Hazaribagh and very much less than Palamau. In a previous paragraph it has been noted that the productivity of the soil in all these districts is much the same and our general conclusion is that although the rents are not low they cannot definitely be described as high.

103. The highest rents are found in certain villages in parganas Sultanabad and Ambar, in a small portion of the Deoghar subdivision and in part of the Godda subdivision, and we think that there is a case for making an examination into the rent levels in these areas to see whether they require reduction, particularly so in parts of Godda subdivision. The yield of the land in the zamindari portion of this subdivision is lower than in any other part of the district. The outturn of 1st class, 2nd class and 3rd class rice land was found on the basis of numerous experiments during the last settlement to average 133 maunds, 113 maunds and 81 maunds against the district average of 22 maunds, 18 maunds and 8 maunds. Every available acre of land has been enclosed for rice cultivation, although a good deal of it is unfit to produce a crop more than once in three or four years. Irrigation is impossible in much of the area and the rainfall is low. It was found necessary during the revision settlement to , reduce the classification of large parts of Godda thana and even then the Settlement Officer was of opinion that the rents were high.

The rate of rent was enhanced during the recent settlement in the Dikku villages of Patsanda estate and in 66 villages of the Manihari estate, both in Godda subdivision. We seriously doubt the justification for these enhancements. We consider therefore that the question of rent levels in the Godda and Mahagama thanas calls for further examination.

104. The justification for the very high rents in some of the khas villages of Sultanabad and Ambar is not obvious. Sir Hugh McPherson in a report printed at pages 390-391 of Volume II of the Selections from Settlement Papers wrote: "The rent rates of these khas villages of Sultanabad are the highest that I have met in the 3,500 square miles that have so far come under settlement revision in the present operations. It is no doubt true that the lands of these villages are unusually fertile, but this hardly explains the wide gap that exists between rents in Sultanabad and the average rents of other places". He then examined the history of these reuts and found that they were the result of over a century of oppression by the landlord—the Maheshpur estate. It was the continued ill-feeling between this estate and its tenants more than anything else that led to the passing of Regulation III of 1872. But as these rents had been in force for many years they remained.

In this area (about 31 square miles) and in parts of pargana Ambar where similar rates exist an examination might well be made. The same applies to a small area in Deoghar than where rents are nearly as high.

105. Apart from this, the rates of rent in force in the rest of the district are, generally speaking, neither low nor high, but there is nevertheless much complaint at present, because the sharp rise in rent which took place at the last settlement suddenly increased the burden on the raiyats at a time when depression was already setting in. The total increase in the rents amounted to 30.6 per cent. It is due to a number of causes. It should be stated at the outset that there has been no general enhancement of the rates of rent in the last or in any previous settlement except in certain limited areas already specified.

106. The first cause of the general increase in rent level is the fact that at Sir Hugh McPherson's settlement reclamations had so increased the area under cultivation that Government decided not to assess the full-rate rent leviable on the land. Accordingly a rule was devised by which a certain amount of the total rent was abated where the increase on the previous rent would have been too sharp. This abatement gave a total rental of Rs. 19,47,613 instead of the full assessable rent of Rs. 23,26,726. When the revision settlement of 1922—1935 took place the land became liable to pay the rents at the full rates. Accordingly the raiyats became liable to be assessed to an additional sum of about Rs. $3\frac{3}{4}$ lakhs.

Secondly, new reclamations since Sir Hugh McPherson's settlement have brought about an increase of 17.1 per cent in the area under cultivation and this became liable to pay rent.

Thirdly, a considerable rise took place in the classification of land. This was partly due to the improvement of the land by the efforts of the cultivator himself in converting Bari into Dhani and 3rd class and 2nd class Dhani into 2nd and 1st class. It was also partly due to the natural improvement of previously reclaimed lands, which results after they have been cultivated for some years; and partly to the automatic improvement which takes place in the lower lands as reclamation gradually extends further up the slopes of the village. As most of the district consists of rolling or hilly country, this is a considerable factor. Lastly, changes were made by the Settlement Department where the old classification appeared to be obviously wrong.

107. All these factors have brought about a marked rise in the classification of the land and, taking the district as a whole, the combined effect of the improvement of classification and of new reclamations which amounted to 17.1 per cent of the cultivated area produced the following increases in the various classes of land :--

				•			•
	1st class	Dhani	••	••	••	••	+ 14.6 %
	2nd	do.	* •	••	••	••	+ 46.9 %
	3rd	do.	••	••			+ 21.3 %
	4th	do.	••	••	••		— 5·2·%
	1st class	Bari	••	••	••	••	+ 17.5 %
	2nd	do.		••	••		+ 6.7 %
	3rd	da	•• •	••	••		- 12.3 %
~	÷	0 J I D			• • • • •	~	

108. In the Santal Parganas rents are assessed by the Settlement Department according to the actual classification of the land as it is found at the time of settlement. The majority of the Committee hold that this system is unfair to the raiyat on the ground that a man who improves his land in such a way that the classification is raised is penalized by an increase of rent. This infringes the general principle incorporated in other Tenancy Acts that a raiyat is not liable to enhancement of his rent on account of improvements carried out by his own labour or at his own expense. The majority of the Committee therefore think that where the classification of land has been raised owing to the efforts of the tenant himself the old rent should be restored.

109. It would in practice be difficult to distinguish between fields which have been improved by the raivat's own efforts and those which have been improved owing to the efforts of others in reclaiming or improving their fields higher up the slopes. The majority of the Committee however would disregard this factor. They consider that the question whether the improvement is due to the raivat's own efforts or not is immaterial and that the general principle to be applied is that the landlord is not entitled to any increase of rent except on the ground of an improvement made at his own cost. They accordingly recommend that the classification of land made at the last revision settlement should be reviewed completely and that wherever this classification is higher than that entered in the record of Sir Hugh McPherson's settlement it should be reduced to the former level, unless the landlord can show that the higher classification is due to an improvement made at his cost.

110. The Chairman and Mr. Maheshwar Prashad Jha dissent from this recommendation for several reasons. There is no special sanctity about the classification in Sir Ilugh McPherson's settlement. It merely represented the state of the land at a particular point of time and was in no sense final; and in that settlement also the process of classification resulted in tenants being assessed to rent on improvements that had been made by them since the previous settlement. If the tenant is not to be assessed on improvements other than those made by the landlord, it would logically follow that he should only be assessed on the condition of the land when it was originally cultivatedand this it is impossible to determine. The traditional conception which underlies all forms of rent assessments in India is that the proprietor is This principle automatically gives to the entitled to a share in the crop. landlord a share in any improvement that is made in the land. In countries such as the Santal Parganas and Chota Nagpur, the outturn of the land varies directly according to its situation and therefore according to the classification of the land. If the landlord is, in principle, entitled to a share of the produce, it follows that when that rent is replaced by a cash rent, that rent must be based upon the classification of the land. The landlord is, therefore, entitled to a rent which is based on the value of the land if it is cultivated in a way in which land so situated would normally be cultivated. But where special improvements are made by either raivat or landlord they are respectively improvements are made by either raivat or landford they are respectively entitled to the benefit of them. In practice the tenant is compensated for the improvement that is made in his land by the abatements which are given during rent settlement. It appears to these members impracticable to assess rent on any other basis than the existing classification of land in countries such as the Santal Parganas and Chota Nagpur. They further consider that the proposal of the majority has the serious disadvantage that it mould make the classification of land in vottlement. it would make the classification of land in settlement records unreal, that it would divorce the assessment of rent from classification and would substitute no other principle in its place. Rent in the Santal Parganas would cease to be a rental based on classification and would become a collection of lump rentals assessed on no scientific basis. The proposal would also involve almost a fresh settlement since it would entail re-examination of the classification of all land under cultivation and a fresh rent settlement. They doubt whether the expense and the harassment to the population would be worthwhile since the reduction of rent that would be achieved is not likely to be great.

111. Yet another factor which has added unnecessarily to the burden of rent in many cases is the result of the raiyat's own greed. There was, in the Deoghar and Jamtara subdivisions especially, a regular scramble for waste lands during the last settlement. This process started some years before the settlement reached these areas and was a source of much trouble to the district authorities. The area of waste land fit for reclamation in many villages was limited and the raiyats vied with one another in their attempts to obtain settlement of these lands before the Settlement Department could begin. They

obtained hukumnamas either from the pradhans or from the landlords to create title, but usually did nothing to reclaim the land. In other cases immediately before the settlement began they ran a plough over large portions of the waste land and then claimed these to be in their possession. The Settlement Department had to record all these lands on the basis of their title or possession and the result is that many raights are now assessed to rent for large areas of land which they have not reclaimed and will not be able to reclaim for many years and they are paying a rent for which they get no return. Many of them are now anxious to give up these lands and obtain an abatement of rent. It is difficult to deal with this problem. There are obvious dangers in making legal provision to allow a raivat to abandon a part of his holding, since this might result in the abandonment of a lot of the poorer land already under cultivation. Another possibility would be to permit the removal from the settlement records and a corresponding reduction of rent in the case of land recorded in possession of a raiyat which has not yet been reclaimed. Although this would be both troublesome and expensive and would involve alteration of maps and revision of the rents in a very large number of holdings, we think that it is feasible and should be done. We suggest therefore that a temporary regulation should be specially enacted which would give raivats the right to apply within 12 months from the date of enactment to have expunged from the settlement records, maps and raiyati khatians any 2nd class Bari land recorded in the current khatians which was not recorded in the jamabandi land of the village at the previous settlement. This would enable raivats to get rid of the surplus land which has never been cultivated while at the same time it would prevent the relinquishment of any but the worst type of land.

112. The causes which brought about the heavy increase in rent have been described. But the full increase of rent brought about by these causes was not assessed on the raiyats. If the full rate rents had been imposed the rent would have risen from Rs. 19,47,613 to Rs. 28,32,972. But abatements were granted as in the case of the previous settlement and the actual rent assessed is Rs. 25,34,293. In other words, only two-third of the legal increase in rent was actually assessed on the raivats. This, however, is less than the abatement that was given in Sir Hugh McPherson's settlement, where there was an abatement of about $3\frac{3}{4}$ lakes on a total demand of Rs. 23,26,726. It is probable that if the settlement had taken place after the depression set in a larger abatement would have been allowed. But this would not have solved the present difficulties. For even if a two-third remission had been given instead of one-third it would have reduced the present rents only by about 12 annas in the rupee. It is not the rent level that is the prime cause of the present difficulties : for the arrears of rent are just as heavy in the Damin-i-Koh where rents average only Re. 0-13-3 or one-third less than in the rest of the district. These rents cannot be described as high. The main causes are rather to be found in the fall in prices, collapse of the lac trade, a succession of rather poor crops and the increasing pressure of population. The population rose by 14.29 per cent between 1921 and 1931 and the density is 376 to the square mile which is heavy for country of this type. It is slowly increasing. Various witnesses have spoken of an increasing reluctance as distinct from an inability to pay. But it is difficult to know what weight to attach to this: the main causes of depression are certainly economic.

113. Our conclusion therefore is that the general levels of rents in the district are medium rents but that in certain local areas the rates of rent are too high. Our investigation was not exhaustive and was limited to the general features of the problem. We are therefore not in a position to make detailed recommendations. Our proposals may be summarized as follows:—

(1) We have proposed elsewhere that provision should be made on the lines of section 112-A of the Bihar Tenancy Act or 85 of the Chota Nagpur Tenancy Act to empower Government to make reductions in rent if and where they are really required and we would leave to a separate and more detailed enquiry the question whether such reduction is necessary generally or in particular areas. We have suggested particular areas where we think that au examination should be made at once.

- (2) A majority of the Committee recommend that the classification of land in the settlement records should be re-examined and that where it is higher than in the previous settlement record, it should be reduced to that level.
- (3) A temporary regulation should be enacted to permit applications within a limited time for the removal from the settlement record of 2nd class Bari land which was not included in the village jamabandi land in the settlement record of Sir Hugh Melberson and that the existing rents of these holdings should be reduced accordingly.

(3) Execution of rent decrees.

114. The question of modifying the severity of the laws governing rent execution is treated separately in another chapter of this report. We hope that the suggestions made there may help to work off the arrears that have accrued without undue hardship to the raiyat.

• (4) The economic development of the district.

(a) Expansion of education.

115. The first essential for the aboriginals is more education. Until they have advanced in this respect they cannot hope to compete with their Dikku neighbours or improve their own conditions. The percentage of literacy recorded in the district at the last Census of 1931 is very low indeed, being only 2.90 against a provincial average of 5.2. The figures for aboriginals are even lower. While the percentage of literacy among Dikkus is 4.72 it was only 0.40 among the aboriginals. The wastage is also abnormal. For, although the educational returns show that an average of over 13,800 Santal children have attended school annually during the last 15 years, the Census figures show that there were in 1931 only 3,490 literate Santals.

116. There has been no development of aboriginal schools in recent years; in fact the position is now worse than it was 15 years ago. There is not a single school for the 60,000 Palarias in the Damin Hills. In 15 years the number of Santal children attending school has risen only from 12,020 to 13,448. The number of Santal primary schools has actually decreased from 465 to 403. This was largely due to the financial straits of the District Committee during the period of economic depression which affected all classes of schools. But the salient fact emerges that while between 1922 and 1937 the total number of schools have been reduced by 73, 62 of these were Santal schools. In fast, the most of the education retrenchment of the District Committee has been at the cost of the Santals. It is impossible to acquit the District Committee of the charge of neglecting the interests of the aboriginal population in this matter. Their difficulties of course are obvious. The demand for education is much greater among the Dikkus, the Santals take less naturally to it and it has always been difficult to keep the Santal schools running. When the depression came it was natural that the less firmly established Santal schools should be sacrificed rather than the better attended and more permanently established Dikku schools. The District Committee has had to make its limited funds go as far as it can, and it has therefore spent its money where it would educate the largest number, i. e., in the Dikku villages and in the most populous areas. It is in our opinion impossible for the District Committee or for a district board in the Santal Parganas to make any progress with aboriginal education under present conditions. The District Committee has no margin for expansion in its own budget and its resources are inelastic. We consider that aboriginal education should be treated quite separately and that separate grants earmarked specifically for these schools should be made by Government. If lump capitation grants are made the Dikku schools will always get the preference. There should be a separate programme for the development of Santal schools and the grants should be on an increasing scale to keep pace with the programme laid down.

(b) Improvement of agriculture and irrigation.

117. On the material side development is also needed. The greater part of the district is suitable only for rice land and catch crops and is therefore largely dependent on one crop only—the rice crop. Makai is grown to a considerable extent on Bari land and in Kurwa on the Paharia Hills, but except in the Gangetic tracts of Rajmahal and Pakaur and in the north of Godda there is little rabi. Only about one-ninth of the total cultivated area is dofasli. The large areas of 2nd class Bari grow only catch crops and these only at intervals of three or four years.

118. It should be possible to encourage the growth of subsidiary crops but this is largely dependent on improved irrigation. Irrigation is poorly developed and much of what exists has been neglected. The provisions of clause 11 (c) of the record of rights and of section 28 (a), (d) and (f) of Regulation III of 1872 have not been enforced—in recent years no attempt has been made to enforce them. In the Patsanda estate an enhancement of rent was granted to the landlords on the ground that they had spent large sums on irrigation works; but most of these have not been effective for years and since the settlement little has been done to make them so. There are numerous irrigation systems in Godda, but there are hardly any that are in working order. It is desirable that steps should be taken to secure the' maintenance of irrigation works as the record of rights intended and for which purpose the law provides powers. If the penalties provided in section 28 of Regulation III are not sufficient to ensure this they should be increased.

(c) Revival of lac industry.

119. It is probably impossible to do anything locally at present to revive the lac industry since this depends on international factors; but if ever that industry is rationalized the lac-growing industry should be organized. This is of course a question which affects very much larger areas than the Santal Parganas.

(d) Development of village industries.

120. There is room also for the development of rural industries. The Santals formerly did a great deal of weaving: this has been declining for a long time though there is still a considerable weaving industry among the Momins in the Damin. Government have for a number of years endeavoured to expand this industry; but there appears to be room for further effort. Other subsidiary industries such as silk rearing and sabai have room for expansion.

(e) Suggestions for a Development Board.

121. The problems of the Santal Parganas and of other aboriginal districts are in this respect rather similar, and we suggest that a Development Board or some such organization should be set up for the aboriginal districts as a whole which would examine and work out schemes and programmes of development to be financed from provincial or from funds raised locally, covering rural industries, agricultural and minor irrigation, improvement of cattle, etc. This Board might have representatives of the legislature and of each district and an Executive Officer in each district to carry out the schemes under the supervision and control of the District Officer. Some members of the Committee think that it would be better to have a separate Board for each district; but we doubt the wisdom of this, as it would be unduly complicated, would result in a competitive scramble for funds by different districts, would lack co-ordination and would provide too much room for local dissensions and the interference of conflicting interests. As the question is not a local one but concerns a number of other districts, we do not attempt to make definite recommendations as to the form of organization that should be adopted. This is a matter for consideration by Government.

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Statement showing pitch of rent rates in Chota Nagpur and the Santal Parganas.

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RESTRICTIONS ON THE RIGHT OF TRANSPER.

122. One of the primary objects of the Santal system is to protect the cultivator against expropriation from the land and to preserve intact the village community and the continuity of its rights in the land. It is essential to maintain this protection, for the history of the last eighty years has shown that whenever restrictions on transfer were relaxed expropriation and abuses increased. The oppression of the Mahajans and the misuse of the courts resulting in the rapid expropriation of the Santals from the soil were among the main causes which led to the rising of 1855. The Santal system of administration was then created for the protection of the aboriginals ; but soon under a mistaken application of Act X of 1859 the raivats and the pradhans rapidly hegan to lose their lands in rent sales. Wood's settlement of 1873-81 and Regulation III of 1872 restored control and established two principles of importance, the fixity of the rent settled under the Regulation and the recognition of none but the rent-receiver and the actual cultivator. Subletting either on Bhaoli or on cash rents did not at this stage attract much attention, but a system of free transfer began to spring up because for the first time there were definite rights which could be transferred. During the next fifteen years sales and mortgages began to increase and within ten years of the settlement over 50,000 transfers had taken place. By 1876 transfers of this kind had already increased so much that Government had to forbid the sale or transfer of raiyati rights and to order that this prohibition be incorporated in the record of rights. In 1887 they had to re-inforce this with a declaration that raivat's rights are not transferable except where they have been so recorded in the record of rights, while section 25 of the new Regulation II of 1886 prevented the ejectment of a raivat from his land except by an order of the Deputy Commissioner. Transfer by mortgage and sale being stopped, attempts were first made to circumvent the law by fictitious abandonments followed by a collusive re-settlement with a benami purchaser by the pradhan At the same time subletting developed. of the village. Lands were permanently alienated under cover of subleases. Mahajans came in practically as usufructuary mortgagees and in many cases they put the original raight in as Bhaolidars in their own holdings. The bigger cultivators sublet their lands on Bhaoli or cash rents in excess of the settlement rates. The latter was known as korfa. This development struck at the root of the principles established in 1872 that there should be no one between the cultivator and the rent-receiver and that rents should be fixed. The district courts between 1881 and 1894 developed a case law based on two principles; the first that no rent could legally be taken in excess of the rents fixed by the settlement was at once approved by Government: the second that the possession of the Bhaolidar or sublessee was protected by section 25 of Regulation II of 1886 began to operate after 1886. The effect of these two principles was to make subletting precarious. The matter was finally set at rest by the addition of section 27 (2) of Regulation JII of 1872 in the year 1908 which placed a comprehensive bar on all kinds of transfer except in so far as such a right has been recorded in the record of rights. During the present depression there has again been 'a recrudencence of subletting and Bhaoli.

123. This historical résume is given to illustrate the fact that relaxations in the matter of transfer have always been followed by a rapid growth of alienation and of exploitation and the fact that it has from time to time been necessary rather to tighten up than to relax the law. Of course the present total prohibition on transfer cannot be maintained for ever, but the time has not yet come when that valuable means of preserving the cultivator on his land can be dispensed with.

124. The question that the Committee has had to consider is whether any relaxation can or should be made now. We think that some relaxation may now be made in the case of Dikkus, but none in the case of aboriginals. The previous history of the district points to the dangers of any relaxation for aboriginals, and the reports of Messrs. McAlpin and Robertson published in 1908 and 1914 on the condition of the Santals in the neighbouring district of Birbhum show the level to which an aboriginal population falls when placed under the ordinary transfer laws. In pargana Sultanabad too where a restricted right of transfer exists the Santal population is gradually dwindling. For the Dikku population the position is not the same. Although some of the lower castes benefit as much from protection as do the Santals, the Dikku community as a whole is more advanced and more able to look after itself. We find in the Santal Parganas a clear division between the Dikku and nor-Dikku population, but it is not practicable to distinguish in the same way between different sections of the Dikku community. We therefore propose to treat the Dikku population all alike and to make some relaxations in the transfer law for them.

125. It is necessary before proceeding further to specify more clearly the classes that are covered by the terms "Dikku" and "non-Dikku". In note (2) to clause 12 of the record of rights of the First Programme of Sir Hugh McPherson's settlement the term "non-Dikku" is defined as including "Santals, Paharias, Mahulis, Koras, Kols (i.e., Mundas and Uraons), Dhangars, Rajwars, Doms, Haris and Bauris" and in the Third Programme the Dikku is defined as a person "who does not belong to an aboriginal or semi-aboriginal tribe or caste". It was apparently felt that the first definition was too narrow. The line between semi-aboriginals and Hindus has not been finally demarcated and in the Census and in the franchise rules under the new Government of India Act different classifications have been given. In the new Chapter VII-A of the Bihar Tenancy Act restrictions on transfer have been imposed in the case of Bhuiyas and Kherwars in addition to the castes or tribes mentioned above. It might with reason be argued that in the Santal Parganas Khetauris are also semi-aboriginals, but we have deemed it best to adhere to the recognized classification which was made in the record of rights of the First Programme of Sir Hugh McPherson's settlement. We consider that Government should on the lines of section 49 (B) (2) of the Bihar Tenancy Act retain power to give protection to other castes or tribes if it is considered necessary.

126. The question of the transfer law may conveniently be considered under the four heads :--

(1) Sale;

- (2) Gift or will;
- (3) Mortgage;
- (4) Subletting.

(1) Sale.

127. We are satisfied that there is no general demand among the population for the grant of a right of sale. We are informed that even in Deoghar, the most advanced part of the district, public opinion is generally against it. The District Congress Committee which has made investigations in the matter is opposed to it for any class of cultivators. The effects of the existence of a right of sale in parts of Pakaur and Rajmahal subdivisions are sufficiently startling. The figures collected during the revision settlement show that in the Rajmabal and Barharwa thanas there are 39,901 recorded holdings and that 28,242 transfers took place in these holdings in the period which elapsed between Sir Hugh McPherson's settlement and the revision settlement. In the transfer area in Block E of the revision settlement programme there were 62,224 holdings and in these 30,016 transfers had taken place. The transfers in Rajmahal and Barharwa have resulted in much fragmentation and a steady influx of cultivators from Bengal. It is apparent therefore that a right of sale might result in a rapid change in the tenantry and it cannot be doubted that the aboriginals and the poorer Dikkus would be rapidly removed from the land. The effects of a free right of sale in Birbhum have already been mentioned. It would also change the whole character of the village community and would rapidly break up the old self-contained communities which still exist. The real demand for a right of transfer comes from

the Mahajans, the Bengalis and some of the bigger cultivators. The ordinary cultivator does not ask for it and does not desire it. We are agreed therefore that no right of sale should be given to any class of raiyats.

(2) Transfer by gift or will.

128. It has been suggested that any raivat should have the power to make gift of the whole or part of his holding to a near relation or to a public There is no need to make any provisions for gift to public bodies or body. charitable institutions, since land can be acquired under section 25-A of Regulation II of 1886 by the proprietor and transferred by lease or otherwise to the requiring body. The proposal to allow transfer by will raises at once an important question of Santal law. Under the old Santal customary law of inheritance women do not inherit property. There is an exception in the case of a daughter whose husband has been taken into the family as a ghardijamai. He acquires the position and rights of an adopted son, but generally speaking, widows and daughters have no generally right of inheritance. They are entitled to a limited form recognized of maintenance, but this is not always given and cases of hardship do occur. The hardship is particularly felt among the more advanced Santals, particularly Christians, and there has been for many years a slow trend towards a change in the law which would give women a recognized position. But there is as yet no unanimity among the Santals on this question. We examined a number of witnesses on this point, among others the President of the Santal Malko Sabha. Even this body which represents more advanced opinion was not in favour of permitting a Santal to transfer by will to his female descendants anything except his self-acquired property; and the President admitted that this change would have little practical effect, since the laws against alienation practically limit the self-acquired property to such land as the raiyat has himself reclaimed. A change in the customary law has not yet established itself or been generally accepted among the Santals, and we consider therefore that it would be premature to attempt to enforce such a change by legislation. It is better to leave the customary law to develop naturally and gradually, and for this reason we think that civil cases involving questions of the Santal law of inheritance should, where possible, be referred to arbitration by Santal arbitrators. If the change is desired by the Santals it will thus evolve naturally and will secure increased recognition. When it has been fairly generally accepted the time will come for making statutory provision to recognize such a right of inheritance.

129. We would however suggest that an up-to-date memorandum should be prepared after due inquiry setting forth what is the actual state of the Santal law on this question. The only source of information for courts and others who have to administer the law is a note prepared many years ago by the Rev. Dr. Bodding.

130. Among Dikkus the grant of a right of transfer by will or gift is unnecessary in order to secure female rights of inheritance, since the position of women under the Hindu and Muhammadan Law is already established. Apart from the position of women this right has little importance. We therefore do not recommend that it be allowed.

(3) Mortgage.

131. The Committee is impressed by the fact that much surreptitious mortgaging has taken place and that in many places Mahajans and Dikkus are in *de facto* illegal possession of the land of aboriginals. As they often fail to pay the rent, the raiyat is frequently in a worse position than if there were a recognized right to mortgage. The absence of this right also creates difficulties in obtaining loans. But the introduction of the right to mortgage, on the other hand, involves many dangers. In practice it would be almost tantamount to granting a right of sale; as sale is prohibited, sales would simply be described as mortgages. The mortgagors would take no steps to regain their land and in practice the land would pass permanently out of the hands of the raiyat. Even if the right were limited in the case of non-Dikkus to mortgages between persons of the same community, this restriction would certainly be circumvented by the simple device of employing benamdars. Once the right of mortgage is granted there is no effective means of ensuring that the land returns to the mortgagor on the expiry of the mortgage period. In Chota Nagpur where the raiyat is permitted to give a complete usufructuary mortgage for a limited period the law has attempted to provide for the restoration of holdings. Under section 46 (4) of the Chota Nagpur Tenancy Act, 1908, a raiyat has the right to apply to the Deputy Commissioner to be restored to possession, but the right is not often used and apart from an application by the raiyat there is no means of enforcing restoration. As a matter of fact mortgagees often hold on for years. There is in fact no effective control in this matter. The compulsory registration of mortgages would be no safeguard, nor would the compulsory notification of mortgages to the Subdivisional Officer. For the statistics of transfer given above show that the number of mortgages would be so large that it would be impossible to exercise any supervision over them. Even if it were practicable to maintain registers and to have the numerous holdings inspected and the mortgagees dispossessed, it would be impossible to ensure that the mortgagee did not re-enter into possession with or without the connivance of the mortgagor. In view of these dangers we consider that in the special conditions of the Santal Parganas, where the aboriginal population is surrounded on all sides by a wealthier and more advanced non-aboriginal population, it is dangerous to relax the existing prohibition on mortgages as far as non-Dikkus are concerned. We have considered the possibility of a restricted right of mortgage between persons only of the same community; but this would be of little use, because the number of aboriginal raiyats sufficiently affluent to take up mortgages is small. We therefore recommend that no right of mortgage should be allowed to non-Dikkus.

132. Our colleague Mr. Maheshwar Prashad Jha dissents from this view. He holds that a mortgage confers no adverse title; even if a mortgagee holds over after the expiry of his mortgage he does so only as a licensee and acquires no title against the raiyat. On the other hand, if a mortgage is not recognized as lawful, then under section 27 of Regulation III of 1872 the mortgagee obtains a title if he succeeds in holding possession over 12 years. In his opinion therefore the raiyat is in a stronger position if the right of mortgage is recognized than if it is not. We think that this weakness could be cured by legislating to create a special law of limitation that adverse possession of an illegal alience shall not at any time confer a title, no matter how long the illegal possession lasts; and we suggest that the proviso (a) to section 27(3) of Regulation III should be amended accordingly. This may appear to be a rather drastic infringement of the general law of limitation, but it has a parallel in the case of the Mundari khunt-kattidars of Chota Nagpur (section 242 of the Chota Nagpur Tenancy Act).

133. We would treat the case of Dikku raiyats differently and would allow them a right to give a complete usufructuary mortgage for a period which may not in any event exceed seven years, on the lines of section 46 of the Chota Nagpur Tenancy Act. We would place one restriction upon this right, namely, that the mortgagee must be a *jamabandi* raiyat of the district. This restriction is suggested in order to keep Mahajans from outside the district, e.g. along the Bhagalpur or Birbhum borders, from coming in. The mortgagee should be made liable to pay the rent of the holding to the landlord or into court and should be liable to immediate eviction and the cancellation of his mortgage on failure to do so. If the mortgagee covers a part only of the holding, the amount of rent due to be paid by the mortgagee should be the rate rent for the area and the class of land mortgaged by him. This provision is suggested in order to avoid disputes as to the amount of rent for which the mortgagee is liable and to prevent the necessity of referring the determination of this rent for a decision of the revenue court.

(4) Subletting.

134. There has been for many years an agitation for the right to sublet, particularly under the arrangement known as *Bhaoli* or *Batai*. This is at

present forbidden by the Settlement Regulation (Regulation III of 1872) and by the terms of the record of rights. There was considerable controversy about it during last revision settlement. But the practice has always been common and is regarded by the bigger cultivators almost as a necessity. The practice is convenient also to poorer cultivators who have lost their land through eviction or who have insufficient land of their own, but it not infrequently leads to permanent indebtedness to the recorded raiyats and in the form known as Krishani is often indistinguishable from serfdom. In modern times Bhaoli or Krishani has always been regarded by the courts as a form of subletting and therefore contrary to law. Those who practise it describe it as simply a labour contract, but the distinction between a sublease and a labour contract depends upon the question whether or not the cultivator of the land shares in the vicissitudes and risks of the season and the crop. Under both the Batai and the Krishani system remuneration depends entirely on this and it has therefore been held to be a sublease. After some discussion we have come to the conclusion that it would be dangerous to recognize Bhaoli or Krishani as a legal transaction not only because it often results in serfdom, but also because it would present great opportunities to the Mahajans to gain a recognized footing in the villages. It is already difficult enough to keep him out and we do not wish to make it easier for him to get in.

135. There are certain cases of hardship for which it is necessary to make provision, such as temporary absence of the raiyat due to employment elsewhere, temporary emigration to the tea gardens or to collieries, sickness or physical incapacity, loss of plough cattle through seasonal calamity or poverty, the cases of widows and minors who are unable to cultivate their lands themselves, etc. Clause 13 of the record of rights already states that "to make over a holding in trust to another in case of absence, sickness or for the like exigency is not a *korfa* or a sublease" but the extent of latitude allowed by this clause is somewhat vague and uncertain and we suggest therefore that it should be modified as follows: "to make over a holding temporarily for cultivation or management to a *bona fide* cultivating raiyat of the village in case of—

- (a) temporary absence,
- (b) sickness or physical incapacity,
- (c) loss of plough cattle through seasonal calamity or poverty,
- (d) widows or minors,

or the like exigency is not a *korfa* or a sublease". Under (a) and (c) the period should not be allowed to exceed five years. This should make sufficient provision for cases of hardship and we would leave the existing law prohibiting subletting as it stands.

CHAPTER XIII.

THE PRADHANI SYSTEM AND THE COLLECTION OF RENTS.

136. The most serious administrative problems in the Santal Parganas at present are connected with the collection of rent. Arrears have mounted up rapidly and the number of rent suits is very large. The system under which rent is collected has undergone a severe strain and the procedure of rent execution has in some respects proved too rigid. In particular the *pradhani* system shows every sign of a rapid breakdown under the strain. Unless something is done at once to ease and improve the position of the *pradhan* the system must collapse. Many of those who have given evidence before us are so convinced that it cannot be saved that they, have urged its immediate abolition. We are equally convinced that this would be a disaster and that it must be averted.

137. It is important that the value of this institution to the district. should be fully realized. The pradhan has a triple function. He is firstly the head of the self-governing village community. As such he has social and religious duties to perform and he decides disputes and is head of the council He is secondly the representative of the village in its dealings of elders. with the landlord and is its bulwark against the interference and harassment by the landlord or his Amla. Under this system the landlord has very little connection with the village except to receive the rents paid to him by the pradhan. He cannot exact abwabs, salami or forced labour. He cannot sue the raiyats but only the pradhan. The pradhan controls the settlement of waste land and the settlement of fauti and ferari holdings, subject to supervision in certain cases by the Subdivisional Officer. Thirdly, the pradhan represents the village in its dealings with Government. He collects the cess and the chaukidari dues, he has police duties in connection with the reporting of crime and the arrest of offenders and he is the guardian of the village record of rights. It is his duty to see that forest and other rights are properly exercised, that the roads, paths and irrigation works are maintained, etc., etc. The pradhan often fails to fulfil the role allotted to him and he is often a slack guardian of the village rights : but, however he may fail, his essential value to the community as their bulwark against the interference of the landlord remains. This system makes for contentment in the village and freedom from oppression ; in normal times it results in better and more punctual collection of rents than khas management and it reduces litigation and expense both for the landlord and the raiyat; and it also keeps alive the village community spirit and its independent character. All these are features too valuable to let go and the contrast in areas where the system has died out or has never We therefore attach the greatest importance to its existed is marked. preservation.

138. But the *pradhani* system has been declining for a number of years; partly because it is difficult to work it in mixed villages of aboriginals and non-aboriginals and still more so in purely Dikku villages; partly because landlords have striven to get rid of it, though it must be admitted that the better landlords realize its value and support it. Latterly the agricultural depression and the rigidity of the system under which *pradhans* hold office has accelerated the decline. It has happened in this way.

The pradhan is responsible for the payment of the rent of all raiyats in the village to the landlord. If he cannot collect them he is responsible himself. His own raiyati holding (pradhan ka jote) is security for the village rent and if he defaults through negligence or dishonesty he is liable to eviction from all his land. In the period of 17 years ending in 1922-23, 1,507 pradhans were so evicted—an average of 88 per annum. This was regarded as so serious a state of affairs that Government ordered an investigation into the pradhani system which resulted in amendments of the law designed to protect pradhans against manipulation of the landlord's accounts and to enable him to collect his rents from the raiyats more easily. Nevertheless in the five years 1932 to 1937 no loss than 1,790 pradhans have been evicted, i.e. the rate of eviction has increased fourfold, and in 1936 actually 696 pradhans were evicted. There were in all 7,751 pradhans in the district and nearly one-fourth of these have been evicted within five years. In February of this year there were proceedings in execution of rent decrees pending against 1,328 pradhans. There has been a fall in the number of rent suits in the last year and the number of pradhans evicted fell to 272. The pradhans throughout the district are in a state of great apprehension, many of them wish to surrender, their offices and it is very difficult to get any one to come forward to accept the post of an evicted pradhan.

139. The situation calls for immediate action to relieve the present crisis and for measures to make the *pradhan's* position more secure for the future. The profits of his office have been gradually dwindling. In many parts of the district there is little waste land left for settlement and the right to settle such land for reclamation and to appropriate the rents till the next settlement is of little profit to him. *Pradhans* are no longer able to retain *fauti* and *ferari* jotes in their own hands for any length of time because the growing population has increased the competition for settlement of land. The commission received from the landlord is precarious. For if the entire rent of the village for each kist is not paid by the *pradhan* punctually by the kist date, the *pradhan* forfeits the whole of his commission and is liable for interest on the arrears. There must be some thousands of the *pradhans* who have earned no commission in the last few years.

We propose therefore that the following changes should be made.

(1) Official jote.

140. Every pradhan is supposed to have an official jote which accompanies the office, apart from his private jote which is pledged in security for the village rent. This official jote is meant as a reserve the profits from which help him to pay up rents when the raiyats default. In some villages there is no official jote, in many others it is deficient. Systematic steps should be taken to increase the official jotes where they are insufficient and to create them where they do not exist. The only source from which they can be provided is from fauti and ferari jotes. In future all fauti and ferari jotes should be reported by the pradhan to the Subdivisional Officer and should be automatically converted into official jote until that jote has reached an adequate size. We suggest that the standard to be adopted is that the rental of the official jote should be equal to 1/12th of the total assessed rent of the village. The process of building up the official jotes in this way will be slow : it depends on death without heirs or abandonment. They could be much more rapidly built up by converting into official jotes all holdings from which raiyats are evicted for arrears of rent until the required standard is reached. But this expedient is too dangerous, since it might often result in attempts by pradhans to get raiyats evicted by fraud or suppression. The pradhan should also have a prior claim to the reclamation of land to be added to the official jote; but we doubt whether this will be any incentive since he will always prefer to attach it to his own jote.

(2) Abatement of rent of private jote.

141. In view of the time that is likely to elapse before official jotes are built up to the proper standard, we recommend that where the official jote is non-existent or deficient the *pradhan* should receive an abatement of rent in his private jote proportionate to the amount by which the official jote falls below 1/12th of the village rent. This is rather inadequate substitute for the profits of an official jote; but we cannot in fairness to the landlords suggest more.

These proposals, (1) and (2), should not apply to mulraiyats.

(3) Commission on payment of rent to landlord.

142. The commission payable to the *pradhan* is one anna in the rupee paid by the raivats and one anna in the rupee paid by the landlord. We do not recommend any increase in this commission. But the conditions under which the landlord's commission is earned are too stringent. The pradhan receives nothing from the landlord unless the rent of each kist is fully paid up to time. The pradhan should receive commission at the full rate of $6\frac{1}{4}$ per cent on any rents paid within time and at half that rate for rents paid within six months of the kist date. This proposal has been negatived in the past on the ground that it would encourage slackness in rent collection. This risk must be faced; and there is not much risk at present, as pradhans are only too auxious to collect the rents, if they can, to safeguard their own jotes.

143. A majority of the Committee consider it unfair that the raiyats and the landlord should pay the commission in equal shares. They hold that the landlord benefits most from the existence of the *pradhan*, since it provides him with a cheap collection staff and ensures a high standard of collection and they recommend that the commission should be redistributed so that the landlords will pay one and half annas in the rupee and the raiyat half an anna. The Chairman, Mr. Maheshwar Prashad Jha, and the Rev. Mr. Rosenlund dissent from this view. They consider that the raiyats benefit no less than the landlords and point to the fact that the *pradhani* system has been fostered by Government all these years because of its protective value to the raiyat. They consider that while the change proposed by the majority may relieve the raiyat of a very small payment it will impair the security of the *pradhan*. As matters are at present he is sure of his one anna in the rupee on any rent that he collects from the raiyats. If the proposed change is made he will be sure of getting only six pies in the rupee and the other one and a half anna to be paid by the landlord will depend on his ability to collect the rent in full.

144. We do not propose any change in the rate of commission paid to *pradhans* in the Damin-i-Koh: but we recommend that they also should be allowed to earn half commission for rents paid within six months after the 31st March. This can be done by an order of the Deputy Commissioner under clause 3 of the *pradhan's* patta.

(4) Interest on arrears of rent.

145. The rate of interest on arrears of rent should be reduced from $12\frac{1}{2}$ to 62 per cent. This change has already been adopted in the Bihar Tenancy Amendment Act and should be introduced also to the Santal Parganas without delay.

(5) Kists.

146. The kist dates for the payment of rent in most of the district are the 15th Paus and the 15th Chait. It is generally felt that the Paus kist is too early. It comes so soon after the Aghani rice harvest that the raiyat has not sufficient time to sell it and convert it into cash. This handicaps the *pradhan* in collecting as well as the raiyat in paying his rent. At present, except in the Damin, the *pradhan* is allowed no margin of time. We accordingly recommend that for raiyats the Paus kist should be postponed from the 15th to the 20th Paus and that for *pradhans* it should be postponed to the 1st of Magh by an order under section 22 of Regulation III of 1872. We have inquired whether there is any objection to this, but we have not heard of any. Indeed these later kist dates already exist in some localities. The only risk is that this respite gives the Mahajan more time to get in and take his dues out of the crops. We think that he will always get in first in any case.

(6) Joint rent suits against defaulting raiyats.

147. The *pradhan* requires greater facilities in realizing the rent from defaulting raiyats. In 1926 an amendment was made in the Santal Civil Rules (rule 8-A) to enable the *pradhan* to file joint rent suits against all defaulting raiyats in the village and executive instructions were issued to regulate the institution and trial of these suits. But these instructions have been subsequently modified or ignored. It was intended that as soon as a rent suit is filed by a landlord against a *pradhan* the court should obtain

from the pradhan a list of all raivats who have not paid their rents and that the court should of its own motion institute such a suit and issue summons immediately on the raivats to appear in court and make their payments or their defence. It was intended then that the execution of the decrees against the raiyats and the landlord's decree against the pradhan should proceed pari passu and that all amounts recovered from the tenants should be credited towards the arrears owed by the prachan to the landlord. But the courts have not been instituting joint suits suo motu and there are complaints that when the pradhans file suits they are not tried expeditiously. Instead of issuing summons for appearance and payment of the dues the practice is simply to issue notices on the parties and these are frequently ignored. Summons has to be issued subsequently and delay is caused in realizing the arrears for the *pradhan*. Further, the provisions regarding court-fees under the existing rule 8-A are somewhat oppressive. The *pradhan* is not required to deposit the court-fee when a joint suit is filed; but the court-fee is the first charge on the decree and if the execution of the decrees against the tenants fails to realize all the arrears *plus* the court-fee then the *pradhan* himself has to pay the court-fee. It thus happens that the *pradhan* sometimes has to pay court-fees twice on the arrears that he owes to the landlord, once on the suit filed by the landlord against him and secondly on his decrees against the tenants which have not been realized by execution. This is certainly inequitable and adds to the burden of the *pradhan* who has already lost his commission and has to pay interest on the arrears. This burden has been increased by the practice which has grown up of assessing court-fee separately on the claim against each individual raiyat instead of on the joint suit as a whole.

148. The Santal Civil Rules should be amended to provide full statutory instructions for dealing with joint rent suits. These rules should prescribe that the joint suits are to be started automatically against defaulting raiyats as soon as a rent suit is filed against a *pradhan*. The issue of summons against the defaulters in the first instance should be made compulsory. The court-fees should be assessed on the joint suit as a whole and not separately against each defaulting tenant, and, lastly, rule 8-A should be modified so as to provide. that the sums recovered in execution shall be applied first to the satisfaction of the decree and not to the satisfaction of the court-fee. The objection may be raised that the court-fee is always the first charge on a decree. The answer is that Government have no equitable right to receive court-fees twice on the same arrears of rent and that if Government wish to maintain the *pradhani* system in the Santal Parganas they should be prepared to make this small sacrifice to lighten his burden. We do not think that these increased facilities need lead to abuse or encourage the filing of false claims by the *pradhan*. Effective provision to deal with this already exists in the Santal Civil Rule 29.

(7) Limitation for rent suits against pradhan.

149. Prior to 1926 the limitation for rent suits brought by a landlord against a pradhan was three years from the date of the default. The landlord could therefore delay three years before suing a pradhan. Execution proceedings need not be instituted for another 12 months and might continue for another three years or more. Under this system rents accumulated for five or six years and it was frequently impossible to satisfy the decree except by evicting the *pradhan* from his land. It also facilitated malpractices in th landlord's office and it was repeatedly found that certain estates made a practice of manipulating the pradhan's rent accounts so as to increase the arrears and of postponing rent suits as long as possible in order to secure the ruin of the pradhan and the return of the village to the khas possession of the landlord. For many years the local officers had recommended that the limitation for rent suits against the pradhan should be reduced to one year, and in the year 1925 this was accepted by Government and clauses 27-A and 27-B were added to Regulation III of 1872 reducing the limitation to one year and requiring the landlord to give the pradhan annually a full statement of his rent account. The idea was to make the manipulation of accounts and calculation of interest impossible by making all the rent accounts immediately available to the

court and the pradhan, and secondly, to ensure that arrears were not allowed to accumulate to such an extent that it would be impossible to save the pradhan from eviction. The intention was to withdraw from the landlord the choice of the date at which the pradhan should be sued or a decree against him executed, to bring the arrears at the earliest possible moment before the court and to place in the hands of the Subdivisional Officer and the Deputy Commissioner instead of in the hands of the landlord the discretion to give the pradhan time or to allow payments by instalments, etc. There is a danger that if such suits are unintelligently treated the new law might be more oppressive than the old, for it is possible under this law to evict a pradhan for the arrears of a single year. It was not intended that this should be done, unless there were exceptional circumstances. As a matter of fact it has happened. The executive instructions which were issued for dealing with these cases have not been sufficiently observed. The system of allowing payments by instalments which was meant to be normal, became the exception. The landlord's accounts are not usually examined unless the pradhan himself contests their correctness. The rush of suits against pradhans in the last few years has made it difficult for Subdivisional Officers to examine cases in detail and very large numbers of *pradhans* have been evicted. There is no doubt that the one-year limitation has not operated satisfactorily and has become oppressive.

150. The question now is whether the old limitation of three years should be restored. Many people ask that it should. The pradhans feel that it would in the present difficult circumstances give them a respite. After anxious consideration we have come to the conclusion that although the system of one-year limitation has worked badly it should not be abandoned. It is not the principle of the one-year limitation that is wrong but the manner in which it has been worked in practice. The experience of many years demonstrates clearly that the old system of three-year limitation was ruinous to the pradhan. If that was so in normal times, it would be still more so in the present period of depression. It would automatically lead to the accumulation of several years' rent and since a very large number of *pradhans* are already in arrears it would merely make their ultimate eviction a certainty. We consider therefore that the one-year system should be tried for a further period but that the principles on which it was originally intended to operate should be restored. There is no reason why it should result in the earlier eviction of the pradhan than the three-year system. Eviction is not the automatic result of the decreeing of a suit for one year's arrears of rent. Eviction need not take place so long as the pradhan's security is sufficient to cover the arrears. Indeed under the pradhan's patta the Deputy Commissioner is not obliged to evict him at all except for negligent or malicious default. In fact just as much latitude can be given under this limitation as under the old and the necessity for eviction should arise at exactly the same stage in both. It is not governed by limitation but by the value of the pradhan's security and his ability to pay. The one-year system is certainly more troublesome to administer since it requires an annual scrutiny of the position of every defaulting pradhan. It also compels the pradhan to come to court more often. But if it is properly administered, the pradhan is secure until the stage when eviction would in any case be inevitable. If the joint rent suits against defaulting raiyats are dealt with simultaneously and expeditiously it should be possible to enable the pradhan to recover a considerable portion of the arrears and pay them up. We therefore recommend that it be given a further trial and that its working should be closely watched for the next three years. If it fails again, it will probably have to be abandoned.

(8) Khas possession before eviction.

151. The severity of the law under which rent decrees are executed can also be tempered. As this is a matter which affects not only the *pradhan* but all raiyats it is discussed in a separate chapter. It is necessary here to consider only the measures to be taken to deal with the very large number of decrees about 1,328—now pending against *pradhans*. The eviction of *pradhans* cannot be allowed to continue at the rate at which it has gone on for the last five years. The Deputy Commissioner and the Subdivisional Officers have in fact recently reverted to the alternative procedure of giving khas possession of the village and the *pradhan's* jote for a number of years sufficient to clear off the arrears, subject to a maximum of ten years. This was the only line to take, but we would go further. For the present, unless the *pradhan* has been negligent or has embezzled the rents —

- (a) khas possession should be given and should be limited to seven years, and
- (b) the pradhan should cultivate his own holding on Bhaoli for the landlord for the period of khas possession provided that if he breaks the conditions of this arrangement he becomes liable to eviction by the Deputy Commissioner.

152. Of course if the default is due to dishonesty or negligence there is no reason to show leniency. The landlords complain that under the khas possession procedure they can rarely collect all their arrears within the period allowed. That is probably quite true; but in present conditions it is not a valid objection. A remission is seldom or never given to a *pradhan* by the landlord and in the present circumstances if the application of khas possession for several years results in what is practically a compulsory remission of part of the arrears that seems to us inevitable. There is no reason why the *pradhan* and the raiyat should bear all the loss that abnormal circumstances have produced. If the present policy is followed with these modifications we do not think that any other special measures will be necessary to save the *pradhans*. But of course this special leniency should not become permanent. As soon as the depression lifts more normal methods should be restored. These methods are discussed later.

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CHAPTER XIV.

POSITION OF PRADHAN'S CO-SHARERS.

153. We have received representations that the co-sharers of the pradhan should be relieved of all liability for the rent of the village and that the pradhan's personal share in the jote should be the sole security. When a pradhan is appointed either at settlement or on the eviction of an old pradhan the shares of the corsharers are not pledged as part of the pradhan's security for the payment of rent unless they agree that this should be done. But where a son succeeds his father, then, if the late pradhan's co-sharers were joint sureties, their shares remain pledged and they are given no option.

154. We do not accept the proposition that a co-sharer's interest should never be liable; where it has been pledged with their consent it must be liable. But we consider that —

- (a) such consent should be taken at every appointment of a new pradhan whether by succession or otherwise;
- (b) the co-sharers should have the right to contract out, i.e., to have their shares released from security, at any time after the first five years if the Deputy Commissioner holds that the pradhan is a habitual defaulter, provided that all arrears must be paid up in full before any co-sharer is allowed to contract out.

155. We consider that *pradhans* should be encouraged to give cash security instead of or to supplement the security of their land, such security of course being placed in revenue deposit. But it is doubtful whether many *pradhans* will be able to do so.

156. Where a *pradhan* and his co-sharers are jointly responsible for the rent it not infrequently happens that either the *pradhan* or some of his co-sharers fail to pay the rent and the other co-sharers are obliged to make the payment in order to save the holding. In these cases they are sometimes forced to bring contribution suits against the defaulting *pradhan* or co-sharers to recover their shares of the rent. Execution of decrees so obtained is made difficult because the suits are classed as money suits and the decrees cannot be executed against the holding. We, therefore, recommend that provision should be made in the law to enable decrees in contribution suits of this character to be executed against the holding or shares of the defaulting co-sharers.

157. The same difficulty arises in contribution suits between ordinary co-sharer raiyats and similar provision should be made for this also.

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CHAPTER XV.

THE SATISFACTION OF RENT DECREES.

158. We have already suggested in discussing measures to improve the pradhani system-

- (1) that the date of the Paus kist should be extended;
- (2) that interest on arrears of rent should be reduced from $12\frac{1}{2}$ to $6\frac{1}{4}$ per cent.

These proposals apply equally to raivats. In the case of raivats the revised date for the Paus kist would be the 20th Paus instead of the 15th Paus. The other kist dates do not require any alteration.

159. We recommend also that the law should state clearly that rent is a first charge on the holding. We do not think that there is any doubt at all that it is so already, but the question has been raised by several witnesses and it is desirable that there should be no ambiguity.

160. We recommend also that the practice of executing a rent decree in the first instance by attachment of movables and crops should cease. It has already been abolished in the Bihar Tenancy Act. Rent decrees are seldom satisfied by execution against movables : if the amount is small enough to be satisfied in this way it can usually be paid in any case without attachment. Attachment of standing crops is terribly wasteful and results in quite unnecessary loss to the raiyat. If the decree is a heavy one it cannot be satisfied by either of these methods and the result of applying them is that the judgment-debtor in the end loses not only his land but also the standing crop and his movables. Execution for rent should always proceed direct against the holding.

161. There are three methods in force for execution against the holding, viz :--

- (a) by eviction;
- (b) by placing the holding in the khas possession of the decree-holder for a period of years;
- (c) by allowing payment by instalments.

These methods apply equally to *pradhans* and to raivats, the only difference being that in procedure (b) not only the holding of the *pradhan* but the collection of rents also passes into the khas possession of the landlord.

162. In the past it was generally held that the law permitted only eviction from the entire holding. The correctness of that view is very doubtful; part eviction has always been permissible in the Damin under clause 5 of the Damin headman's patta and in the last few years the Commissioner has held that eviction from part of the holding is legal. This method has been freely used since 1936. We think that it should now be recognized definitely as legal and that total eviction should only be applied where other methods will not cover the arrears. We realize that part eviction may often be of no avail, especially in the case of a pradhan, since other raivats will be reluctant to come forward to take settlement of the holding and accept the headmanship unless they can get the entire holding. Total eviction may, therefore, often be necessary in the end. Further the profits of the headmanship are now-a-days so small and the risk attached to the office so great that candidates are not willing to deposit the arrears if they receive in return settlement of land which represents only the bare value of those arrears. But these risks must be faced.

The difficulties are less in the case of an ordinary raiyat.

163. The methods of khas possession and kistbandi should of course be retained and we think that normally khas possession should be limited to a period of seven years. The system is unpopular with the landlords because they complain that they are usually unable to collect their full arrears within the time allowed; it is certainly difficult for big estates to work the system satisfactorily. Nevertheless we consider that this system, which has long been in force, should continue.

As regards the kistbandi system, we have no changes to suggest. It is suitable for small decrees or where the raiyat can obviously pay if he is given time.

164. A suggestion has been made that the Deputy Commissioner should have discretion to sell either the whole or part of a raivati jote in execution of a rent decree where other methods of execution fail. The Committee considers that this should not be allowed in the case of a *pradhan's* jote, but the majority of the Committee are of opinion that it should be allowed in the case of ordinary raivati jotes, because they feel that some provisions for sale is necessary to enable the present heavy accumulation of rent arrears to be cleared off and that a sale even under restricted conditions would fetch more for the judgment-debtor than part eviction. They would however impose the following conditions :--

- (1) the land shall be sold only at the express desire of the judgmentdebtor raiyat,
- (2) the sale shall be made at the discretion of the Deputy Commissioner,
- - (a) a resident jamabandi raiyat of the village belonging to the same community as the judgment-debtor,
 - (b) a resident jamabandi raiyat of the village of another community; provided that the land of a non-Dikku may not be sold to a Dikku,
 - (c) a non-resident jamabandi raiyat of the village belonging to the same community.

The first condition is imposed in order to prevent co-sharers in a raivati holding from forcing a sale by withholding their shares of the rent with the object of buying in the remaining shares.

165. The Chairman does not support these proposals, because it is in his view dangerous to introduce the principle of sale, even when it is done under the Deputy Commissioner's orders. The discretion of the Deputy Commissioner to refuse permission may mean little in practice; for the cases may be so numerous that individual scrutiny will not be possible and the tendency might be for sales to become almost automatic. Further, he thinks that once this principle of sale is admitted in any form, there will be an inevitable tendency to press for its extension into other spheres. He doubts the value of the proposal, because sale must be severely restricted, as the Committee has agreed, in order to keep out Mahajans and prevent the intrusion of outsiders into the village. A sale so restricted will not fetch the full price; it will not produce much more than part eviction.

166. There is one other matter in connection with the payment of rent which calls for notice. Rent cannot be paid by postal money order in the Santal Parganas. In khas villages where the raiyats pay direct to the landlord it would be a benefit to raiyats to be able to do so. It is not necessary for *pradhani* villages, for there is no need for it as between raiyat and *pradhan* and refusal by a landlord to accept rent from a *pradhan* is unknown. The payment of rent by money order is limited to districts in which the Bihar Tenancy Act or the Chota Nagpur Tenancy Act is in force. There is no provision in the Santal laws permitting it. Section 54 of the Bihar Tenancy Act could not be extended to the district as the contents of that section are not suitable for the Santal Parganas. A special section should therefore be enacted to provide for this.

CHAPTER XVI.

THE GHATWALL ESTATES.

167. The ghatwals of the Santal Parganas present some problems to the administration which urgently require solution.

168. In consideration of their performing certain duties in support of the police the ghatwals were granted a special status and protection. Their tenures were assessed to a low rent fixed in perpetuity and were declared inalienable and impartible. The ghatwals were precluded from granting any lease or creating any charge upon their estates beyond the term of their own life except in the case of leases for mining, irrigation or building, for which the Commissioner's consent is required, and for reclamation. The net result is that when a ghatwal dies his debts are simultaneously extinguished. This special protection has enabled the ancient ghatwal families to survive; but only in a state of penury. They are traditionally improvident and the fact that their debts die with them makes them more so. At the same time this incident of their tenure also deprives their creditors of security and the ghatwals therefore cannot borrow except on most exorbitant terms. Documents are executed for amounts which may be anything up to ten times the amount actually borrowed. The result is that most ghatwals leave nothing behind them and their heirs on succeeding to their tenures fall into a course of borrowing on terms which speedily makes them bankrupt. Large portions of their estates are alienated on life leases, decrees are obtained for amounts which bear no relation to the actual borrowings and, since the estates cannot be sold, they pass into the hands of civil court Receiver. Some of the larger ghatwalis are in Receivers' hands almost continually; the ghatwal is a cipher in his own estate and lives on a pittance allowed by the court. There is no money for improvements, the tenants are neglected and the Receiver's primary duty is to extract the maximum amount of revenue from the estates and the tenants for the liquidation of the fictitiously swollen debts. This deplorable condition is all too common.

'169. In the interest of the tenants even more than of the ghatwals themselves something should be done. In our opinion two changes are necessary.

(1) They should be put in a position to borrow on easier terms when borrowing is necessary. The law that no lease may be given beyond the lifetime of the ghatwal should be modified. It is this rigid law which creates so much uncertainty and makes it impossible for the money-lenders to supply credits on any reasonable terms. We suggest therefore that Act V of 1859 should be amended to allow a ghatwal to give a lease of his estate or part of it with the permission of the Commissioner for a period not exceeding ten years (or at most fifteen years) for legal necessity or for a purpose that is for the good of the estate; the lease to remain valid even if the ghatwal dies. This will fix the limit of credit and will give the creditors a prospect of recovery within these limits. It will therefore be possible for them to give the ghatwals easier terms and may do something to prevent the accumulation of enormous fictitious debts.

(2) At the same time means should be provided for dealing with encumbered ghatwals. Practically every one of them is in debt and the relaxation of the conditions for leasing property will not help those who are already deeply in the mire. We therefore consider that an Act or Regulation on the lines of the Chota Nagpur Encumbered Estates Act with suitable modifications should be enacted for the protection of the ghatwals. Most of the suits against ghatwals come before the courts of the Sub-Judges and the regular civil courts have no power to go behind the documents and ascertain what was the real debt. The estate then inevitably passes into the hands of a civil court Receiver until the ghatwal dies. Under an Encumbered Ghatwali Act the Deputy Commissioner would have power to ascertain the actual debt, fix reasonable rates of interest, oust mortgagees from possession and put the estate under a scheme of management which would clear the debts. But no scheme for the liquidation of debts is possible if the death of the ghatwal automatically terminates it. Therefore there must be provision that where a scheme of management is prepared it shall continue, even after the ghatwal's death, till the debts are cleared. This involves a breach in the law that a charge cannot be created upon a ghatwali extending beyond the ghatwal's life. But that law itself has contributed much to the trouble and it does not seem probable that the security of the tenures will be impaired by this change, because it should firstly enable mortgagees to give better terms by giving them certainty of tenure and, secondly, safeguard the estates by giving the Deputy Commissioner jurisdiction to determine, actual debts, scale down excessive interest and provide a proper scheme of management.

170. These proposals are not our own. Mr. Hoernle worked out a scheme on these lines in 1927 and prepared drafts for the necessary Bills to carry it into effect. But he was forced to abandon the project because the ghatwals strenuously objected to it. We examined the president of the Ghatwals' Association and we find that the attitude of the ghatwals is still the same. They cling obstinately to the right that their debts should die with them and object both to the proposed extension of the right to lease and to the proposals for managing encumbered ghatwalis: they appear to be unable to appreciate the fact that Mr. Hoernle's proposals really offer them better protection than they have now; but they resent any interference with their right to ruin themselves in their own way. It is an ungrateful task to force protection on a class that does not want it; but we think that it is desirable to do so.

171. There is one more point which affects the administration. The ghatwals are charged with the maintenance of chaukidars in their estates and on failure to meet these obligations are liable to dismissal. The estates of some of them are leased out to Mahajans for the terms of their life and when they default in payment of their police dues it is sometimes impossible to realize the money by certificate, because no property is left in the hands of the ghatwal against which the certificate can be executed. In extreme cases the only course left is to dismiss the ghatwal under the terms of his tenure and appoint a new one. We feel that there should be some less drastic method of recovery than this. Mr. Hoernle as Deputy Commissioner suggested that the rural police cess levied under Regulation IV of 1910 should after the land revenue be a first charge on the estate taking priority over all leases, mortgages or other charges and that the Deputy Commissioner should, in addition to any powers under the Public Demands Recovery Act, have power to attach the rents of any village or villages of the estate for the purpose of recovering the dues and to appoint an officer to receive the rents. We recommend that this proposal should be accepted and the necessary legislation enacted.

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CHAPTER XVII.

POLICE ADMINISTRATION.

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- (a) In the' Deoghar subdivision and in the zamindari tracts of the
 Pakaur, Rajmahal and Godda subdivisions regular police administration is in operation with the usual thana organization.
- (b) In the Damin-i-Koh Government estate there are no regular police and police functions are exercised entirely by the *parganaits* under the direct supervision of the Subdivisional Officers. The Superintendent of Police has no jurisdiction.
- (c) In the Dumka and Jamtara subdivisions police functions are exercised by the elected sirdars under the supervision of the Subdivisional Officers; but owing to the situation of those areas in close proximity to the railway and industrial areas and to the existence of criminal tribes in the area it was found necessary to assist this agency by what is called the "Intelligence Department". This consists of four Inspectors of Police, with a small number of Assistant Sub-inspectors and constables to assist them, who advise the sirdars and supervise their investigations. This police staff is under the direct supervision of the Subdivisional Officers and the Superintendent of Police has no official jurisdiction.

The two "no-police " tracts require separate consideration.

173. Dumka and Jamtara.—It is generally agreed that the Intelligence Department system is not working satisfactorily. The area contains a number of oriminal tribes. It is bounded on one side by the coal-fields and the railway from which criminals find their way into the area. There has been a very marked increase in professional crime particularly in recent years, especially in the matter of dacoity. In the Dumka subdivision the number of dacoities rose from 4 in 1933 to 19 in 1937 and in the Jamtara subdivision there was a particularly bad outbreak of dacoities in the years 1935 and 1936 when 12 and 9 dacoities, respectively, took place. The figures for burglary, which is usually a professional crime, have also been very heavy during these years. In 1935 they rose to 154 in Jamtara and in 1936 to 260 in Dumka. It was found impossible to deal with this outbreak through the sirdari agency alone and a special force of regular police had to be deputed to assist them. The sirdars are themselves unsuited for dealing with professional crime. They are elected for three years only, though of course many of them are re-elected and remain in service for long periods. They are of very varying intelligence and have no proper training. They were in fact never intended for dealing with large outbreaks of professional crime. Further, they do not receive proper supervision. Subdivisional Officers are too busy to supervise the work of over 40 sirdars and as the Intelligence Department Inspectors are not under the direct control of the Superintendent of Police, their work is left very much to their own initiative and good conscience. An order was issued by the Deputy Commissioner in 1924 that Subdivisional Officers should inspect the offices of the Intelligence Department Inspectors at least once a year. We are informed that no such inspection has ever been carried out since that year. It has been suggested to us that the sirdari system might be improved by giving the Superintendent of Police some powers of supervision in serious cases, by extending the period of service of sindars from three to five or seven years and by giving them training. But we do not consider that this compro-mise will be satisfactory. The area forms an easy refuge for professional criminals from outside and the very marked growth of dacoity and burglary in recent years shows that professional criminals are taking advantage of it. We think, therefore, that the time has come to introduce the regular police into the Dumka and Jamtara subdivisions completely. The change is more urgently needed in the Jamtara subdivision. This change will be costly. It is probable that four thanas would be required in each subdivision and the annual recurring cost for setting up this organization would be roughly Rs. 28,800 after setting off the cost of the existing Intelligence Department system.

174. Mr. Davies, the late Deputy Commissioner, was anxious that a place should be found for the sirdars in the new system. These officers perform other functions useful to the administration besides their police duties. They have powers of settling petty criminal and civil disputes and they supervise the collection of chaukidari tax. They are usually persons of some influence in their circles and they are an institution of long standing. Cases both civil and criminal, are also referred to them by the courts for inquiry and report. Mr. Davies therefore suggested that if regular police are introduced, the sirdars should be retained for the investigation of the less serious offences which intimately affect the village life of the people such at offences of rioting about land or the division of crops and cases of hurt, provided that such cases do not involve loss of life. They should in other words in his scheme have powers somewhat similar to those of an investigating assistant sub-inspector. But we feel that this would not be a satisfactory solution. It necessitates placing these indigenous sirdars under the control of sub-inspectors. The post of sirdar was always intended to be a post of honour for persons of influence in the locality. It is already difficult in some areas to find suitable persons and it is unlikely that suitable recruits could be obtained if their powers and influence were reduced and they were made subject to control by thana officers. It would hardly be practicable to bave regular police under the control of the Superintendent of Police and the sirdars under the control of Subdivisional Officers. We have also observed that although more than half of the population of the Jamtara subdivision is aboriginal, there are very few Santal sirdars. The office has fallen mainly into the hands of Dikkus because of the difficulty of obtaining aboriginals of suitable capacity and influence. In these circumstances there is all the less reason for the retention of the system. We are of opinion therefore that if regular police are introduced the sirdar should not be retained either for police or other miscellaneous duties. It may however be necessary to have a certain number of sirdars to carry out duties under the Santal Parganas Police Regulation in connection with the supervision of chaukidars and the collection of the chaukidari tax.

175. The Damin-i-Koh.-In this area the problem is not so acute. The growth of professional crime found in Dumka and Jamtara has not been reflected here and the figures for serious crimes show little increase. But the parganaits who exercise the functions of sub-inspectors of Police have been found just as inadequate in investigating serious crime as the sirdars in the I. D. area. The majority of them are illiterate and in many cases they are inferior in mental capacity to the criminals with whom they have to deal. There is also much evidence that in recent years many of them have been oppressive and corrupt. As we have stated elsewhere, we consider that it is essential to retain the parganait system and we have made proposals which we believe will result in improving the standard of the parganaits. But we also consider that they are not suitable for dealing with serious crime and we think that this difficulty will become more acute as the country is more opened up. Although professional crime in the Damin-i-Koh has not attained any serious dimensions, it is closely connected with crime in bordering police tracts and the Damin does on occasions provide a refuge for gangs from the police areas. The regular police in the zamindari tracts of Rajmahal, Godda and Pakaur are greatly handicapped in dealing with gang crime owing to the fact that they have no jurisdiction in the Damin and that there is no agency there capable of proper surveillance or investigation. The parganaits therefore should have expert assistance in this matter. We think it would be undesirable at present to introduce the regular police system into an area which is 85 per cent aboriginal, which is very primitive and which is wedded to its own tribal traditions. We accordingly recommend that the Intelligence Department system should be introduced. We suggest that two inspectors should be posted, one at Kuschira and one at Burhait, each with an investigating sub-inspector and the necessary complement of assistant

sub-inspectors and constables for office work. The inspectors should be responsible for training the *parganaits* and supervising their police work and the sub-inspectors should be used for the direct investigation of serious cases on which special reports are required under Appendix III of the Police Manual. This should be done according to the system at present in force in the Kolhan. The investigation of all other cases would be left to the *parganaits* whose powers in other respects would also remain unimpaired. While both the *parganaits* and Intelligence Department staff would remain under the direct control of the Subdivisional Officers, we consider that the Superintendent of Police should have a definite status in the area. The Intelligence Department staff should be under his disciplinary control and he should have the right to supervise the investigation of special report cases in the area. He would have no control of any sort over the *parganaits*.

176. Sirdars in the Godda subdivision.—Formerly there were four sirdars appointed for supervising the assessment and collection of the chaukidari tax under Regulation IV of 1910 in the Godda Police tract. This number was later raised to seven and has in recent years been raised to 31., This was done apparently in connection with Mr. Hoernle's scheme for creating local panchayat courts, which has since been abandoned. It is not clear that so many sirdars are required for chaukidari work alone and the additional staff adds considerably to the burden of the tax-payers who have to pay for both the commission of the collecting pradhans and adaikaris and also the salary of 31 sirdars at Rs. 12 a month. The pay of these sirdars amounts to practically 10 per cent of the total chaukidari demand. We were not able in the time at our disposal to examine this question in detail; but we have recommended already the abolition of sirdars for any purpose other than chaukidari duties and we consider that 31 sirdars are not required in the three thanas of the Godda subdivision for this purpose alone. We therefore recommend that the Deputy Commissioner should be asked to examine the system in force there and to see to what extent the number of sirdars in the Godda subdivision can be reduced.

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CHAPTER XVIII.

THE PARGANAIT SYSTEM.

177. The importance of maintaining intact the indigenous institutions of the district has already been stressed. Among these the parganaits in the Damin-i-Koh play a very important part. They were originally the tribal leaders of the Santal settlers and have continued ever since to hold their position as heads of the community. They appear to have been recognised at an early date as fiscal heads of local areas. With the establishment of the Santal system they were recognised by Government and came to occupy a mixed position : partly as leaders of the Santal community vested with social and tribal functions and powers to decide disputes both civil and criminal; partly as fiscal heads of the area who were responsible for looking after the collection of the revenue and settling down disputes; partly as police officials responsible to Government for maintaining law and order and for the reporting and investigation of crime. The parganait came to be the main channel of communication between the village community and the Hakim.

178. The system is still necessary and well-suited to the requirements of the Damin-i-Koh, where the yast majority of the population consist of aboriginals living in primitive conditions. The Santals are much attached to it and in time of trouble the parganaits are the people to whom they turn for guidance and leadership. We think that it would be a mistake either to abolish the system or to restrict the powers of, or to impair the position occupied by, the parganaits, but we do consider that changes in the method of appointment, and tenure of office are necessary. There is abundant evidence both official and non-official that the parganaits have not maintained their old traditions, that drunkenness, corruption, petty oppression and incompetence are too common among them and that the feeling of respect for them is diminishing. There is a growing volume of discontent and criticism against them in the Damin. This deterioration has been in progress for some time and we think that it is partly due to a too strict adherence to the hereditary principle in appointing them. In theory the appointment of a parganait rests in the hands of the Subdivisional Officer and the Deputy Commissioner, and the rules require that in making the appointment the wishes of the community should be ascertained. But the office is hereditary in origin and the rules prescribe that, if possible, the son should be appointed to succeed his father except in the case of a parganait dismissed In practice the son or the nearest relative of the last for misconduct. parganait is almost invariably appointed and the authorities have found it difficult to get rid of incompetent parganaits, because the rules provide for dismissal only for misconduct and not for incompetence. Strict adherence to the hereditary principle has been largely due to a reluctance on the part of the officials to interfere with old customs or to do anything which might impair the parganait's position in the community. But the parganaits have themselves in many cases gravely impaired their own position.

179. We consider therefore that appointment to this office should no longer be either hereditary or for life and we make the following proposals :----

- (1) That appointment should be made by the combination of election and selection. Jamabandi raiyats of the bungalow should elect three persons from whom the Subdivisional Officer would select one for appointment.
- (2) Parganaits should hold office for seven years and should be eligible for re-appointment.
- (3) Pargamaits should be removable by the Subdivisional Officer for incompetence or for physical incapacity or for misconduct which includes neglect of duty, corruption and habitual drunkenness. An appeal would lie to the Deputy Commissione.

- (4) The existing *parganaits* should be required to vacate their offices by annual rotation extending over the next seven years and election should be held in one-seventh of the bungalows each year.
- (5) Every parganait on appointment should undergo some elementary police training.
- (6) Only Santal raivats resident in the bungalow should be eligible for appointment as parganait.

180. Our proposals are open to criticism on the ground that it is inappropriate that police officials should be appointed by popular election, but we have endeavoured to meet this objection by giving the Subdivisional Officer a power of selection and requiring the electorate to return a sufficient number of persons for that purpose. We have endeavoured to ascertain whether the substitution of election for hereditary tenure would be unacceptable to the Santal population. As far as we can learn, it would not. The idea of election and the principle that village officials obtain their authority from the people is familiar to the Santals in their own, tribal customs and the existing rules for appointment already recognise that the wishes of the community should be consulted in appointing a parganatis more responsible in their actions. We have thought it better to prescribe election by the village communities (the jamabandi raiyats) rather than by a college of pradhans because it would be less easy for personal influences to be exerted on a large electorate.

181. It is not desirable that any educational qualification should be prescribed for the post of *parganait*. The number of educated and even of literate Santals is so small that any such restriction would unduly narrow the field of recruitment; and the educated men would not necessarily, or even probably, be the most suitable men for the post.

182. The sirdars of the Paharia hills hold a position somewhat similar to that of the Santal parganaits. We have heard little complaint against them and as the Paharias are less civilised and less tractable than the Santals, we think that it will be premature at present to make any changes affecting the Paharia sirdars.

183. We have recommended that the stringent conditions under which the village pradhan's commission is earned should be liberalised. We consider that it is desirable to make some relaxation also in the case of parganaits. Apart from the customary due of Re. 1-10-0 received annually from each village the parganait has no remuneration except the commission paid by Government on the rent collections. This commission was formerly 2 per cent on the rent roll of the parganait's circle, but was increased in the last settlement according to a sliding scale. But the full commission is paid only on rents paid by the 15th March and no commission is paid to any sums paid after the 31st March. As a result of this the parganaits have lost a large part, sometimes the whole, of their commission in the last few years during which rent collections in the Damin have been very bad. This has disheartened the parganaits and has led to apathy and increased the temptation to corruption. We are of opinion that full commission should be paid on sums paid up by 31st March and for the present at any rate half commission on sums paid by the 31st September.

CHAPTER XIX.

LOCAL SELF-GOVERNMENT.

184. Local self-government in the district is at present administered by the District Committee established under the Cess Act of 1880. This is a nominated body under an official Chairman, the Deputy Commissioner. This constitution was designed to suit the needs of a backward district, but conditions have altered considerably with the progress of time and there is now an insistent demand from many quarters for the substitution of a more democratic form of local self-government on an elective basis. In the past one of the difficulties in the way of extending the Local Self-Government Act was the dearth of communications, the difficulty of forming a representative board and of securing a quorum at meetings. These difficulties exist no longer. The present District Committee is unrepresentative, for the members consist mainly of residents of Dumka and the neighbourhood; and it has been criticised on the ground that the interests of outlying portions of the district have been neglected and that aboriginal education has been sacrificed to the demand for education among the Dikkus. We propose therefore that the Local Self-Government Act should be extended to the district without delay.

185. We think, however, that a direct transition from a purely nominated body with an official Chairman to an elected body with a non-official Chairman would be too abrupt. The elected district boards in the rest of . the province passed through a long period of tutelage under the guidance of official Chairmen and when later the change from official to non-official Chairmen was made, there was already in existence a considerable number of public men who had obtained experience of the working of local selfgovernment institutions. In the more backward areas of Chota Nagpur the change was still further delayed and will only come into operation this year. In the Santal Parganas, on the other hand, this period of training has been lacking. The *de facto* administration of the District Committee for many years has been entirely in the hands of the Deputy Commissioner and a semi-official Vice-Chairman and it is probable that the introduction of an elective system will bring in an entirely new class of members with no previous experience of administrative work. We recommend therefore that when a district board is created the Deputy Commissioner should be the official Chairman for the first five years in order that dislocation of the local administration may be prevented and that his experience and knowledge may be available in the transition period until the elected representatives have had time to gain the necessary experience. We recommend that for the present section 19 of the Local Self-Government Act should be introduced in the form that has hitherto been applied to Chota Nagpur.

The Vice-Chairman should from the outset be an elected non-official.

186. We are not in a position to determine accurately the size of the board, but in view of the population which numbers over two millions we think that a board of 28 or 32 members would be appropriate. Section 7 of the Local Self-Government Act provides that nominated members shall not be more than one-fourth of the total number of members and that not less than one-third of the nominated members shall be persons who are not salaried servants of Government. We think that this section requires some modification in the case of the Santal Parganas. It is essential that the Civil Surgeon and the District Inspector of Schools should be members and it is also desirable that as many as possible of the Subdivisional Officers and certainly the Subdivisional Officers of the four Damin subdivisions, viz., Dumka, Pakaur, Rajmaial and Godda, should be members of the board. The Damin-i-Koh is the most backward part of the district and the Subdivisional Officers are in the best position to know its needs. The aboriginal members from this area may not for some time be able to represent it adequately. We think therefore that the third clause of the proviso to section 7 should be omitted in extending the Act to the Santal Parganas. 187. In recommending the introduction of the elective system for the district board of the Santal Parganas we are unanimous that adequate representation of the Santals must be secured on the board. We have been told that this is possible even through the general electorates, as the size of the Santal population is quite sufficient to enable them to return their own representatives. This may be so, but in order to assure ourselves about the certainty of election of an appreciable number of aboriginal candidates, we think that the question of reservation of seats for aborigines on the basis of their population should be explored by the provincial Government. We have been informed that a similar proposal for all the minority communities of the province in respect of other district boards is also under the consideration of Government. Therefore we need not make any separate recommendation on that point.

188. We have considered carefully the method of election to the district We would have liked, if possible, to make use of the indigenous board. village community organization already existing, but we have come to the conclusion that it is impracticable to do so. Although among the Santal villages there is a regular village organization represented by the *pradhan*, there is nothing similar in the Dikku villages. The *pradhani* system of those villages is decaying and in very many has completely disappeared. It will be difficult to recreate a village organization artificially where it does not exist and there would be little gain in doing so merely for the purpose of a district board election once in five years. The employment of pradhans or other specially created village representatives as primary electors would in any case facilitate corrupt practices and is undemocratic. Any other system of indirect election based on primary elections in the village followed by a secondary election for larger units would be cumbrous, protracted and expensive and would make a great demand upon the time of officials. Election on this basis also would lead primarily to the return of a board representing almost entirely the raivati interests in the district. It would therefore be necessary to form other electorates to represent other interests such as zamindars, merchants, etc., and this would increase complications. We have therefore come to the conclusion that the simplest and the most practicable method is to use direct election as elsewhere in the province and to retain the voting qualifications prescribed under the Local Self-Government Act. This would need modification only in respect of the Damin-i-Koh where cess is not levied. The cess qualification would not apply there.

189. We do not think it necessary to make any recommendation on the question whether local boards should be established under the district board. This question may be left to be raised by the district board if it thinks necessary after it has gained experience. We would only say that we are inclined to think that local boards are unnecessary at the outset and that they would involve additional expense to the district board which will have very limited financial resources.

190. The extension of the Local Self-Government Act raises several problems regarding the Damin-i-Koh estate which require solution.

(a) Cess has never been levied in the Damin-i-Koh estate. Government as landlord, in lieu of the cess which it would otherwise pay, makes certain special contributions to the funds of the District Committee which are specially earmarked for expenditure in the Damin-i-Koh estate. These are :---

- (i) A grant of 1¹/₅ per cent of the annual income of the Damin-i-Koh Government estate for communications.
- (ii) A grant of 1 per cent of the income of the Damin-i-Koh Government estate for education.
- (iii) A special grant of Rs. 18,000 a year for education in the Damin-i-Koh.

The total of these grants exceeds the amount of cess which Government would be liable to pay as landlord. The raiyats in lieu of cess provide free labour for the repair of roads and the roofs and outhouses of inspection bungalows.

191. Formerly a similar system prevailed in the Kolhan Government estate of Singhhhum but in the year 1917 cess was imposed both on Government and the raiyats and the services rendered by the raiyats for the repair of roads, etc. were abolished. We consider that ultimately cess should be similarly imposed in the Damin-i-Koh estate. Government have hitherto been reluctant to do so on account of the opposition of the Santals and the extra expense which it would impose on the District Committee. But circumstances have altered, for there is now a considerable amount of discontent at the way in which the begari system of repair is administered by the parganaits, while on the other hand the District Committee has in recent years steadily pursued the policy of taking under its charge the main roads in the Damin estate. We doubt whether in these circumstances there would be the same objection from the Santals to the imposition of cess as there was formerly. We think therefore, that cess should ultimately be imposed, but we are also very strongly of opinion that it would be impossible to do so until the present economic depression lifts. The Santals in the Damin are in a bad way, the payment of rents is very much in arrears, they could not at present bear the extra burden of cess and any attempt to impose it now would probably result in serious trouble in the estate.

192. (b) The system by which the villagers in the Damin-i-Koh provide labour for repairing roads and the roofs and outhouses of inspection bungalows should be changed. The system is open to abuse and there are constant complaints from the villagers that the burden is unequally distributed by the parganaits. If it is found difficult to secure just a lministration of this system under an official regime, it would be still more difficult for a non-official body such as a district board to secure it. In any case the parganaits and pradhans through whom it is administered could not be placed under the authority of the district board. We therefore recommend that as far as main roads and inspection bungalows are concerned, the system should be dropped altogether and that the district board should undertake the liability for the maintenance of these communications and buildings; but the villagers should remain liable as elsewhere in the district under clause 2 (c) of the record of rights to maintain the village roads under the control of the parganaits and the pradhans. The roads in the Damin should be classified into main roads and village roads and begars should no longer be employed for the repair of the main roads or any roads which the district board may in future take on to its schedule for maintenance.

193. (c) Government as landlord allots a grant of $5\frac{1}{2}$ per cent of the income of the Damin-i-Koh estate together with the surplus profits of the Hiranpur market for the improvement of the estate. This grant which is officially a grant to the Deputy Commissioner has for many years been transferred to the District Committee for expenditure; and the arrangement presents no difficulties because the Deputy Commissioner is the head of the Committee. But it would be unsuitable that an entirely non-official body should control the expenditure of the sums allotted by Government as landlord for the improvements of its own estate. We consider therefore that in future the expenditure of the khasmahal improvement grant should be under the control of the Deputy Commissioner, but that the sums required for expenditure on main roads, inspection bungalows and contributions to dispensaries in the Damin should be allotted to the district board annually for expenditure. This allotment should be based on the average expenditure incurred on these objects for the last 10 years and should be treated as an ear-marked Government grant for these specific objects only. If further funds are required for these purposes, either by reason of additional obligations resulting from the abolition of the begari system or owing to the necessity for extending or improving communications in the Government estate, it may be necessary to consider a further adjustment of the allotments to be made. It should be prescribed that the allotments made to the district board from this grant are to be spent to the satisfaction of the Deputy Commissioner and the Deputy

Commissioner should be required to furnish a certificate annually to the Board of Revenue that the work has been duly done. If the work is not properly done it may be necessary to make arrangements for the Deputy Commissioner to take it under his direct control. The balance of the khasmahal improvement grant which is expended on wells and water-supply, irrigation, improvements, maintenance of *hats*, cattle-markets, etc., should be expended by the Deputy Commissioner direct and he should be entitled to the services of the District Engineer and his staff for supervision and technical advice on payment of such fees under the Local Self-Government Act as may be arranged between him and the district board.

194. The Committee has received various suggestions for a separate local self-government organization for the Damin-i-Koh, but if a district board is created its jurisdiction must under the Act extend to the whole district, and in any case a separate local self-government organization for this area would be cumbrous. If our suggestions regarding imposition of cess, maintenance of roads and the expenditure of the estate-made grant are adopted, we think that no difficulty should arise and that, the Damin could very easily fit into the general local self-government scheme. It should of course be clearly understood that the district board will not be concerned at all with the maintenance of village roads by free village labour which will remain under the control of revenue officers.

195. The Cess Act makes no provision for the establishment of union committees in urban and semi-urban areas which are too small to be converted into municipalities. This has always caused considerable difficulty; as there is no statutory means of enforcing sanitation and conservancy at places such as Jamtara, Pakaur and Godda. With the introduction of the Local Self-Government Act this difficulty would be solved and we consider that union committees should be established at these three places under section 38 without delay.

196. The Public Works Department does not maintain any roads in the district and the upkeep and improvement of all main roads is done at the cost of the District Committee. We have already pointed out that the resources of the Committee are inadequate and inelastic and if a district board is established the position will be no better. The funds available for maintenance of communications are already insufficient and further development of communications is necessary. The recurring burden of the District Committee in this matter will increase with the construction of the new Dumka-Jamtara road and the extension of the Dumka-Amrapara-Sahebganj road and it has no margin to meet these increasing liabilities. It is true that Government has for many years made a special grant of Rs. 50,000 a year for communications in the Santal Parganas but the continuance of this grant is not certain. We think therefore that, without any prejudice to the continuance of this grant, certain roads should be provincialized. There are two main roads in the district of inter-provincial importance:—

- (1) The Bhagalpur-Dumka-Suri road which was a part of the old inter-provincial road connecting Calcutta with Darjeeling. The road is the principal link of communication between the three districts of Monghyr, Bhagalpur and the Santal Parganas and connects directly with Bengal. The traffic is heavy and increasing and it has been necessary in recent years to metal considerable lengths of it. The District Committee will find it very difficult to continue this process. In other parts of the province roads of this kind have been provincialized and we think that this road merits the same treatment. The annual expenditure on this road at present averages Rs. 16,964.
- (2) The Jasidih-Dumka-Rampurhat road crosses the centre of the district and is the link between the district headquarters and the railway on the east and west. It also is an inter-provincial road and at present the principal artery of communications in the district. There appears to be justification for provincializing this road. The average annual expenditure on this road at present is Rs. 28,229 and is inadequate.

CHAPTER XX.

MISCELLANEOUS.

197. There are a few questions which do not fall conveniently into any of the preceding chapters of the report.

(a) Excise.—We have received much evidence on the subject of the outstill system at present in force in the district and there is a large volume of public opinion against it. But after careful consideration we do not think it advisable that we should make any recommendation on this subject, as the problems which it raises are not peculiar to the Santal Parganas, but are common to all the aboriginal tracts of the province and therefore will have to be treated on lines of general policy. The matter is therefore beyond the scope of our report.

(b) The Hakdam system.—Under this system the pradhans of villages are required to furnish supplies to touring officers of Government at prices fixed by executive order. It appears to us unnecessary that this system should continue. The prices fixed appear to approximate to the ordinary rates prevailing in the villages, but now that communications have improved there is generally little difficulty in obtaining supplies and there is no necessity therefore to continue a system which is not in force in other districts. We would recommend that it be abolished.

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(c) Ganga-Sikasht lands.—Representations have been made to us that raiyats holding lands subject to diluvion in the Gangetic diaras should not be liable to pay rents while their lands are diluviated. This is a general question which affects all the Gangetic districts and not merely the Santal Parganas. We would mention however that as far as Government Khasmahal estates are concerned the matter has already been dealt with by Government in letter no. 260-R.R., dated the 11th May, 1936. If this circular has not been extended to Government Khasmahal diara estates in the Santal Parganas this might now be done. We also note that provision has been made in sub-section (c) of section 112-A of the Bihar Tenancy (Amendment) Act, 1937, to deal with remission of rent of land which has been temporarily or permanently deteriorated by a deposit of sand or by submersion under water. A similar provision might suitably be made in the law of the Santal Parganas.

198. The questions affecting the operation of the forest rules in the Santal Parganas and arrears of rent of Damin-i-Koh Government estate have not been examined by the Committee for the reason, firstly, that the time available was not sufficient for such examination and, secondly, that the questions have already come under the consideration of Government. The Committee therefore make no recommendation in these matters.

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CHAPTER XXI.

SUMMARY OF BECOMMENDATIONS.

199. The recommendations made by the Committee in the previous chapters may be summarized as follows :---

(a) System of administration.

(1) The essential features of the existing system must be maintained, but the aim of Government should be to approximate the administration progressively to that of Chota Nagpur; in any case the system must be modified progressively as the district advances further (paragraph 18).

(b) The district staff.

(2) More direct contact between the magistracy and the people should be re-established, firstly, by relieving the Deputy Commissioner and the Subdivisional Officers of a portion of their court work and, secondly, by keeping officers in the district for longer periods (paragraphs 21 and 22).

(c) Criminal justice.

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(3) The criminal courts should be transferred entirely to the ordinary jurisdiction of the High Court except in the matter of appeals from orders, other than orders under section 108 of the Criminal Procedure Code, passed under section 118 of that Code which should be heard by the Deputy Commissioner empowered under section 406 of the same Code (paragraphs 29 and 30).

(d) Civil justice.

(4) The Deputy Commissioner should cease to exercise the powers of a District Judge except in appeals in rent suits (paragraph 33).

(5) All suits of every description up to Rs. 500 should be tried by the Santal civil courts, all money and title suits over Rs. 500 by regular Subordinate Judges, and all rent suits above Rs. 500 by Subdivisional Officers empowered as Subordinate Judges (paragraph 41).

(e) Re-organization of the courts.

(6) The Special Magistrate under section 30 of the Criminal Procedure Code should be abolished and a District and Sessions Judgeship should be created for the Santal Parganas with headquarters at Dumka (paragraph 45).

(7) Two Subordinate Judgeships should also be created for the district: one for the Deoghar and Jamtara subdivisions with headquarters at Deoghar and the other for the remaining four subdivisions with headquarters at Dumka (paragraph 48).

(f) Position of pleaders.

(8) Restrictions on the admission of pleaders to practise in the district should be maintained but qualified pleaders who are natives or domiciled inhabitants of the district should be admitted without restriction (paragraph 55).

(9) Portions of the Legal Practitioners' Act should be extended to the district to regulate the admission and discipline of legal practitioners in the proposed regular civil courts and in criminal courts and to deal satisfactorily with touting and unprofessional conduct on the part of legal practitioners in the S ntal civil courts (paragraph 57).

(10) In suits between Dikkus and non-Dikkus the court may, if the non Dikku party wishes to employ a pleader or mukhtar, permit the other parties to employ a pleader or mukhtar (paragraph 59). (11) Pleaders' or mukhtars' fees may be included in the costs of a suit where pleaders or mukhtars are entitled to appear as of right. In no case should such fees be less than Rs. 2 or more than $2\frac{1}{2}$ per cent of the value of the suit (paragraph 60).

(11A) The practice of annual renewal of pleaders' certificates for Santal civil courts should be dropped (paragraph 60-A.)

(g) Santal Civil Rules.

(12) The Santal Civil Rules require amendment and expansion but should continue to be as far as possible a self-contained Code (paragraphs 62 and 63).

(h) Codification of law.

(13) A self-contained Tenancy Act for the district should be enacted to consolidate, amend and supplement the existing law of landlord and tenant without prejudice to the elasticity of the existing system and to the discretionary powers at present vested in the Deputy Commissioner and the Subdivisional Officers. The Santal Parganas Manual should also be revised and brought up to date and a second volume of the Manual should be compiled containing the rulings of the courts of the Commissioner and of the Deputy Commissioner (paragraphs 70 and 76).

(i) Settlement.

(14) A tribunal should be constituted for the correction of material errors in the settlement record including entries of *Brahmottar* and *Shivottar* lands of previous settlements as raiyati in the record of the current settlement (paragraphs 78 and 83).

(15) The duration of settlement operations in future should not be longer than eight years and the intervals between settlements not less than thirty years (paragraph 80).

(j) Economic condition and rents.

(i) Credit.

(16) If the movement of co-operative credit is to succeed the rates of interest should be reduced, much more care should be taken in the granting of loans and the constructive side of co-operation should be developed (paragraph 93).

(17) There is more immediate hope in the development of grain golas and grain banks (paragraph 94).

(18) The rate of interest allowed in the present Usury law should be reduced and ambiguities should be removed (paragraph 95).

(ii) Rents.

(19) The question of rent levels in the Godda and Mahagama thanas and in the Khas villages of Parganas Sultanabad and Ambar and in a small area in Deoghar thana should be further examined with a view to giving relief, where necessary, for which provision should be made on the lines of section 112-A of the Bihar Tenancy Act or section 85 of the Chota Nagpur Tenancy Act (paragraphs 103, 104 and 113).

(20) A temporary regulation should be enacted enabling raiyats to apply for exclusion from the settlement records of second class bari land recorded in the current khatian which is not recorded in the jamabandi land of the village in the previous settlement (paragraph 111).

Economic development of the district.

(21) Special grants should be made by Government for the expansion of education among the aboriginals (paragraph 116).

(22) Improvement of agriculture and irrigation should be undertaken and the penalties to secure the maintenance of irrigation works should be increased, f necessary (paragraph 118). (23) Further efforts should be made for the development of village industries (paragraph 120).

(24) A development board should be created for the Santal Parganas and other aboriginal districts as a whole (paragraph 121).

(k) Restrictions on the right of transfer.

(25) Government should on the lines of section 49 (B) (2) of the Bihar Tenancy Act retain power to give protection to castes or tribes other than those designated by the term non-Dikku, if it is considered necessary (paragraph 125).

(26) No right of sale should be given to any class of raiyats (paragraph 127).

(27) A memorandum should be compiled setting forth the actual state of Santal law on the question of women's right of inheritance (paragraph 129).

(28) A right of transfer by will or gift is also unnecessary (paragraph 130).

(29) No right of mortgage should be allowed to non-Dikkus (paragraph 131).

(30) Dikku raiyats may be allowed a right to give a complete usufructuary mortgage for a period not exceeding seven years to jamabandi raiyats of the district (paragraph 133).

(31) Holdings may be entrusted to others for cultivation in certain cases to prevent hardship (paragraph 135).

(1) Pradhani system and the collection of rents.

(32) The *Pradhan's* official jote should be built up to an adequate size and new jotes should be created where they do not exist (paragraph 140).

(33) Till then abatement of rents of the *pradhan's* private jote should be allowed, proportionate to the amount by which the rental of the official jote falls below 1/12th of the total rent of the village (paragraph 141).

(34) The *pradhan* should receive commission at the full rate of $6\frac{1}{4}$ per cent on any rents paid within time and at half rate for rents paid within six months of the kist date (paragraph 142).

(35) The rate of interest on arrears of rent should be reduced from $12\frac{1}{2}$ to $6\frac{1}{4}$ per cent (paragraph 145).

(36) The Paus kist should be postponed from the 15th Paus to the 1st Magh (paragraph 146).

(37) The Santal Civil Rules should be amended to provide for simultaneous joint rent suits against raiyats who default in the payment of rent to the *pradhan*, whenever the landlord sues the *pradhan* for the rent of the village, and court-fees should be assessed on the joint suit as a whole and not separately against each defaulting tenant (paragraph 148).

(38) The limitation of one year for rent suits against the *pradhan* should be given a further trial (paragraph 150).

(39) For the recovery of the arrears of rent from the pradhan khas possession should be tried before eviction (paragraph 151).

(m) Position of pradhan's co-sharers.

(40) At every appointment of a new *pradhan* the consent of the co-sharers should be taken before their shares are made security, and they should have the right to have their share released from security for the *pradhan's* rent any time after the first five years after paying all arrears then outstanding (paragraph 154). (41) Pradhans should be encouraged to give cash security (paragraph 155).

(42) Decrees in contribution suits by some co-sharers against the *pradhan* and/or other co-sharers should be made executable against the holding or shares of the defaulters (paragraph 156).

(43) Similar provision should also be made for the benefit of ordinary raiyats (paragraph 157).

(n) Satisfaction of rent decrees.

(44) The Paus kist should be extended from the 15th to the 20th of the month and interest on arrears of rent should be reduced from $12\frac{1}{3}$ to $6\frac{1}{4}$ per cent (paragraph 158).

(45) Rent should be expressly declared to be the first charge on the holding (paragraph 159).

(46) Execution of rent decrees by attachment of movables and crops should cease (paragraph 160).

(47) The usual methods of execution against the holding by (i) eviction, (ii) khas possession and (iii) payment by instalments should be retained and part eviction should be recognized as a legal method (paragraphs 161 and 162).

(48) In khas villages where the raiyats pay directly to the landlord provision should be made for the payment of rent by postal money order (paragraph 166).

(o) Ghatwali estates.

(49) Ghatwals should be allowed to give a lease of their estates or parts thereof with the permission of the Commissioner for a period not exceeding ten years (or at most fifteen years) for legal necessity, the lease to remain valid even if the ghatwal dies; and special legislation on the lines of the Chota Nagpur Encumbered Estates Act should be undertaken for the protection of encumbered ghatwals (paragraph 169).

(50) The Deputy Commissioner should be empowered by law to attach the rents of any village or villages of a ghatwali estate for the purpose of recovering unpaid chaukidari dues and to appoint an officer to receive the rents (paragraph 171).

(p) Police administration.

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(51) Regular police should be introduced into the Dumka and Jamtara subdivisions completely (paragraph 173).

(52) The Intelligence Department system should be introduced in the Damin-i-Koh (paragraph 175).

(53) The number of *sirdars* in the Godda subdivision should be reduced (paragraph 176).

(q) Parganait system.

(54) Parganaits should be appointed by a joint process of election and selection, and hold office for seven years (paragraph 179).

(55) They should receive full commission on sums paid by the 31st March and for the present at any rate half commission on sums paid by the 31st September (paragraph 183).

(r) Local Self-Government.

A CARLES

(56) The District Committee should be replaced by a district board with an official Chairman and non-official Vice-Chairman (paragraph 185). (57) Adequate representation of the Santals should be secured on the Board (paragraph 187).

(58) Seats on the Board should be filled by direct election except in the case of officials (paragraphs 186 and 188).

(59) In future the expenditure of the improvement grant for the Damin-i-Koh Government estate should be made under the Deputy Commissioner, but the sums required for expenditure on main roads, inspection bungalows and contribution to dispensaries in the estate should be allotted to the district board annually for expenditure (paragraph 193).

(60) Union Committees should be established without delay at Jamtara, Pakaur and Godda (paragraph 195).

(61) Bhagalpur-Dumka-Suri and the Jasidih-Dumka-Rampurhat roads should be provincialized (paragraph 196).

(s) Miscellaneous.

(62) The Hakdam system should be abolished and provision should be made for remission of rent of land which has been temporarily or permanently deteriorated by a deposit of sand or by submersion under water (paragraph 197).

200. On the following points the decisions of the Committee were not unanimous, namely :---

- (1) 'Admission of pleaders.—The majority of the Committee consider that all qualified persons who are natives to, or domiciled in, the district should be admitted without restriction (paragraph 55).
- (2) Finality of records of future settlements.—The majority of the Committee consider that in the case of (a) title disputes between proprietors inter se and (b) disputes between raiyats concerning title to a holding there should be a right to contest the record in the civil court (paragraph 79).
- (3) Revision of rent.—The majority of the Committee think that where the classification of the land has been raised by the efforts of the tenant himself, the rent assessed at the settlement on the improved classification should be revised and the old rent should be restored (paragraph 108).
- (4) Soil classification.—A majority of the Committee recommend that the classification of land in the records of the last settlement, where it is higher than in the previous settlement record, should be reduced to that level (paragraph 109).
- (5) Development board.—Some members of the Committee think that there should be a separate board for each district (paragraph 121).
- (6) Mortgage.—One member of the Committee holds that all raiyats, Dikku and non-Dikku, should be allowed to mortgage lands within certain limits (paragraph 131).
- (7) Commission of pradhans.—A majority of the Committee consider that the landlords should pay one and a half annas in the rupee and the raiyat half an anna (paragraph 143).

(8) Sale in execution of rent decree.—A majority of the Committee are of opinion that sales of ordinary raiyati jotes should be allowed on certain conditions (paragraph 164).

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R. E. RUSSELL. R. ROSENLUND. DEVENDRA NATH SAMANTA. KRISHNA BALLABH SAHAY. BINODANAND JHA. ABDUL BARI. MAHESHWAR PRASAD JHA. CHARAN MURMU.

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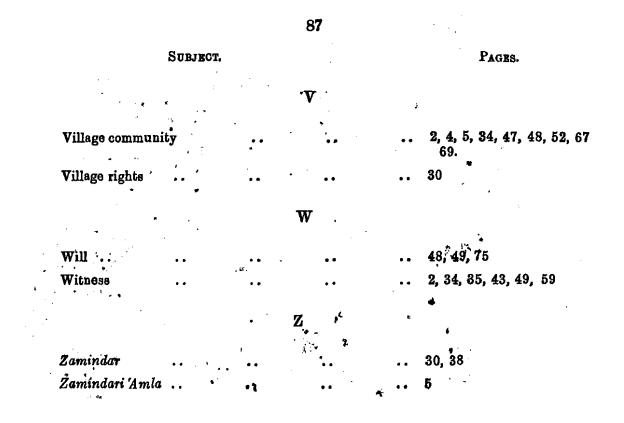
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Report of the Technical Committee set up by the Government of Bihar to advise on the Outline Scheme for the electrification of South Bihar and parts of Chota Nagpur.

The Committee consisted of the following :---

Mr. S. G. Forbes, Chief Electrical Engineer, Government of Mysore.

- Mr. H. M. Mitra, Electric Inspector of Mines to the Government of India.
- Mr. J. Parkinson, Chief Engineer, Calcutta Electric Supply Corporation, Limited.

The Committee met at Patna on December 7th, 8th, 9th and 10th, 1938.

The terms of reference to the Committee required them to examine two schemes—

- (a) the cutline scheme for the electrification of South Bihar, etc. prepared by Mr. S. K. P. Sipha, and
- (b) the Dehri-Sasaram-Kudra scheme, prepared by Mr. S. K. P. Sinha.

The second of these schemes is a preliminary scheme, for which funds have already been voted, and which is largely experimental with the intention of discovering to what extent agricultural load can be developed. It is, therefore, subsidiary to the main scheme. the is the

2. (i) Area.—The area of the whole province is about 69,000 square miles and the population about 32 million. Within the province there are 61 cities, towns, etc., and 117 villages with populations of 5,000 and above. The province is divided into northern and southern portions by the Ganges, the portions south of the river containing about two-thirds of the area, somewhat less than two-thirds of the population, 47 of the towns, and 13 of the villages General description with populations over 5,000.

of Province.

(ii) Climate.—'I he average annual rainfall for the province is 48.6 inches, and the temperature varies between a minimum of about 35°F. and about 112°F. in the shade in the summer. The humidity, varies between 8 per cent in the dry weather and saturation during the monsoon.

(iii) Rivers. The prevince is well provided with rivers. In addition to the Ganges, there are rivers such as the Gandak, Sone, Damodar, Barakar, Subarnarekha, etc., most of which are tributaries of the Ganges, the others flow direct (through Orissa) into the sea. These, together with the high ground water level, offer an ample supply of water for irrigation and industrial purposes.

(iv) Natural resources.-The principal industries of the province are agriculture, mining, and metallurgy, including the great Tata Iron and Steel Works at Jamshedpur, all of which are well served by 3,700 miles of railways,

The province is well endowed with extensive coalfields, some of the coal being of the grade which produces the highest grade of metallurgical coke. The province is also well endowed with some of the highest grade of mica and large deposits of high grade iron-ore.

(v) Electric power.-In the area south of the Ganges, 12 licenses have been granted and three more have been accepted and will shortly be gazetted. Five others have applied for sanctions to supply energy. Such power as is provided by these licenses and sanctions is, however, consumed in the larger towns and in the coalfields.

3. The province is abundantly provided with natural resources, and has a good railway system, but at present electric power can hardly be said to exist, and the most urgent need throughout the province is the provision of economical power for agricultural and industrial purposes. Large blocks of power easily distributed over large areas are required, in the case of agriculture so that raising water from tube-wells and surface wells may supplement the natural rainfall and provide adequate irrigation when the seasonal rainfalls are late or deficient, while in the case of industry, power is essential if industries are to be developed to utilise the vast natural resources of the province.

We think there are adequate means within the province for giving ample supplies of power for all purposes in all parts of the province by reason of the large quantities of good coal and adequate water-supplies existing and, after a careful consideration, are of the unanimous opinion that there is undoubtedly an urgent necessity of providing a comprehensive electric power scheme. We consider that this scheme should be designed, constructed and operated by the Government of Bihar for the provision of an adequate, reliable and economic electric power supply and that it is the duty of Government to provide this commodity because no one but Government can do so in places in which no licensee would be prepared to operate. We feel it to be the fundamental duty of Government to improve the standard of life throughout the province and the provision of electric energy is one of the most powerful weapons by which Government can achieve this object.

In our opinion Government should not only make power available throughout the province but distribute it to the ultimate consumers direct and not through an intermediary. Therefore, we recommend that no further licenses be granted in the larger towns, so that these may be retained for the Government system—with. Government distribution systems (as elsewhere in the province except in areas already covered by licenses) for direct supply to the ultimate consumers.

¹ One further advantage will result from a Government-owned power system and organisation in that it will have the considerable economic advantage of providing a regular and suitable form of employment within the province for a large number of technically trained men.

4. We have noticed that the scheme under consideration has sometimes been referred to as a "grid" scheme. We consider the term very misleading and we recommend that, in order to avoid any misconception, the term should not be used in any form in connection with this project which should hereafter be known as the Bihar Electrification Project.

5. We have considered certain aspects raised in the report in great detailin subsequent paragraphs, but we wish to put on record at once that in our opinion there is sufficient load to justify an initial installation of a 30,000 kW. generating station consisting of three sets of 10,000 kW. each with provision for two additional sets of the same size. The generation should be at three phase, 11,000 volts at a frequency of 50 cycles per second. We consider that the existing visible loads and the potential loads in excess of the existing visible loads justify this installation. Before the project can be, further developed, the next steps that are essentially necessary are that a correct detailed technical report and estimate should be prepared by a fully qualified electric power supply engineer, that the visible loads within the province should be very carefully surveyed and canvassed by a competent commercial power engineer and that thereafter the fully prepared project should be examined and considered by a competent firm of Consulting Engineers of high standing.

6. We feel that the success of any such scheme can, however, only be guaranteed as long as the detailed direction of all operations of the scheme from the time that it is finally sanctioned is removed from the field of politics and the direct control of the electorate. The success of the scheme depends largely on the possibility of carrying out a connected and continuous policy designed on commercial lines, and not varying with changes of Government. We, therefore, strongly recommend that legislation be at once taken up for the establishment of an Electricity Board to consist partly of permanent officials and partly of persons appointed by Government *ad hoc* on contract for a period of not less than five years. The members of the Board should represent financial and technical engineering knowledge and also public opinion. The rules governing the operations of the Board should be framed by Government who should retain full power to alter the rules. The rules should provide for the detailed control of operations by the Board and for the control of the staff serving under it. The schedule of rates should be fixed by rules which are sufficiently flexible to allow the Board to enter into special contracts for special purposes with a view to the development of heavy industries but otherwise should not be alterable by the Board except with the previous sanction of Government.

All major schemes should require the sanction of Government who would be responsible for providing the Board with funds to finance them. Funds should ordinarily be provided to finance the Board by grants voted by the Assembly, though provision might be made that the Board could fund and utilize its receipts subject to contribution to general revenues of funds not required for extensions and developments.

7. We have examined with great interest the reports prepared by Mr. S. K. P. Sinha. We understand that he has only been conducting his investigation for a period of less than six months, and in view of this short period the information collected and the manner in which it has been presented represents a considerable work, which could not have been achieved without a great deal of enthusiasm and energy. We understand that Mr. Sinha has for many years interested himself in this subject, and we can safely say that this report has certainly put the Bihar Electrification Project " on the map" as an attractive possibility which we feel to be incumbent on Government to carry out. But as we have already stated we consider that from this point onwards the preparation and carrying out of the project must be placed in charge of a highly qualified electrical power supply engineer, who has high theoretical and extensive practical experience.

8. (1) The scheme as set up in the report provides for two generating stations—one of 20,000 kW, and one of 15,000 kW. We unhesitatingly recommend that there should be only one main generating station until the load exceeds 50,000 kW. The necessity of a second station does not arise until the power demand exceeds this figure because dividing that amount of power between two or more stations merely duplicates supervision and other charges while its concentration in one station means lower gapital cost and economy of running cost without any impairment of reliability or efficiency in the supply. We emphasise that a properly designed and constructed transmis- Generating sion system with a properly designed and constructed generating station will Stations. provide the same immunity as two similar stations at considerably less capital expenditure. For instance, in Mysore the supply on an important transmission line covering a distance of 195 miles, from the generating station (including 145 miles single circuit) and supplying essential industries such as cement and paper mills, hospitals and other plants, only had three interruptions of an average duration of only five minutes during the year ending November 30, 1938.

(2) If subsequently the power load exceeds 50,000 kW, then a second station will become necessary and the location of this second station will depend on the subsequent development of load, subject to the availability of water.

(3) The Special Officer in his report has estimated the construction cost of a generating station at Rs. 180 per kW. of installed capacity. In our opinion this is a serious under-estimate. It is essential that the generating plant (as also the transmission lines, etc.) to be thoroughly reliable must be of first-class up-to-date design and constructed of the best possible materials. To obtain this we believe that it may be found that the cost of the generating station will be between Rs. 250 to Rs. 300 per kW. of installed capacity, the actual figure depending on the civil engineering works that may be necessary to obtain an adequate supply of water. In obtaining the plant serious consideration must be given to the availability, in the event of a European war, of parts required for replacements necessitated by wear and tear of the plant.

9. (i) We consider that *prima facie* a site in the coalfields would be the most suitable site for the power station provided adequate water can be found available, but the availability of adequate supplies of water had not been: considered by Mr. Sinha in his report.

Site of Generating Station.

We emphasise, as strongly as we can, the necessity of making very detailed enquiries as regards the availability of water at any site in the coalfield area before finally deciding on the location of a power plant therein. Any mistake in this matter may ultimately result in enormous additional expenditures. The minimum quantity of water required for operating a 50,000 kW. plant is four million gallons per hour. This should preferably be of flowing water. If this is not obtainable anywhere on the Damodar (and enquiries that we had made indicate that this quantity will not be available there in the dryest season): then it would be necessary to provide the requisite storage to supplement the flow in order to provide for a 50,000 kW. plant working at a 75 per cent load factor. The minimum storage necessary should provide sufficient water to make good evaporation losses, plus boiler make-up at 5 per cent of steam production and also to provide that the water in storage is not used more than once in four days. It is necessary to make certain of the availability of water storage for a 50,000 kW. plant (and arrange immediately for if) although it is at present suggested to instal only 30,000 kW.

(ii) We, therefore, strongly recommend that immediate steps be taken to make an accurate survey of the river. The survey should be devoted to determining the following points among others, namely :---

- (a) Gauging the river flow up to the break of the monsoon in June 1939.
- (b) Comparing this observed river flow with the previous statistics of rainfall with a view of ascertaining the probable minimum flow of the Damcdar during recent years.
- (c) The question whether any zemindars or any other persons have prior rights over any streams tributary to the river—that is, the enquiry should be devoted to ascertaining the amount of free water available in the Damodar at the selected site.
- (d) The question whether the construction of the necessary dam for the storage of water would result in any erosion or secretion which might necessitate either payment of compensation or further protective works.
- (e) A contour survey of the area in the neighbourhood of the coalfields with a view to ascertaining the most suitable site for storage of the necessary water-supply.

(iii) We are of opinion that the construction of a dam is likely to be cheaper than any system of cooling towers, and that the practicability of any site in the coalfields must be considered mainly with reference to water. In considering possible sites in the coalfields it is therefore necessary to take into consideration the capital cost of construction of dams at the various sites together with the freight and surcharge on coal for transporting coal to the various sites investigated (in estimating the freight on coal the possibility of subsequent increases in surcharges or rates must be kept in mind). From a comparison of these figures for each site it should be possible to arrive at the most satisfactory and economical site.

(iv) In the event of no site being found available with the necessary water-supply even after the construction of dams, etc., in the coalfields, it would be necessary to construct the generating station at Dehri-on-Son or Patna where the Committee consider ample water-supply to be available, which can be brought, if necessary, by dredging channels to the generating station, should the rivers change their courses.

10. The report provided for a second generating station at Gaya. The information received shows that the water-supply in the neighbourhood of Gaya is so deficient that the establishment of a large generating station there would be impossible; nor can we see any advantage in placing the station We have already given reasons for considering that it is economically there. advisable to concentrate on one station until the load 'exceeds 50,000 kW. But even if subsequently a second station becomes necessary, Gaya is unsuitable not only because it lacks adequate water-supply but because it is too. close to Clearly with one station in the coalfields, transport of coal the coalfields. is obviated while the establishment of two stations-one in the coalfield and one at Gaya-connected by a high tension transmission line would mean that the project would transport coal and electric energy over the same distance both at considerable expenditure and with no additional advantage.

11. We considered the proposal in the report to acquire a colliery at Jamuniatand. We are informed that the coal in that area is third grade coal, that the area is badly faulted, and intersected by dykes. The seam is 100 feet thick and the mining of the coal is likely to require not only sandstowing but elaborate mechanical plant. No satisfactory record is available of the analysis and calorific value of the coal and of its suitability for steam raising purposes. Obviously a detailed enquiry in connection with all these points would be necessary and a full report available before any committee could advise , Government to proceed with the acquisition. We do not, however, recommend that any such enquiry should be made in connection with this project. The object of the Bihar Electrification Project must be to produce and distribute electrical energy. It should concentrate wholly on this object and the raising of coal is no part of this object.

It is a matter for Government to decide whether they wish to make further enquiries or proceed with the colliery acquisition scheme but we strongly advise that, if such a decision is eventually taken after a detailed enquiry, a separate scheme should be formed and the raising and winning of coal should not be treated as a part of the Bihar Electrification Project.

There is, however, one factor which we should mention in connection with this proposal and that is that if Government themselves raise the requisite coal they will lose a powerful weapon which might enable them to persuade large collieries to buy power from the Government , Power Scheme." This serves to make the proposal inadvisable as no action of Government should antagonise the colliery companies whose loads it is very desirable to obtain as a base load for their Electric Power Project.

12. (i) We have studied the transmission system proposed by the Special Officer. We are of opinion that his scheme cannot be accepted on general principles for efficient transmission. After investigation in the time at our disposal it would appear that the major voltage proposed for the transmission system must be increased to a higher pressure than 66 kv. and we think that 88 kv. might possibly be found to be the most efficient transmission voltage to be adopted, taking into consideration the capital cost, the distance Transmission power is to be transmitted and the efficiency of transmission.

system.

(ii) The Sp cial Officer informed us that he had selected the transmission pressure of 66 kv. so that pin insulators might be used. This type of insulator has been found by experience to render the system liable to frequent interruptions of supply by birds and lightning discharges even with comparatively low voltages. It is, therefore, considered that the suspension type of insulator only should be used for the transmission and main distribution lines so as to ensure continuity of supply. We feel that the number of discs should be limited to five per suspension string as if the number is increased the capital cost will be increased with no improvement in economy and reliability.

(iii) We also do not consider the Special Officer's propo ed transmission system to be such as will most efficiently and reliably serve the load centres. As a suggestion we make the following proposals for the transmission system but we emphasise that this requires further detailed expert examination before it is adopted.

(a) Transmission line.—The transmission lines should operate at 88 kv., i.e., the highest voltage permissible with the suspension type insulators using 10" diameter discs with 5 discs per suspension string and 6 discs per tension string and should run as follows :—

- (1) A double circuit line from the generating station on the banks of the Damodar river at Jamuniatand (or other suitable place) to Barkunda and thence,
- (2) a single circuit line from Barkunda to Kanke and thence to Khalari and thence to Hazaribagh and thence,
- (3) a single circuit line from Barkunda to Hazaribagh and thence.
- (4) a double circuit line from Hazaribagh to Kodarma and thence to Gaya and thence,
- (5) a single circuit line from Gaya to Jehanabad and thence to Patna and thence,
- (6) a single circuit line from Gaya to Palmerganj and thence to Dehrion-Sone and thence to Dumraon and thence to Arrah and thence to Patna and thence,
- (7) a single circuit line from Patna to Khusrupur and thence to Mokameh and thence to Lakhisarai and thence to Jamalpur and thence,
- (8) a single circuit line from Jamalpur to Bhagalpur and thence to Sahibganj and thence,
- (9) a double circuit line from Jamalpur to Jhajha and thence to Giridih and thence to Dhanbad and thence to Jamuniatand, i.e., to the generating station.

This transmission line system, as shown on the accompanying map, will be adequate for supplying electrical energy to the extent of 100,000 kW. from the recommended first generating station and another to be properly located as and when the load demands justify, to most of the cities, towns and villages in Bihar south of the Ganges river. The future second generating station can be located at any point on this transmission line.

(b) The distribution voltage should be 11 kv. with direct transformation to supply voltages and suggested distribution lines are shown on the accompanying map. The distribution of power to low tension consumers should be by means of the out-door type of step-down transformer stations from 88 kv. to 11 kv. and thence to 400/230 volts for lighting and motors. In case of bulk supplies, energy should be delivered at 11 kv. and in case of licensces at that voltage at which licensees already distribute.

(iv) Way leaves.—We agree generally with the views expressed in the report but we consider that it is important that legal advice should be taken as to the advisability of giving the Electricity Board certain powers under the Indian Telegraphs Act, as we understand this would give some additional magisterial powers which are of great importance, and also will obviate the necessity of expenditure on acquisition of sites. At the same time, care must be taken to protect the property of the Electricity Board from being used by the Posts and Telegraphs Department.

13. The scheme put forward in the report admittedly provides for no distribution to the ultimate consumer except in the case of bulk consumers but there is no doubt that to a casual reader it leaves the impression that the rate to be paid by the ultimate consumer for domestic supply will be 1.5 annas and by the small industrial consumer 1 anna. We consider that the scheme should be one complete whole for generation, transmission and distribution and should provide for rates of distribution to the ultimate consumer. After such investigation as it has been possible for us to make, we are, however, firmly of opinion that the rate for domestic purposes should, for several years, be four annas for lighting, fans and small appliances.

In cases where the project distributes direct to domestic consumers the rate throughout the province for domestic supply must be the same for each class of consumer in similar circumstances, but if in any area under an existing license a lower rate than the general provincial rate was previously in force this should not be raised-that is the changeover to supply from the Bihar Electrification Project should never result in an increase in rates. This might result in consumers in one area covered by a previous license obtaining current at a lower rate than elsewhere in the province, but this is legitimate as in that area the distribution system has become more fully developed enabling a more economic supply.

If in any area under an existing license it is found necessary to purchase existing plant, the cost of this plant must be charged against the whole undertaking and not merely against consumers in that area; but if the difference between the rate at which the project will supply in bulk to the licensee and the rate the licensee charges to consumers is sufficient to allow him to write off depreciation and make a reasonable return on the capital invested, then the plant need not be purchased. As, however, it is clear that in some cases purchase of the existing plant must be necessary if the load is to be obtained, the necessity for making provision in an estimate of the capital required for the project for an electrification fund for the purchase of existing plants is apparent.

Similarly, in the case of bulk supply for large industrial loads great care must necessarily be taken in fixing any concessional rate, as it would not be possible to allow concessional rates in the case of one consumer which the project would not be able to afford in the case of other similar consumers situated in identical circumstances. For this reason, as we point out below, it is not possible to allow concessional rates in the case of small railway loads even though the railway itself is a large consumer.

14. We have examined the loads and load factors suggested by Mr. Sinha in his report and have three general criticisms to make :---

- (i) The estimates are over optimistic and particularly those for the first year suggest a rate which cannot be obtained. In fact we consider that a reasonable estimate would be to assume that the load obtained in the last month of the third year of operation would be equal to the monthly rate proposed by Mr. Sinha for Loads and Load the first year of operation.
- (ii) It would have been better if the estimate had been extended to show a 10-year programme and in future schemes we recommend that for estimating purposes a 10-year plan be adopted.
- (iii) The loads have not been segregated into day and night loads. Before an accurate survey can be properly considered such division is essential as without this it is impossible to say what the diversity factor is and to estimate the peak loads on the generating station.

15. As regards the different descriptions of loads dealt with in the report, we have the following comments :---

(i) Domestic load.—This is over-estimated by about 100 per cent. Experience in Mysore has shown that in towns with a population of about 5,000 or more, in the middle of the first year after construction 1 consumer in 100 of population can be anticipated and at the end of the third year 1 in 50 and that each consumer on the average consumes 8 units of electricity a month. We do not think that the initial consumption in Bihar can be any higher or a higher rate of progress than this can be anticipated.

(ii) Bulk supply.—The rate to be obtained must clearly depend on separate negotiations in the case of each licensee. But the rates suggested in the report do not show sufficient variance and there should be a more extensive sliding scale providing a higher rate than that suggested for the lower load factors and loads. There is clearly no reason to keep the rates at

factors.

the three figures of 50, 75 and 1.00 of an anna as variations in the figures for each licensee to two or three places of decimals will probably be found justifiable. The investigation of the possibilities in connection with each of these licensees will be an important duty of the Sales Engineer, whose appointment we recommend below.

(iii) Railway station load.—The one-anna a unit, which is recommended in the report as a flat rate for this load, is not a rate that will be remunerative. It cannot be justifiable to distribute current to a 5 kW. consumer with a load factor of 40 per cent at as low a figure as one anna and there is no reason, because the railway is likely to be a large consumer, that it should be given unremunerative rates or preferential treatment for its small loads scattered over large areas. We recommend that there should be one contract with the railway for the whole of these loads but that there should be a sliding scale for bulk loads, i.e., loads of over 25 kW. and over $33\frac{1}{3}$ per cent load factors and that for smaller loads the rate should be 4 annas.

(iv) Large industries.--(1) The Jamalpur and Giridih loads will be a matter for negotiation with the railway but it should be possible to obtain these loads at rates which the project can afford. It will probably be found necessary to purchase the existing plants but if this is done the plants should be kept solely as stand-by plants and should not be utilised for the production of power except in emergencies. We recommend that load curves of the Giridih and Jamalpur power plants be obtained for the four seasons of the year as early as possible. One point to be brought out in this matter is, if the railway companies purchase power from the project then they will conserve their supply of coal at Giridih and extend the life of their mines.

(2) Mica mining.—The rate of increment in load capture is too high and the figure at the end of five years far too high. We have great doubts also whether the load during the first year would be even a quarter of that assumed in the report. The industry, though at present in a flourishing condition, is somewhat precarious and, therefore, funds may not be available in the case of some companies to meet the capital expenditures involved in the change over to electric power. At the same time the difficulties that the mines encounter in coal delivery owing to the absence of roads is a favourable factor.

(3) Coal mining.—In this item the visible load has been seriously overestimated. Though there are a number of mines that have no electric power, yet it must be remembered that these are the smaller mines and in these mines, cheap steam power is obtained by burning in the boilers slack coal which has to be brought to the surface and for which there is a very limited market. We do not, therefore, think that there is any chance of a load of 2,000 kW. even by the end of third year and in fact half of that load even may not be secured.

(4) Smaller industrial loads.—So far as our enquiry went (and, of course, in the time available no detailed enquiry was possible) these loads have been carefully examined and may be accepted for a preliminary view but the load factor taken is high and should be reduced from $33\frac{1}{3}$ per cent to 25 per cent.

(5) Agricultural load.—We have no means of estimating the accuracy of this estimate but we understand that it has been framed solely with a view to the load obtained by means of irrigation from tube-wells. We consider that there is opportunity also for the use of electric pumps in existing surface wells and we recommend the investigation of this possibility and the carrying out, as carly as possible, of an experiment in the matter.

16. Of the whole visible load mentioned in the report, 47 million units out of 66 million units comprise the load in areas under existing licenses in railway workshops, in large industrial concerns and in mining areas. Clearly, it is of the utmost importance that accurate details should be obtained regarding the possibilities of obtaining these loads and of their extent. It is necessary, therefore, that the Sales Engineer whose appointment we recommend below, should begin at as early a date as possible to carry out an industrial survey into these loads. This survey should be directed to ascertaining—

- (1) the rate at which these loads can be captured ;
- (2) the amount of load, day and night, that can be captured in the first year;
- (3) the annual increment of the load likely to be captured over a suitable period to be determined by him.

17. In the analysis given in the previous pages we have criticised certain features of the report, both in respect of engineering proposals and of the estimate of loads. In spite of these criticisms we wish again to emphasise that the existing visible loads and the potential loads in excess of the existing visible loads justify an installation, of a 30,000 kW. generating station and transmission lines covering approximately the area indicated on the accompanying map. The initial stages of the project should be laid out to admit of the enlargement of the proposed generation station up to 50,000 kW. and of the installation of a transmission system such as will admit of the installation of a similar generating station at an appropriate site, the situation of which must be dependent on future load developments. The distribution system can be added to and extended as and when required for the electrification of undeveloped load centres as they develop.

18. We have carefully considered the data available regarding local conditions in the province and consider that the initial stage of the electrification project suggested above will not cost more than 2 crores and 50 lakhs. Of this sum 20-30 lakhs of rupees should be set aside to form an electrification fund which should be used mainly for the purchase of plant of existing supply organisations at its depreciated value, but to a small extent (possibly 5-lakhs) as a "revolving fund" to be utilized by the Electricity Board, for the purpose of obtaining, by the supply of plant on hire or hire purchase, loads which might not otherwise be available at equally remunerative rates.

19. We emphasise that necessary action should be taken at the very earliest date possible in order to provide the province with the one great commodity lacking for its industrial and further agricultural development, and we consider that an important item of propaganda would be the early construction of the proposed transmission line between Patna and Jamalpur and the purchase of power from the power producers in these two places—to such extent as may be available without their installing additional generating plant—and that the distribution system in selected places be provided and power supplied to the ultimate consumer to the extent available from these two sources. If this is done, considerable experience will be gained in the operation of high tension lines and distribution systems and trained staff will, to a certain extent, be made available for similar work in other parts of the province when the main project is under construction and in operation.

20. For further progress in the project it is clearly necessary that steps should now be taken for the appointment of the requisite technical staff for the preparation of the project and for training some part of the requisite staff that will be required for operating the scheme when constructed. We cannot over-emphasise the fact that, the preparation of the project is a highly technical matter, requiring not only high technical skill but also considerable practical experience, and that the Chief Engineer in charge must have the highest qualifications.

21. We recommend, therefore, that Government should at once advertise widely to fill the appointments detailed below :---

(i) One Chief Electrical Engineer who should be fully qualified, technically and practically, in the construction and operation of a steam electric power supply system including generation, transmission and distribution.

- (ii) One Assistant Chief Electrical Engineer of equivalent
- (iii) A Civil Engineer with the technical qualifications required for Class I, Public Works Department Service, and with the experience that is ordinarily found in a person holding the post of Superintending Engineer. This appointment will be of a temporary nature.
- (iv) One "Station Superintendent" with considerable practical experience of the maintenance and operation of large steam electric generating stations.
- (v) One "Sales" Engineer with special training and experience in industrial and domestic electrifications.

We feel that the above appointments with the exception of the Station Superintendent should be made immediately Government decide to go ahead with the project. The Station Superintendent will be required before the designs of the generating station are finally completed.

22. In addition, however, to the staff whose, immediate appointment we recommend, it is also necessary that immediate steps be taken to train a staff of Biharis for employment on the project, when it materialises as unless this is done it will be found necessary to recruit persons from outside the province as, we understand, there will be insufficient material in the province with the necessary technical qualifications. We cannot, however, emphasise too strongly that technical qualifications must be present sufficient to justify appointment and that Biharis cannot claim priority of appointment unless they have the requisite technical qualifications. The tentative suggestions which we make regarding the steps necessary for immediate adoption for the purpose of training this staff are given below but these suggestions should be considered as subject to modification after the Chief Electrical Engineer is appointed as he will be able to visualise the matter with more local knowledge than we possess :--

- (i) Four men in the first year and thereafter two men a year should be sent abroad for technical and practical training. Of these half should go to England and half to America. They should be graduates of any recognised university in India in Electrical Engineering or have obtained the certificate of the Indian Institute of Science at Bangalore in Electrical Engineering. They should spend two years on specialised higher studies in Electrical Engineering and two years in practical training in the works of engineering manufacturers and large power supply companies.
- (ii) Six young men with the same qualifications should be sent over-seas for two years for intensive practical training.
- (iii) Twelve men with the same qualifications should be attached, at least for one year, to the principal hydro and steam power systems in India for practical training.
- (iv) The standard of education in electrical engineering in the Bihar College of Engineering should be adjusted so as to train students to take the posts of senior and junior operators.

THE DEHRI-SASARAM-KUDRA SCHEME.

23. We think that the project is sound provided that it is revised according to sound engineering practice. It will have the same propaganda effect as the line between Patna and Jamalpur, the early construction of which we have suggested in a previous paragraph of this report. It must, however, be so revised as to fit in with the major project, of which it must be considered an integral part. In view of this, the rates at which supply can be given must be not less than those which are likely to be adopted in the main project. In this view the offered load of 1,000 units a day at 9 pies at Kudra should not be accepted; the lowest rate that should be accepted for this load is 1 anna for a guaranteed minimum consumption of 25,000 units a month.

In our opinion the voltage of the line should be 11 kv. and it should be of double pole construction with single disc insulators. In the estimate we noticed that a sum of Rs. 3,900 has been provided for a high tension cable from the power house to the sub-station. We understand that the distance is 1,300 yards and we consider this sum inadequate for cable of reliable manufac² ture. We consider that all cables supplied should be to British Standard Specifications.

24. In conclusion, we wish to place on record our appreciation of the great assistance given us by your Financial Secretary, Mr. H. O. Prior, C.I.E., I.C.S., in giving us a great deal of information necessary for this report but not available in the Special Officer's report; without this additional information it would have been impossible to complete this expression of our opinion.

*S.G. FORBES,

Chief Electrical Engineer, Government of Mysore, Bangalore.

[•][•]H. M. MITRA,

- Electric Inspector of Mines to the Government of India.

J. PARKINSON,

Chief Engineer, Calcutta Electric Supply Corporation, Ltd.

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BIHAR ELECTRIFICATION

REPORT

CONTAINING OUTLINES OF A SCHEME

THE ELECTRIFICATION OF SOUTH BIHAR

AND

FOR

IMPORTANT PORTIONS OF CHOTA NAGPUR (REVISED)

> S. K. P. SINHA, SPECIAL OFFICER



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Map no. 2.

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MAP SHOWING EXISTING INDUSTRIAL LOADS.

The plate of this map has been broken up, and the map is therefore not reprinted.

The existing loads will be found shown on the Bihar Electrification map in the Technical Committee's report.

BIHAR ELECTRIFICATION

REPORT

CONTAINING OUTLINES OF A SCHEME

FOR

THE ELECTRIFICATION OF SOUTH BIHAR

AND

IMPORTANT PORTIONS OF CHOTA NAGPUR.

The instructions that I received from Government, both express and implicit, were to the effect that I should

My instructions.

generally survey conditions in the province and investigate the possibility of the in-

auguration of an Electric Grid System with a view to bring about the industrial and agricultural development of Bihar. I have studied official records that were available on the subject and it may not be out of place here to describe in outline the posture in which the matter stood in the Secretariat files, when my investigations started. As a result of suggestion made in the now-defunct Bihar Legislative Council, a senior officer of this province was deputed to the United Provinces to study the Hydro-Electric and tube-well systems of those provinces and to submit a report to Government. His report showed that the crux of the

Crux of the problem of lift irrigation.

whole scheme of solving irrigational problem from underground sources of water was cheap, supply of energy. In the

United Provinces this is obtained from a Hydro-Electric scheme which consists in harnessing the various falls of the big Ganges Canal and transmitting the electricity so generated to some 1,500 tube-wells scattered over various districts, and utilising it for the pumping of water to solve the irrigational needs of those localities.

In the beginning it was apprehended that the cost of generation of electricity would be prohibitive in Bihar for want of water-falls, so much so that the cultivators will neither be able to afford nor would they be inclined to pay the consequently high rate for irrigation. Later investi-gations showed that there was no ground for the apprehension that the cost of electricity would be high in Bihar. And though the Government of the day felt that they would not encourage the extension of sugarcane cultivation in the province, as it was tending to over-production, it was suggested that such a scheme, if inaugurated, would be useful for "rice purseries in hot

Some uses of tube-well irrigation.

weather, a substitute for Hathia rain in October and two waterings of rabi cropduring the cold weather ". It was also

thought that tube-well water would be useful for the intensive cultivation of vegetables. But, on the whole, the scheme was more or less discarded and was. considered impracticable. At this stage the Congress Ministry came to power.

This Ministry felt that the matter had not been properly gone into and decided to investigate the problem in all Sir William Stamps invited to Patna.

its aspects. Sir William Stampe, who had retired from the Chief Engineership

of the United Provinces Grid and Tube-Well Systems, was invited to Patna. for a preliminary discussion and general advice. A conference was held at which heads of various departments were present and was presided over by the Hon'ble Mr. Anugrah Narayan Sinha, Minister-in-charge, himself. The deliberations at this conference tended to the belief that a Grid System and Tube-Well Scheme were quite feasible for Bihar. On the basis of data available at that stage, Sir William prepared and submitted a preliminary report and showed that the ground was promising and recommended the investigation of the matter in greater detail.

It has since been definitely decided that the scheme of electrification of Bihar should be visualised, not only

Irrigational and industrial developments to be linked.

from the point of view of solving irrigational problems of the province, but that a wider outlook should be

adopted and the larger question of industrial development should also be linked with it. This decision, as the latter part of this report will amply show, has been of great wisdom and tremendous influence. No scheme of electrification can be an unqualified success-speaking of success in the wider sense of the term -- if it caters merely for agricultural loads. For agricultural requirement of power, by the very nature of things, is seasonal in character and can provide no steady load. While a certain minimum amount of constant load is essential for the technical, and what is more important, financial success of an electrification scheme.

This point was vividly brought up and realised in the course of my discussions with Mr. E. C. B. Walton, the Hydro-Electric Engineer of the United Provinces Grid Scheme. He pointed out to me that in his case the agricultural load was 75 per cent while non-agricultural load constituted only 25 per cent of the total of that system. In the case of the Madras Pykara scheme, the weaving mills alone consumed 51 per cent of the total generation of energy, while another 11 per cent was taken up by Cement manufacture. Mr. Walton was definite that if his proportion was 75 per cent industrial and only 25 per cent agricultural, the financial results of the venture would have been greatly better than what it is. A good

Proportion of industrial load to agricultural load.

scheme, therefore, must sim at as high a proportion of industrial load as possible. And as will be seen later on, this can be

easily attained in Bihar. The prospect, therefore, of the proposed electrification scheme here is incomparably better than that of the United Provinces scheme and appreciably better than that of the scheme of many other provinces of India, even from the point of view of type of loads available:

My instructions were to study conditions for the whole of Bihar. The pre-

Different regions of Bihar Province.

sent province of Bihar, as is well known, has three distinct regions, namely, (1) the rich fertile tract of country lying to the

north of Ganges called North Bihar, (2) South Bihar, (3) the plateau of Chota Nagpur. Each of these regions has got its own characteristics and special problems. Chota Nagpur is one of nature's favoured tract of land in the world so far as richness of mineral deposits are concerned. Moreover it has the world's Given facilities and planning monopoly in commodities like mica and shellac. and a certain amount of encouragement from Government, it does not require much imagination to foresee that Chota Nagpur should become a highly industrialised region, capable of supplying the needs, not only of Bihar, but of the whole of India in various important lines. South Bihar, for the time being, suffers a great deal from the vagaries of the monsoon and is occasionally overtaken by draught which leaves its fields dry at critical periods in the growth and maturing of crops. Its irrigational requirements are crying indeed, but given these facilities there is ample scope for an expansion and multiplication of its agricultural produce which would greatly contribute towards a diminution of hunger and poverty in the province. North Bihar, while portions of it have their own problems of irrigation, suffers mostly from floods and stagnation of water over fertile tracts which, if drained out, would materially contribute towards the prosperity of that part of the country.

Power requirements universal over whole province.

The above considerations will show that power requirements, though diverse in form, are general for the whole province. Such being the case, it is not necessary at all to labour the point that electrification is a great desideratum. A suggestion has been made that Government might encourage the formation and functioning of electric supply concerns, operating over large areas. But it is worth while noting that modern tendency is to seek a "combination of public ownership, public accountability and business management for public ends" (H. Morrison). Supply of electricity has almost become a symbol of the age in which we live. It is

Electric supply a genuine kind of public service and true function of the State.

a genuine kind of public service, required alike in the interest of social and industrial progress, and therefore the method

of organising this service most suitably becomes the true function of the State.

In the wider interest of the public and the progress of the community at large, it is essential to see whether in the industrial field there is anything incompatible with what may be termed a technically sound system. It is now admitted on all hands that concentration of larger generating units in larger and fewer power station is urgently required. This is based on the consideration that a larger unit is not only more economical in capital cost and running expenses but that it lends itself to

Electrification required for wide development. effective technical control and supervision which alone can ensure the steady supply

of cheap power so essentially required for the development of a country. One authority has stated thus "During the period of industrial depression from which we have good reason to believe we are now emerging, Britains' ability to stand in competitive markets has depended not least upon its plentiful supply of cheap electrical power. In future, it will depend upon this to a still greater extent". The object is to ensure progress towards cheaper and efficient national supply of electricity. Electricity has the great merit of being easily converted into any shape in which power is required. This is the reason why electrification almost always leads to widespread development.

As an illustration, to establish the point that electrification leads to deve-

Example of Great Britain.

lopment, may be cited the case of Great Britain where the Electric Grid System was introduced in the year 1929. Within

the next 6 years while the world's electric output increased by only 35 per cent, that of Great Britain alone increased by 95 per cent. The British experience has also established the fact that under a State electrification scheme "in general, technical progress has been immensely more rapid than would ever have been possible under independent private enterprise". Authors of that scheme early recognised that while its construction could only be carried out by stages, the Grid should, from the first, be envisaged as an unit and careful consideration was given to the problem of public con-

Policies underlying Pritish Electric Grid Venience and technical efficiency. The scheme took power for the forcible closing

down of inefficient units and the framers had two aims in view, namely, (1) reduction in price, (2) greater availability to all classes of ultimate consumers. These objectives were established at an early stage and decided policy for carrying them out was adopted. The result was quick and stimulating, as will be proved by the fact that though in 1927-28 the number of units generated by all authorised undertakers in Great Britain was 9,928 millions, by 1935-36 the figure had risen to 18,450 millions. Its popularity may also be gauged by the fact that the number of electric consumers in Great Britain in 1921 was 2 millions. By 1934-35 it had arisen to 6.9 millions.

After all the ultimate object to be kept in view is the solution of the economic trouble of the people and the

Electrification leads to greater creation of wealth-

economic trouble of the people and the providing of social amenities to them. The former problem has two distinct

branches, namely, (1) the creation of more wealth than is done at present and (2) equitable distribution of it. It is, however, a fact that the letter becomes of importance only when the former is assured. When the total creation of

wealth is inadequate to meet the requirements of the people, no plan of equitable distribution can banish misery from the land. And electrification, does certainly assist in the creation of more wealth. The first necessity of a man is adequate food and a point has been raised that electrification and tube-well irrigation would increase annual agricultural produce so enormously that the price of food-stuff would be lowered and this factor will not be in the interest of the cultivators themselves. This sort of suspicion and apprehension, it may be noted, has not deterred other provincial Governments in India from embarking upon schemes calculated to increase the productivity of culturable land. The extensive and wide-spread system of Canal Irrigation in the Punjab and the tube well irrigation system of the United Provinces are examples of gigantic efforts on the part of those Governments to meet the irrigational needs of the areas entrusted to their respective charge and thereby increase their productivity. And as there is no inter-provincial tariff barrier. it would be pathetic to leave the cultivators of Bihar uncatered for so far as their irrigational requirements are concerned while their confreres in the other provinces are so much better off. Everybody knows that huge quantities of Punjab wheat is imported into Bihar from the Lyalpur market. This is so because irrigation enables the Punjab to have good wheat crops while in Bihar want of it makes rabi crop and particularly wheat so poor and of indifferent quality.

But, in my opinion, the point raised is not clear of misapprehension. It is

Greater produce required for adequate feeding of population.

not sufficiently realised that there is ample scope for increased consumption of foodstuff and agricultural produce. Speaking in general terms, the population of the pro-

vince of Bihar, as constituted now, is about thirty million souls, while the area under cultivation is also about thirty million acres. This works out approximately as one acre per head of the population. It is true that every individual of the population does not require the quantity of food of an adult. Infants and children, for example, do subsist on smaller quantity of food, but at the sametime all the culturable lands are not under cultivation of grains suitable for human consumption. A good proportion of them are kept under money crops like sugarcane, jute, tobacco, hemp, etc. If these two factors are eliminated from consideration, then it roughly works out that one acre of land is available to feed one adult of the population of Bihar. Now the requirement of an adult is about 21 lbs. of grain per day which approximately amounts to about 12 maunds per year of finished grain or food-stuff. Under present conditions it is idle to contend that the average produce per bigha of land, not in terms of paddy and pulses, but in terms of finished products like rice and dal, can be taken to be more than 5 maunds. Even this estimate is inclined to be excessive. This gives about 8 maunds per acre as against a requirement of 12 maunds. It will be thus seen that there is ample scope for increased consumption of food-stuff and if better and heavier crops are grown, the cultivators and those who depend upon them will be better fed than at present which will improve their health and vitality. The idea, therefore, should be banished from the mind that increased production can, in any way, under present conditions, harm the cultivators. The price of the grain, he grows, does not depend upon Bihar conditions alone but upon All-India and world conditions, and this makes it essential that he should be made conversant with all the latest methods of agriculture and be given all the facilities by way of irrigation and fertilisers that cultivators of other countries are wont to have. Moreover under the present state of things, nobody can fail to notice the half-starved condition of agricultural cattle. I cannot forget the words of the French

Starved and ill fed cattle.

savant, Sylvan Levi, who told me when he came out to India many years ago "nothing has pained me more in this.

country than the condition of the cattle. In a country, where cattle are worshipped, it is an irony of fate that their condition should be as bad as it actually is. " There can be no doubt that with better production, agricultural, cattle also will be better fed and looked after. Before I leave this point, I would like to mention what Mr. Richardson, Chief Engineer, United Provinces, Irriga-

Poorest districts. of United Provinces now most well off. tion, told me at Lucknow when I was

day. He said that the districts of Shaharanpur, Meerut, Buland-Sahar, etc., were the poorest in the whole of the United Provinces. The introduction of the tube-well irrigation system has probably made them the most well off or at least very much better off than what they were before. This remark has a lesson for us and it is not open to say that increased production can harm cultivators. The latter know their requirements and they experience the pange of hunger and I have yet to come across a cultivator who does not long for heavier and better crops.

If tube-well irrigation is to be introduced it is essential to take note of geological considerations and collect data

Geological considerations.

which may go to show the availability of . water in underground strata and the

discussing the matter with him the other

effect that wide-spread pumping may have upon the water table of that locality. This point was gone into in the United Provinces at considerable length, though the actual execution of the work was not held up pending the receipt of the result of those investigations. The authorities had submitted the case and got a report from Mr. J. B. Auden,

Views of Mr. Auden, Assistant Superintendent, Geological Survey of India.

M.A. (Cantab.), Assistant Superintendeut, Geological Survey of India. Mr. Auden pointed out that the Gangetic alluvium

of United Provinces, Bihar and North Bengal had rather been deposited in an undivided basin with an underground ridge in the west (dividing the present watershed between the Indus and the Ganges river systems) which forms the western edge of the basin and a submerged ridge in the east probably extending from the Garo Hill in Assam to Monghyr, which forms the eastern edge of the basin. This consideration together with other geological data led him to believe that the water-bearing stratum lying both to the south and north of the Ganges are inter-connected and on the basis of that and other factors, he came to the conclusion that there was no apprehension of the lowering of water table in the United Provinces as a result of the proposed limited tube-well pumping. Mr. Auden further opined that even assuming that the tube-well area in the United Provinces is isolated from the other portions of the Gangetic alluvium tract, which is not a fact, and taking 20 inches (a very low figure, much smaller than the actual) as average annual rainfall and 1/4th as percolation factor, then 14 cusec tube-wells in the United Provinces could pump out only a little more than a half of the portion of rain water which the area receives by percola-

losses in sub-soil water table.

Percolation more than recoups pumping tion. In South Bihar the average rainfall is about 45" and therefore a similar amount of pumping would take even a

much smaller fraction than half of what the water table receives by percolation alone.

The matter was also referred to Dr. Mckenzie Taylor, Director of the

Dr. Mckensie Taylor's views.

Irrigational Research Institute of Labore. who also, in his report, proved by applying some formulæ that the water table

in the Gangetic alluvium is connected throughout the area, thereby corroborating Mr. Auden's views that sand lenticles are connected all over the area. He further showed that water table is directly dependent upon the rainfall in the area and in hill tracts from where water percolates into this area, and came to the conclusion that water table may be expected to rise or fall 13" for every inch of rainfall above or below the normal. His further conclusion was, after a study of the statistics of the water table and rainfall for a number of years, that pumping out of water by tube-wells has practically no effect on the water table and that a balance exists between the agency supplying the water to the water table and those withdrawing water from it. Dr. Taylor also showed that the effect of tube-wells is only felt

. 3

up to a distance of one thousand feet. So if the minimum distance between two wells is kept at two thousand feet, then the cones of their depression cannot overlap.

These scientific considerations have been corroborated by actual observation, and Khan Bahadur Abdul Aziz, another Chief Engineer, United Provinces. Irrigation, told me that there can be no apprehension of any possible lowering of water table if I propose to pump only at the rate of one cusec per square. mile of territory. And I do not propose to pump any more than this. And basing my conception upon the views of Mr. Auden that a submerged ridge from Garo Hill to Monghyr forms the eastern edge of the Gangetic alluvium basin, I think that the Bihar alluvium serves as a reservoir towards which water tend to flow from the United Provinces side and therefore our availability of water should be more copious and assured than elsewhere. I am thus

proposition.

led to the conclusion that the introduc-Tube-well for Bihar-a sound and practical tion of a tube-well system in the Gangetic alluvium of Bihar is a sound and practical proposition, unaccompanied by any risk

whatever.

The enquiry into the possible effects on sub-soil water table was more important in the case of the United Provinces than it can be ever in our case. There they have taken out two canals from the Ganges, called the Upper Ganges Canal and the Lower Ganges Canal respectively. The tube-well scheme operates over areas which commands portion of the Ganges below the Upper Canal but above the Lower Canal. If, as a result of pumping from those wells, water table were to be lowered, it might adversely affect seepage water that might be finding its way into the Ganges bed above the Lower Canal and thereby be nullifying it partially resulting in the waste of crores of capital sunk on the construction of that canal system. In Bihar the only successful canal system that we have got is the Sone Canal system. And geographical conditions show that its supply can hardly be affected by pumping over areas where our tube-wells can possibly be located.

So far as portions of the province are concerned where there is merely a mantle of alluvium as in South-Gaya, South-Monghyr, South-Shahabad, Santal Parganas, etc., I am advised by my Geologist that open wells sunk to

Extent of tube-well irrigation.

a depth of about 150 feet would serve the Open wells suitable for some areas in Bibar. purpose almost equally well, because all these regions have a number of cracks

and faults in their stony texture from which good supply of water can be had. My geological survey is proceeding to mark out zones suitable for the sinking of tube-wells, as also zones where open wells are likely to be a more suitable The shaded portions on the accompanying map III method of supply. generally indicates areas where tube-wells are likely to be a success.

It is difficult to estimate with any degree of accuracy the extent to which tube-well and other kinds of lift irrigation will be required. It will involve an intensive irrigational survey which has not yet been undertaken. But,

generally speaking irrigation is required over the whole of South Bihar and over portions of North Bihar and Chota

Nagpur. At the same time, there are some old existing systems of irrigation which, within limited scope, are quite cheap and efficient, and the new system to be introduced will have to be fitted into them and more or less supplement and amplify them. Most of those systems, however, are only for the crop of paddy, as they are based on gravity flow, from shallow hill streams running in and along channels made at random without any scientific knowledge but based upon empirical sense and local conditions. But such systems serve only limited zones and special localities, and make no effort at intensive utilisation and conservation of the water available. Even regions, served by such system, require irrigation for rabi and hot weather crops. The tube-well system will therefore have to serve all localities, though, in the case of zones of the kind under reference, their location may be more distant apart. But it can be safely assorted that in the fulness of time, the number of tube-wells and other kind of lift irrigation stations will have to run into thousands. For after all, one tube-well will serve only an area of about 11 square miles.

As a start, however, it is suggested that we should have only 500 pumping

500 pumping stations to start with.

stations. As the demand for tube-wells and their popularity grow, the number Such a scheme, by can be added to.

and utility are established by actual operation of the system. So far as the

the nature of things, can only grow in the same proportion as their demand.

Suggestion for location of tube-wells.

location of the proposed 500 wells is concerned, it may be necessary to advertise and invite applications from tenants and zamindars and after an examination of the localities concerned, to finally decide upon the actual sites for them. For the purpose of estimating the cost of the scheme, the outline of which is incorporated in this report, it is being assumed that each tube-well will require about two miles of rural transmission line to be connected to the electric mains for being supplied with energy.

An important point that arises in this connection is the basis and system on which cultivators would like to have their fields irrigated. The system in vogue in the United Provinces Scheme is that equipped well

gation.

with operator and current is given to United Provinces system of tube-well irri- individual cultivators by the hour. As; the current consumed per hour is constant the system fetches a definite price for elec-

tricity per unit consumed. No guarantee is given as regards quantity of water pumped. But the cultivator learns in a short time to definitely assess how much it will cost him to irrigate per acre for a particular crop. For, all crops do not consume the same quantity of water per watering, which fluctuates according to crop and time of the year. In the United Provinces the present rate is 12 annas per hour for *rabi* and kharif and Re. 1-2-0 per hour for sugarcane. The latter rate is very unpopular being 50 per cent higher than the former and I found cultivators grumbling a lot. They assured me that with a rate of Re. 1-2-0 per hour, the cost of sugarcane irrigation works out at about Rs. 20 per some as account Rs. 10 which is the area of the source as account of the source of t per acre as against Rs. 10 which is the canal rate. This individual supply system has one great merit and it is this, that it makes the cultivator econo-mical in the use of irrigation water. He takes only just as much as is actually required by him and never attempts to flood his plots of land, which he does in the case of canal irrigation where the charges are constant irrespective of the quantity of water taken. This is a most important factor which tends to increase the area actually irrigated or capable of being irrigated by a tube-well.

I took opportunity of meeting a large number of cultivators in company of Mr. Prideaux, the Collector of Shahabad, and talked to them on the subject, Bihar cultivators favour area and crop basis. explaining to them the system in vogue in the United Provinces. The canal irrigation system, as it obtains in Bihar, is well known to them. And I asked them whether the former was preferable to them or the latter. With one voice they told us that they know and under-

stand the canal system and would not like the United Provinces method. This matter of the basis of irrigation will have to be gone into at greater length and a decision arrived at. But the basic policy will have to be adopted that whatever the system, the rates for irrigation of different crops should not exceed the canal rates, though they might approximate to them. This is what the cultivators told me and Mr. Prideaux in most explicit terms and I consider this ideal quite capable of achievement.

Now tube-wells and open wells may assure the availability of water, but there must be electricity to pump it up to ground level before it can be utilised for irrigation purposes. The idea of making each tube-well independent of such supply by working them each with small units of power plant is of course neither proper nor practicable. The initial cost and the recurring cost of maintaining such system will be so great and the consequent cost of irrigation so high that no cultivator was likely to resort to it. The only method of working such system would be by means of the introduction of an Electric Grid System which would permit the distribution of energy to every tube-well at a cheap rate and in a most efficient manner. And

Electricity required for salvation of agri. this immediately emphasises the necessity cultural population. for electrification even to bring about

of the province.

It seems to me from the course of dehates in the legislature and from private interviews that the term "Grid" has proved puzzling to many people.

Grid system explained.

Grid merely implies the existence of a number of generating stations intercon-

for electrification even to bring about salvation of the agricultural population

nected with one another forming a pool or reservoir of energy from which it is distributed by a net work of transmission lines to centres where energy is consumed and made to do work of economic value. The transmission lines are called Grid lines and the inter-connected generating stations are said to be gridded together: It will be thus seen that there is no novelty in the term Grid System "and the word is used merely to indicate the lay-out and structure of the system.

If electrification is to be introduced the first requirement is to make a survey of the sources of power. Two kinds of power are generally used for

the purpose. Either it is derived from

water-falls or generation of electricity is done with steam. In this province we

have not many water-falls of considerable magnitude, except probably the Hundru fall in the district of Ranchi, which will be presently discussed. But on the other hand, we have by far the largest deposits of coal that are

Coal cheaper in Bihar than anywhere, else Suitable for electric generation.

Sources of power.

found anywhere in the whole of India. Indeed coal at the pit-mouth is cheaper in Bihar than anywhere else in the world;

the river system of South Bihar is

concerned, they have their origin in the

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and this clearly points out that our salvation lies in the utilisation of our coal deposit for the generation of electricity

So far as utilisation of water power is concerned it need hardly be pointed out that the fall must be perennial, either naturally or should be made so artificially by the putting up of dams and impounding monsoon water to form reservoirs or little lakes to draw from during the dry part of the vear. Now, rivers generally have their origin in mountains and hills. The

rivers of North Bihar originate from the Himalayas and being snow-fed, many of them are perennial; and should reconnoitre reveal fails in the course of the Gandak, Kosi, Baghmati, etc., it, would provide an excellent site for generation of electricity from waterpower. The territory, however, where such sites can exist are within the kingdom of Nepal and it would be worth while enlisting the sympathy of that Government in the matter. It is proposed in the first instance that a letter might be addressed to His Majesty's Envoy Extraordinary and Minister Plenipotentiary at the Court of Nepal and through his good offices obtain general information as regards the existence of such falls. In so far as

South Bihar rivers.

Vindhya Range and since the Vindhya Range has not many snow-clad peaks, most of the rivers of South Bihar dry up during the dry part of the year, or if they are perennial, pass only a small volume of water in the summer. They cannot, therefore, be used as source of power without costly arrangements for impounding the monsoon run-off. But for this draw-back, the Hundru fall provides an excellent site. The whole

Proposal for intensive survey of Subarnawha astoh meat area.

Subarnarekha river suddenly drops some three hundred to four hundred feet. Its potential capacity to generate

electricity is very great. Before, however, anything definite can be said on the subject it is essential that a

detailed survey should be carried out of the entire catchment area of the Subarnarekha river above the Hundru fall. It is quite possible that an intensive survey like the one proposed may reveal sites where a moderate expenditure may be able to create a large reservoir capable of feeding the fall and making it perennial of a size which would admit of its commercial use. There are other water-falls in South Bihar but none of them hold out anything like the same promise as the Hundru does. Should, however, the Hundru be developed its situation is such that the electricity which will be so generated can be utilised with enormous advantage without any unduly high cost of the required distribution system. The investigation is worth making and I commend it to the attention of the Government.

In the earlier part of this report it has been pointed out that the proportion of industrial load to agricultural load should be as high as possible. To be

Load survey done.

able to gauge the former, a survey was undertaken of the existing loads in the province. Data have been collected to

analyse market possibilities of selling electricity. It is essential to realise the fact that, like other commodities, power also must and will find a market on commercial principles, i.e., equal quality and service at competitive price. And industrialists and mill-owners are always anxious to reduce their cost of manufacture, and if it will pay them to buy electricity from the electrification scheme, they would never want to run their own power plants in case the cost of their own generation is higher than what they will be called upon to pay for the purchased energy. With this end in view, a list of existing power plants of the province has been made up together with their condition. output, operating personnel, fuel consumption and periods and character of power service furnished. Of course all details have not been forthcoming in

Market for electricity examined.

case of all plants because methods of accounting in the case of the smaller plant owners are necessarily imperfect and full

informations are not available. But so far as possible, all informations have been collected with a view to find out the likelihood and scope of the minimum sale of power from the contemplated grid scheme. Over and above considerations of economy, there are other factors which go to popularise an electric supply scheme. These are comparative noiselessness and cleanliness and greater practicability for machine speeding. Consumers only pay for as much power as is doing actual work for them, and this is important because in every factory a liberal percentage of reserve power has to be kept. These factors enable a consumer when electric supply is available to make of his power charge a fixed item while otherwise it is a speculative one.

Informations collected by the load survey are shown on the load plan attached herewith. It will be seen Industrial power requirement considerable. therefrom that industrial requirements of

power are considerable in this province. This factor is of tremendous importance and considerably brightens the financial and technical prospects of the proposed electrification scheme. In the United Provinces to quote the words of Sir William Stampe " The problem before the United Provinces had mainly comprised the electrification of wide areas of agricultural country lacking in large towns with industrial loads and thus depending chiefly on irrigation pumping and agriculture for the utilisation of electric power." For Bihar Sir William Stampe has put down as his opinion that "the pumping demand are likely to bear a

United Provinces and Bihar conditions compared from electrification point of view.

smaller proportion to the urban loads than is the case in the United Provinces.' Indeed it is clear that the problem in Bihar is fundamentally different from the prob-

lem that was encountered in the United Provinces in the particular zone where the Caual Grid Scheme operates. There the absence of industrial loads was

a factor which could not but provide a shaky and uncertain foundation for the scheme, but conditions in this province are much more favourable because. as will be seen from the accompanying Tables, the demands for industrial purposes are many times greater than demand for agricultural ones. The load survey which has been conducted has given me an idea of the cost that the generation of power involves industrialists to at the present moment. Everywhere that I have gone to, there has been demand for cheap and reliable energy. The mica mining industry in

Depths of mining operation in coal and mics area.

particular and also the coal mining industry (mostly the small Indian Colliery proprietors) are crying for cheap electric

power. Most of these mines have now gone to a depth of 300 feet or over when steam no longer furnishes them with suitable method of pumping out water. Electric energy, on the other hand, does pumping work efficiently even at greater depth and the mining people are naturally anxious to get

Electricity-a necessity for pumping from such depths.

supply of electricity. It is true that there is already a fairly big supply company Jharia Electric Supply called Sijua Company, operating in the colliery area.

but that company operates over a limited area and moreover the schedules of their tariff, being on the sliding scale, is so adjusted that its effect is that while the big company-managed collieries can get their supply of power at a reasonable rate, the smaller colliery proprietors cannot get it except on most exorbitant terms. They, therefore, find themselves in a fix and owing to the long protracted trade depression they have not the necessary capital to buy and install their own electric generating machineries. So far as the mica mining industry is concerned, the biggest mine-owners are Messrs. Chathu Ram Horil Ram and Company of Koderma and Messrs. F. F. Chrestien and Company of Domchanch. The manager of the latter and a high placed representative of the former have seen me and have impressed upon me the desirability and urgent necessity of supplying electrical

Mica mining industry power requirement.

Load estimates on conservative basis.

• energy to them at an early date in the interest of that industry. The mica mining industry by itself requires over-

5,000 K. W. Chothoo Ram Horil Ram alone wants over two thousand K. W

In the present estimate of load that I have made, I have been extremely conservative. Instead of 5,000 K. W. for the mica mining industry, I am

assuming that in the beginning the requirement will only be for about 1,500 K. W. which may develop to about 3,500 K. W. in course of five years. Similarly I have been very conservative in estimating the load of the coal mining area and have assumed that, to start with, the load will only be about 2,000 K. W. The area proposed to be served includes the Chowrasee coalfields lying south of the Damodar river where the coal seams occur in very steep planes and are difficult to be operated upon without mechanical

power. At Jamalpur the railway authorities have offered a load of 4,000 K.W.

That load, if available, would be most valuable indeed, and would go a great way towards ensuring the financial stability of our project. It may be noted here that one of the chief loads on which the Mandi Hydro-Electric Scheme in the Punjab depends is the big workshop of the North-Western Railway system.

It is rather extraordinary, but the present time seems to be the psychological moment when Government should

Government declaration to proceed with the scheme essential without delay.

Jamalpur Railway workshop load offered.

make up their mind and make a declaration of their intention to proceed with the

scheme of electrification, otherwise there is serious risk of most valuable loads being lost to the system and the Jamalpar load is a case in point. At the present moment the Patna Electric Supply Company is contemplating extension of their power plant. So is the case with Bhagalpur. The Gaya plant needs change and renewal. Jamalpur railway workshop for want of declaration, may make their own.

bundobast. The Cotton and Jute Mill at Gaya has got no spare power for running the weaving looms which they are expecting shortly and are anxious to know whether the electrification scheme can give them the necessary power. Two big oil mills at Gaya have already written to me expressing their readiness to take energy from the electrification scheme. A silk weaving mill at Gaya again is approaching completion and would be included in our clientele. This list can be multiplied but most of these loads would be lost unless immediate declaration of the intention to proceed with the scheme is made by Government. I hope this contingency will never be allowed to come to pass, but if

Delayed declaration may prove disastrons.

it does come to pass it will adversely affect the financial prospects of our scheme and we will then be approximat-

ing to the United Provinces conditions where the agricultural loads preponderate over the non-agricultural ones.

As stated above I have been very conservative in estimating loads which

Such scheme creates their own market.

Supply possible at extremely cheap rates.

will be available immediately. This course implies unusual caution because such schemes generally oreste their own

market and one is justified in reckoning on loads the creation of which is morally certain on the inauguration of the electric grid scheme. An electric supply of energy stimulates industrial activity and it also advances social amenities of life. This is particularly so when such supply makes cheap power available, and conditions in this province lead me to the conclusion that

our scheme will be able to supply power within the province at rates which have not been equalled much less excelled

anywhere else in the whole of India. Under these circumstances the stimula. tion for the use of electric energy will be very pronounced. Even domestic loads would tend to multiply a great deal. For my present purpose of estimating the load so far as domestic consumption is concerned I am assuming that all towns with population of 5,000 and over within the area of electrification will be electrified and initially the consumption

Basis of estimate for domestic use of electrieity.

will only be 2 units per head per annum which would develop to about 4 units per

head in the course of 5 years. In the U. P. system, the consumption of electricity works out to about $2\frac{1}{2}$ units per head not only of urban areas but of the whole areas including rural ones which are served by the Grid scheme. And so my estimate of revenue, being based upon such conservative estimate of demand, must be considered safe.

It is suggested by many people that Government should not attempt to

Suggestion for purchase of current from Supply Concerns examined.

generate their own electricity but should provide transmission grid lines and buy current for distribution from wellestablished companies operating within

as generation of energy is concerned they

the province. This proposition has no attraction but many drawbacks. It may at once be laid down that in the matter of electrification, the more difficult and more costly part of the business is the distribution of electricity. The generation of it is comparatively a simple affair. Large manufacturing firms with high reputation not only offer to supply the machineries and plant but to erect them and hand them over in working order. In other words, so far

Transmission more costly and difficult than generation.

band it over as a going concern. The real difficulty and risk is in the control and management of the distribution system. Moreover in a widespread electrification scheme the distribution system costs much more than the generating plant. In the United Provinces the capital cost of the generating stations, in spite of very heavy civil works, has been in the proportion of $1:1\frac{1}{2}$ for transmission lines alone, which raises to a proportion of 1: "} when cost of transformers, sub-stations and other equipments, etc., are included as forming part of the transmission system. This shows how much more capital cost is involved in erecting a transmission system than in generating electricity. In the United Provinces, generation capital cost is one crore while transmission capital cost is two and half crores. The proposal to buy current from existing

United Provinces ratio of transmission and generation capital cost.

companies and distribute them over Government transmission lines would be almost tantamount to permit compa-

nies to make money while Government undertake bulk of the botheration and expenditure involved. Moreover most of the supply companies are commercial firms established with the avowed purpose of making money. Their promoters naturally expect some remuneration for their trouble and enterprise. And naturally supply under that system would make a little addition to the price at which electric current can be sold to the public.

I am anxious to emphasise the fact that even a small increase in the price at which current is sold is almost always accompanied by far-reaching consequences. It becomes tantamount to a doubling of the capital invested on the entire scheme or adventure. I shall illustrate this point by

A small increase in cost of current is tantamount to doubling of capital cost.

taking actual examples. Referring once more to the Sijua-Jharia Electric Supply Company which is operating in the

colliery area, from the figures published by that concern under the Indian Electricity Act, it will be found that the total number of units sold by them per annum amounts to over 23 millions. From the same publication it will be found that the management charges (exclusive of the actual operating personnel required, in other words, the managing agency charges) come to 0.074 anna per unit sold. The annual charge under this head thus amounts to Rs. 1,06,370. If this recurring charge is capitalised at 3 per cent it is equivalent to an initial cost of Rs. 35,45,666. Now the entire capital of the Sijua-Jharia concern could hardly exceed this and therefore the statement that the increased cost of current by 074 anna per unit is tantamount to a doubling of the initial capital is fully corroborated. This is not only the case with that concern, but on analysis would be found to be the case with almost every one of them operating under that system. Taking another example, that of the Patna Electric Supply Company, we find from their publication under the Indian Electricity Act that their total generation per annum is over 4 million units. The managing agent's charges come to 0.361 anna per unit which thus annually amounts to over Rs. 90,000. The capitalised value of which at 3 per cent amounts to about Rs. 30,00,000. As against this the entire capital of the concern is about Rs. 20,00,000.

It is no reflection upon managing agents as such, but in the case of a public utility concern which will be

Managing Agent's main function is to supply credit.

financed and controlled by Government there can be no occasion to resort to this costly device. One of the main functions

which managing agents perform is to give credit to a venture for its financial necessitics. In the case of a Government concern, this is not necessary at

Not required in case of State concerns.

State system must be self-contained.

all, and I therefore fail to see what merit there is in the suggestions that current should be purchased from well-established concerns, and distributed to consumers over a State transmission system.

The system to be inaugurated by the State must be a self-contained one. It must have its own generating stations,

its own transmission system, its own tube-wells and its own commercial branch. The last activity is not the least part of the venture. To popularise electricity, benefits of electricity should be brought home to the consumers and potential consumers. Demonstrations will have to be given and periodically arranged of electric devices for urban use and of agricultural appliances for rural areas. Assisted wiring schemes, low hire rate for

Suggestions for popularising electricity.

appliances and similar load building schemes should be energetically conducted. Special terms and concessions will have

to be offered to the consumers who can be induced to use electricity p

between peaks, i.e., at valleys in load curves. This will have the effect of steadying supply and improving load factor-conditions which are of fundamental importance in the success and organisation of an electric scheme

With regard to the contemplated scheme we find from the attached schedule that the total number of units which is expected to be sold in the fifth year is about 128 million units. If instead of generating the power ourselves we were to buy it from some other concern and consequently have to pay only one pie more than it would cost to be generated in our own power plant, it is interesting to note that the difference per annum with this small increase in the bulk rate of current will be as follows.

Total units in fifth year is 127,800,000. At one pie per unit, it raises the cost per annum by Rs. 6,64,000. The Purchase of current will lead to waste of capitalised value of this loss at 33 per money. cent amounts to the stunning figure of

rupees one crore and seventy-seven lacs. The saving effected in avoiding to build our own power station and buying the current from some supply company would be Rs. 62,86,000. If the purchase of energy is continued for 91 years we will have paid for nothing, the entire value of our generating stations of that capacity.

Considerations like these ought to powerfully influence decisions in such matters. Another point which is of importance and which may be touched here is the question whether the State should attempt to make direct supply to consumers or through the agency of licensees. Good many people hold the opinion that the latter course is preferable. In the United Provinces, for

purposes of making supply for domes-Direct supply to consumers and through tic use, current is supplied by Govern-licensees discussed. ment, but . attempt is made to introduce a licensee to do the retailing work. In

other words, Government arrange public supply and keep it in hand till a suitable licensee or the municipality comes forward to take it up. In the matter of supply for agricultural purposes or for fairly big consumers, the intervention of licensees is not desired. This system even for domestic supplies, is not at all favoured in the Punjab where direct supply is invariably made to the actual consumers from the Government scheme. To my mind the licensing system has no merit except that it provides a buffer between the State and the consumers and thereby prevents direct ventilation of individual grievances to Government which, it must be admitted, has some merit in it. On the other hand this system almost invariably involves the sale of current to the actual consumers at much higher rate than distribution direct by the State would involve. It also introduces to a certain extent elements of profiteering. Electric ventures generally involve capital of dimensions rarely the property of one man. The licensees serve the purpose of bringing the necessary number of capitalists together and co-ordinating their investment, and as such their remuneration becomes justified. But in a case like ours where the State is embarking upon

Direct supply to consumers preferred.

that adventure and enterprise, there does not appear to be any occasion for intro-

ducing the complication of a buffer between it and the actual consumers. The cost of supply, in the interest of all concerned and in the larger interest of the country, must be kept as low as possible. This alone will ensure its ultimate natural development. It will end as it ought to end, with the elimination of inefficient stations and that of the falling in line with our scheme of efficient and economical generating stations.

One of the main factors which contributed materially towards the commercial expansion of Japan is the cheap supply of electricity on a wide scale. Probably it is not sufficiently known that quite as much as half or

Japanese commercial organisation based on sheap electric supply.

more of the entire commercial product of Japan is made in cottages. This has become possible not on account of the handicraft of the Japanese workmen but because with cheap electric current they have found it possible to work at home with up-to-date machines driven by electricity. And not only is this the case with small commodities. I am told (though I have no personal knowledge) that even the production of comparatively bigger things have been organised on the basis of cottage industries of the type indicated above. Small parts of it are made and moulded at different places. These are then collected in a central factory and assembled to form the bigger unit. This method is worth emolution and while assuring uniformity in quality of produce as they are made by mechanical appliances, it avoids the discomforts and congestion which are the main drawbacks of overcrowded towns when large factories generally operate. At start the Japanese also had shortage of capital and were poor and some of their methods will be found quite applicable to our case.

Mysore is working on the same lines and I have been told that the

Development tendency in Mysore.

whole country-side is studded with power looms operated by weavers in their

homes and driven by electricity. Indeed, circumstanced as we are, electricity may offer us an ideal method of developing our industries, big as well as small. It will enable setting up of high temperature furnaces which will be so helpful in the reduction of metal Electricity will facilitate ore reduction and to Chota Nagpur. The alluminium benefit Chota Nagpur.

hills are exported in great quantities to Scotland where they are reduced to the 'shape of alluminium' ingots which are sold for manufacture of utensils and other alluminium varieties. With cheap electric current and the crude native ores put side by side, there will be no reason why the process should not be done in Chota Nagpur itself. This is merely an illustration : the same thing would hold good in regard to many other metallic products. And if we can make our development proceed on the lines indicated above, it will tend to reduce the pressure on land also. With various openings available for the employment of labour everybody need not look to the land as providing means of Indeed the result achieved may be far-reaching both from livelihood. the economic and as well as the social points of view.

And not only does electricity advance the cause of industrial development by supplying power at cheap rates and in a steady manner but it also helps it in another important way. A wide electric scheme reduces the capital required for the starting of industrial mills and factories. Every mill and factory has two distinct parts, the first consists of the special machineries required to produce the stuff proposed to be manufactured and the second consists of power plant to drive those machines. In many cases these two branches consume almost equal amount of capital. When a wide-spread system of electric supply begins to operate, industrialist no longer need invest any capital on the purchase of power plant. They buy the special machinery required for the production of commodities they wish to manufacture and beyond that all that they are required to do is to have a motor to be run by an electric supply scheme, the cost of which is very small and a negligible figure. The total block expenditure of that venture is thus practically reduced by half. Given the same capital, two factories can be started instead of one. In the case of a poor country like ours, where capital is not only scarce but also shy, this point is of incalculable value. Even the smallest industrialist is assured of the efficiency and economy which can only be associated with large scale power plant and has not got to depend upon the performance of a ricketty power plant operated by men with indifferent qualifications. This factor may make all the difference between a successful and an unsuccessful concern. It is

industrialista

worth while pointing out, at this stage, And supply big power efficiency to small that a small plant caunot expect to atrialista. I was discussing this matter with Mr. Leoffler,

expert of the famous firms of electrical engineers, Messrs. Siemens Company, Ltd. He told me that the difference in efficiency of 8,000 K. W. set and 2,000 K. W. set is about 8 to 10 per cent, apart from overhead charges which will remain more or less constant in spite of the smaller size of the latter plant. And the net result is to make the difference in efficiency still greater. Indeed within certain limitations, it

The bigger the plant the higher the efficiency. may be taken as a general proposition that the bigger the plant, the more efficient

it is and the more economical is its running. On the basis of this proposition it is easy to realise how much better off will be an industrialist who operates with about 100 B. H. P. when he has the efficiency usually attached to a plant of about 5,000 B. H. P.

I now come to the cost of generation of electricity in Billar. This cost is made up of various factors including interest on capital outlay, depreciation

Low cost of generation in Bihar.

on plant, staff, maintenance charges and fuel cost, etc. The generating stations proposed in this scheme will be thermal

i.e., electricity will be generated by steam. It has been observed in the earlier part of this report that the price of coal in Bihar is probably lower than anywhere else in the world. This will enable power to be generated at the oheapest possible rate. Neglecting, for the time being, the cost of transmission lines which perform the function of distributing electricity, the cost of generation alone at the Power House, in the fifth year of operation, as will be seen from the attached schedule, comes to about 1.87 pies per unit, which means about six and a half units per anna. Such low cost of generation is very difficult to be attained anywhere else. It is true that in the case of Hydro-Electric Scheme, no fuel is used at all and therefore the cost of fuel is nothing ; but such schemes generally almost always call for very expensive work of civil engineering which raises the capital cost tremendously requiring a much greater amount by way of interest and depreciation. Indeed, in spite of the fact that our generation will be with steam, I doubt if such low cost of generation can be equalled or has been equalled in any other province of India.

To take the utmost advantage of our coal deposits, it is proposed that the scheme should have its own coal-mine.

Auquisition of colliery property at Jamu" nistar.

Dr. S. K. Roy, Professor at the Indian School of Mines, Dhanbad, has recommended the deposits at Jamuniatar. This

deposit, from an orthodox rating point of view, is not of very high class as its ash contents are rather high, but its colorific value in British Thermal Units is very high indeed. A number of seams of the Jharia coalfield join together at Jamuniatar making the depth of the deposit as much as 100 feet. It is outcropping on ground, and, to start with, the process of taking coal there will hardly involve what may be termed mining operation but will be simply quarrying or digging. The property is undeveloped, as Dr. Roy told me, and he has recommended to me its acquisition which, he told me, would be quite cheap. Jamuniatar has another advantage in that it has a perennial stream close-by and water facilities are thus available. On the basis of these recommendations and also coming to the conclusion that it is a very suitable site for location of a power station to serve the coal-mining area as well as mica mining area—it being situated between the two—I recommend that one of the power stations be located at Jamuniatar.

So far as the cost of coal there is concerned, Dr. Roy assures me that it

Very cheap coal cost there.

is concerned, Dr. Roy assures me that it will be only about 10 to 12 annas per ton to start with. And this does not appear

unreasonable in view of the fact that the deposit is out-cropping. I have personally, since then, verified it, and the coolies actually raising coal there, told me that they were being paid per bucket of coal at rates which works out to about eight annas per ton. I might therefore have proceeded on this figure, but I have purposely assumed that the cost of coal at Jamunistar will not be less than Rs. 2 per ton to me. It may be asserted that with our own colliery there, having had to pay neither royalty nor any cost of transport, this price of Rs. 2 per ton of coal is not likely to be reached for about 20 years during which period the mine can never become very deep. And even if mechanical raising has to be done and mining operations undertaken, the cost of raising cannot be very high. The basis on which I am proceeding in this matter is not only conservative but keeps a fair margin. It will be seen from the concluding portion of this report that the scheme which I am suggesting contemplates two power stations, one at Jamuniatar and second at Gaya. With our own mine at Jamuniatar we can despatch coal to the Gaya generating station also at the cheapest possible rate. Initially our requirement of coal would

How our own colliery will be a much cheaper arrangement.

be about 60,000 tons annually which will rise considerably in subsequent years. If, instead of having our own mine, we have to buy this quantity in the market

and thereby have to pay even 8 annas more in price per ton of coal, the annual loss will amount to over Rs. 30,000, the capitalised . value of which, at 33 per cent, would amount to about Rs. 8,00,000. Instead of doing that, it is estimated that the mining operation will be very easily carried on and mine acquired with a capital at the outside of Rs. 2,00,000. This step of having our own mine seems essential in the interest of economy and there can hardly be two opinions on the subject. Great emphasis has been laid and must be laid on the cheapness with which electricity can be supplied and to ensure this, no factor is of more paramount importance than the fact that the cost of fuel which will generate the energy must be kept at the lowest possible level.

It may be mentioned here that Gaya appears to be almost an ideal place for the location of a power station. It

Location of a Fower House at Gaya.

is directly and conveniently connected by railway with the colliery areas and

truck go there straight without any marshalling on the way which leads to annoying delays in the reaching of consignments to destination. The Phalgu will give the required water. Moreover, by its geographical position, Gaya seems to be the centre of a number of big loads with Patna on the north, Jamalpur, Bhagalpur and Sahebgunj in the east, the mica mining area to the south and the dry tracts of Aurangabad and south Shahabad where heavy agricultural loads will be available situated to the west of it.

Cruing now from generation to the transmission of electricity, it may be observed at once that this is the branch which is likely to absorb the major Basis of the estimate of the cost of trans" mission system. portion of the money to be invested on the project. The estimate that has been given of the cost of laying down the transmission system is hased on the use of first class materials without much reference to utilisation of local resources. But this does, by no means, imply, that that ideal would be sacrificed. When the stage comes for the execution of the scheme, no effort should be spared to try and retain in Bihar as much of the outlay as possible. And it is a branch where there is ample scope for utilisation of local resources, unlike the generating system where, save under fuel, local resources do not come in at all. The requirements under transmission system are poles, insulators, copper wire, iron wire, cross arms, etc., and all these items permit of the utilisation either of local or at least Indian resources.

Utilisation of local resources.

Indeed the question of poles is about to be taken under investigations with the co-operation of the authorities of the Forest Research Institute at Dehra-Dun.

Before I leave the point of transmission lines, I desire to touch upon a point of great importance and that is the question of way leaves. Transmission Way leaves. lines may often have to pass through

culturable lands in a cross country alignment. And poles will have to be sunk in the ground. I made enquiries on the subject during my visit to the United Provinces and learnt that no compensation was paid for doing that. Under the Indian Telegraph Act, way leave can

No compensation to be paid. be enjoyed without any payment. Such

being the case, I am also proceeding on that assumption and am not providing anything for compensation for way leaves.

Provision in the estimate has been made for land acquisition for the location of tube-wells, etc. Provision Land acquisition.

is also being made for land acquisition. for making of unmetalled roads or tracks

which will be required to be constructed with a view to facilitate inspection of wells and transmission lines. The scheme may ultimately develop enormously. For the present, the proposals serve South Bihar almost intensively and the best part of Chota Nagpur. The next stage so far as Chota Nagpur is concerned, is to utilise the Hundru falls should it be found, on investigation, capable of such utilisation. For North Bihar it is suggested that before any

Ultimate Development.

decision is made, the upper reaches of

But if no suitable fall is available or if political considerations are likely to stand in the way, then one thermal station might do for the whole of North Bihar. And in spite of much greater price of eoal there, due to transport cost, it is not to be approhended that the price of electricity will be abnormally high there. When this is done the scheme will exhibit its potentialities on a province-wide scale. The problem of draining ont of chaurs can be easily solved with electrification, not to speak of the solution of irrigational problems wherever they may be found to exist. Indeed, it may not be necessary to sink tube-wells in North Bihar, because

Scheme to solve problem of chaur drainage and Irrigation in North Bihar.

be small and vast quantities of water are available from perennial streams which can be easily lifted and distributed

water requirement per unit of area will

through channels. This will affect great saving on the ultimate cost of irrigation in those districts.

At this stage it may be permissible to revert once more to the subject of tube-well stations and to some consideration of village economy.

In order that an Electrification Scheme may be taken full advantage of, it is essential that the bulk of the electricity that is generated should be utilised on useful purposes. In other words the electricity should be made to do work of economic value. This is expressed by saying that an electrification scheme should have proper load. It is essential therefore not only to make a load survey of the province, as has been done to find out where electricity will be required and purchased, but also to take steps to augment the domand for electricity or to increase the load for the system. Moreover there are some other

. Some aspects of village.compony.

factors which have adversely affected village economy under the present state of affairs. A little consideration

will show that nature has so devised the industry of agriculture and the product thereof that human beings and cattle collaborate in the former and jointly thrive on the latter. The crop of rice, for example, produces not only rice but also straw which serves to feed human being and cattle respectively. Similarly oil seeds, when milled and pressed, produce oil and oil-cake, the former for human consumption and the latter to supply the necessary fat for cattle. Under the present circumstances what happens is that the oil seeds in raw condition are sent away from villages to towns to be milled. The oil returns to the village though in a very adulterated form but the oil-cake never goes back there at all. This results in the deterioration of cattle which are thus completely starved of fat in their food. Such considerations would go to show that in the case of produce of agriculture it is very necessary that most of the manufacturing process should be done in the

Bihar, it is suggested that before any the rivers of that region be first surveyed. area where the stuff is grown. Then alone full advantage will be taken of it and the different elements utilised for the benefit of different sections of labour that are employed on the industry of agriculture.

Now one pumping station will do for about one thousand acres of culturable land. And in order to create additional load for the electrification system

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Rural factory.

as well as to serve the purpose outlined above, it occurs to me that a very suitable plan is to start with each tube-well

pumping station what may be designated a village or rural factory. This factory should be so designed that it may enable the cultivators This factory should be so designed that it may enable the cultivators of the area commanded by a tube-well to do the manufacture of their produce at this factory. It should have something among the following machines (a) Chaff cutter, (b) Root cutter, (c) Sheller, (d) Ghanis, (e) Grain-grinding machine, (f) Cane crusher, (g) Cream separator and (h) Centrifugal machine. It will be seen that these machines will perform functions which are generally the necessities of a cultivator and it is for want of these machines that he sends his raw produce in the market. For example, it is generally known that it nave better to sell rice than to sell paddy and yet the cultivator sells that it pays better to sell rice than to sell paddy and yet the cultivator sells the latter because he finds that the milling of paddy into rice is a protracted process and one which he cannot fully accomplish himself. With a sheller available within a very short distance of his home, all that a cultivator will have to do is to boil his paddy and take it to the village factory. At an exceedingly cheap rate, he will be able to convert it into rice. Similar will be the case with his oil seeds. It will pay him better to sell oil and in addition, he will be able to retain the oil cake to feed his cattle with, the fattening effect of which will improve his live-stock and thus improve the quality and depth of the ploughing of his fields. In the case of sugarcane it is well-known that a cultivator prefers to sell the cane itself if he can do so. This is because of the difficulties of crushing cane which entails very serious strain not only upon himself and his family but what proves more disastrous is the unusually great strain cast upon his cattle which deteriorates and dies under the weight of that labour, not to speak of the inefficient crushing and low percentage of juice yield that is obtained thereby. But this problem is very much simplified for him with the establishment of the type of village factories visualised above. With a cane-crushing machine and centrifugal machine he can crush his cane, make rab separate the molasses, which he can retain for feeding of his cattle and use the crude sugar himself and sell the surplus. And these works will be done for him at rates at which he has not thought it possible it could be done up till now.

I will permit myself a little more indulgence to describe how I visualise a water pumping station. Besides the above machines I would provide there a tap and shower bathing facilities for human beings, a cattle drinking trough and a cattle-washing trough. If these arrange-

Ultimate shape of Pumping stations. ments are made the pumping station Will provide great attraction for the rural

population for (1) it will satisfy their irrigation needs, (2) it will enable them to finish and deal with their produce and (3) lastly it will provide social amenities. Even radio sets may be provided which will be a great lever to catch the imagination of the village people and to enable educational and hygienic propaganda to be made effectively. Over it, they may also be kept informed of the market prices of the stuff they have for sale and thus save them from being cheated by unscrupulous banias. In short, it will greatly facilitate work of village reconstruction. Under these circumstances I feel that pumping station will become very important rural centres and people probably will flock there every evening. It will provide something like a club life. If all this is revolved in the mind, it will be readily agreed that the electrification scheme will very materially contribute towards the solution of the rural problem and would assure amenities to people, hitherto denied to them.

GIST OF THE SCHEME.

Basing my conclusions on the considerations described above and keeping in view all factors of the situation, I am proposing a scheme the gist of which is as follows :---

It will have two generating stations, located at Gaya and Jamuniatar, and having a capacity of 15,000 K. W. and 20,000 K. W. each respectively. The cost of the two generating stations together comes to Rs. 62,86,000 which works out at Rs. 180 per K. W. of installed capacity. The transmission system will have initially 2,389 miles of lines, which will rise to 3,289 miles in the 5th year of operation. The cost of that system will be Rs. 1,39,72,800 to start with, which will rise to Rs. 1,65,86,550 in the 5th year of operation. The cost of transformation and sub-stations will be Rs. 17,02,200 to start with and Rs. 25,51,600 ultimately. The number of tube-wells will be 500 to start with and 900 in the fifth year of operation, thereby raising the area commanded for irrigation from 500,000 acres in the first year to 900,000 acres in the fifth year. The scheme also provides for the construction of unmetalled 10' wide inspection tracks which will be 500 miles in the beginning and 900 miles in the fifth year of operation. The total initial cost will be Rs. 2,63,01,500 which will rise to Rs. 3,29,56,150 in five years' time. The following rates of tariff have been adopted :—

•	,. •	•		et year of peration.	5th ye of operat	•		
Domestic-bulk including p	etty mills	•••	18	pies.	15 p	ies.		•
Patna Electric Supply Co	mpany-bu	ılk	6	.	5.8	\$ 2-		
Other Supply Company-	bulk	• =	9	,,,	7.5	,,		
Railway station bulk	••	••	12		12	25		
Jamalpur workshop load			4 ·8	**	4 •8 ,	· 73 1		
Mica Mining load		•••	9	33	7	.77		
Coal-mining load	•••	fe era	9		. 7	47		
Other industrial loads		••	9	••	. 8		•	
Agricultural load	• •		9			**		
Giridih Railway Colliery	• •	••	3.96	и.	3.96	,,		

It will be seen that the rates proposed are fairly low. The loads estimated are on the most conservative basis, and it can be confidently anticipated that in actual practice it will be much better.

On the basis of the above plant and the above schedule of tariff the scheme begins to pay its way from the very 2nd year and not only will it do that but it will be making contributions towards the general revenue of the province, which will rise to about 4.8 lakbs of rupees in fifth year of operation. In the 1st year of operation it will not pay full interest. All details have heen given in the statements and schedules attached hereunder. Should it be decided to retail electricity in towns directly under the scheme the cost of running local lines at those places as well as meeting other incidental charges will be extra and necessitate some increase in the rate at which current can be retailed there. To start with, the installation of 35,000 K. W. plants when the peak consumption is only expected to be just over 20,500 K. W. appears extravagant but it has been decided after a good deal of thinking in the interest of meeting the available load in the most economical manner possible and the two generating stations between them will not need extension within the next five years. The cost of irrigation is not proposed to be charged beyond Re. 1 per bigha per watering (or Rs. 1-9-0 per acre per watering) which works out slightly lower than prevailing Canal rates.

I put this scheme forward as the result of considerable thinking on my part and observations made over a fairly long span of time. I believe that the financial result of the scheme will be considered not only satisfactory but extremely good. I have not counted upon any load which will not be immediately available to the system and I feel confident that the scheme, if put in operation, will even show better results than I have made it out in the statements attached herewith.

This scheme serves the whole of South Bihar and the best part of Chota Nagpur. Over and above the map showing areas where tube-wells are likely to succeed, two other maps are attached. One is the population map on which position of all places having 5,000 or more inhabitants, is indicated, and the second is the load map on which the existing loads of the various towns and localities are shown. The lay-out of the transmission lines have also been shown on both these maps. This has been done to show that the proposal is suitable to meet loads available.

An appendix is also attached in which the financial implications of the tube-well system have been separated from the electrification scheme and examined as a separate and distinct organisation.

So far as the general suitability of the area proposed to be electrified is concerned, I cannot do better than quote the opinion of Dr. Cyril S. Fox., D.Sc., M. I. Min. E., F. G. S., who says, "It is not possible surely to discover a more suitable area for such a project than that lying south of the Ganges river in Bihar and west of the Hugli in Bengal and extending to the Orissa coast on the one hand and the borders of the Central Provinces on the other. In this region at convenient distances lie the coal-fields of the Damodar valley and those of Rajmahal, Giridih, Palamau and the Eeb river. The entire tract could be provided, with an electric grid system capable of yielding electricity to industrial consumers at a very low price. The entire region could have its railway system electrified and every town of reasonable size provided with current for domestic and municipal use."

The import of this quotation is quite clear and it is this that South Bihar and Chota Nagpur together furnish one of the most suitable and promising tracts for electrification, not only in the whole of India, but in the world.

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BIHAR ELECTRIFICATION SCHEME

Tables and Statements.

BIHAR ELECTRIFICATION SCHEME.

TABLE No. I.

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POWER DEMAND, CONSUMPTION AND REVENUE.

Serial n	umber an	d description;			Y	Remarks.					
					lst year. 2nd year.		3rd year.	Srd year. 4th year.			
1		2. 8		4	5	6	7				
A.—D	omest	IO LOADS,				······································					
1. Jamalpur	••	••	••	23	28	34	40	46	It has been assumed that all towns within the area of electrification		
2. Sabour	••	••		2	2	. 8	4	б	with population of 5,000 and above, will be electrified; and		
3. Sultangunj	••	• •	•• }	5	5	7	. 8	10	that in the first year the power requirement, inclusive of small		
4. Colgong	• •	4 ≢ 8	••	4	4	5	6	8	mills, like flour mill, rice mill, etc., will be 2 units per annum		
5. Sahebgunj	••	**		12	า 15	18	21	24	per head of population, which		
6. Lakhisarai	••	••	••	7	8	10	12	14	will rise to 4 units per head in the course of five years.		
7. Hisua	••	۹.	••	5	<u>.</u> 6	7	8	_ 10			
8. Nawadah	••	••	••	6	7	9	10	. 12			
9. Sheikhpura	••	••	••	11	13	16	19	22			
0. Aurangabad	l	••		. 6	. 7	9	10	12			

11. Buxar .	• ••	••	10	12	15	17	20	The volume of demand for domes-
12. Daudnagar .	• • •	••	9	11	13	15	18	tic use at some of these stations, is too small to justify installation
13. Dehri	• ••	••	10	. 12	14	16	20	of transformers for them. It is, therefore, proposed to so arrange
14. Burbee	•. •••		5	5	6	7	. 8	location of some transformers for tube well 11 KV lines as would suit the supply of these
15. Mokameh		••.	11	13	.16	19	22	places as well.
16. Barh	•••	••	7	- 8	10	12	14	
17. Fatwah	د. -		7	8	10	12	14	
18. Bihar	• ••		37	46	55	64	74	· · · · · · · · ·
9. Jahanabad		• ••	7	8	10	12	14	
20. Koderma with	Tilaiya	••	5	5	. 6	8	. 10	
21. Hazaribagh 22. Jhalda 23. Kanke	· • •		16 5 60	20 6 70	24 7 80	28 8 80	32 10 80	Growth of load will be smaller as
24 Dumraon 25. Sasaram 6 Dhanbad 7. Madhupur	••		11 19 16 7	13 23 20 8	16 28 24 10	19 33 28 12	22 38 32- 14	it is mental hospital load.
	Total			383	462	528	605	
 Demand at div Load factor per Consumption in Average sate in Revenue in rug 	cent n K. W. H. 1 anna per K. V	· ••	308 30 810,000 1·5 75,900	365 30 960,000 1·5 90,000	440 30 1,160,000 1.4 1,01,500	502 30 1,320,000 1·4 1,15,500	576 30 1,520,000 1-3 1,23,500	

TABLE I-conid.

Serial number and description.	•		Fear of operation.	• • •	i i i i	Remarks.	
	let year.	2nd year.	3rd year.	4th year.	5th year.		
1	2	3	· · · · · · · · · · · · · · · · · · ·	5	6	7	
B.—BULK SUPPLY.	•						
(a) Patna peak load K. W.	1,300	1,350	1,400	1,450	1,500	Rate is for bulk supply for bo industrial and domestic loa	
Units consumed in K. W. H. at 40 per cent load factor.	4,550,000	4,740,000	4,910,000	5,090,000	5,260, 000	Load factor is tending even to beyond 40 per cent.	
Average rate in pies per K. W. H	6	6	6	5-8	5-8		
Revenue in rupees	1,42,187	1,48,125	1,53,437	1,53,760	1,58,896		
(b) Bhagalpur peak load K. W.	500	550	600	650	700	Rate proposed for both dome	
Units consumed in K. W. H. at 35 per cent load factor.	1,532,000	1,688,000	1,840,000	1,990,000	2,145,000	and industrial load. Actual l factor is 35.	
Average rate in pies per K. W. H.	9	9	8.5	8 .	7.5		
Revenue in rupees	71,800	79,000	81,500	83,000	83,800		
(c) Monghyr peak load in K. W.	120 10	140	160	180	200	Rate proposed for both dome	
Units consumed in K. W. H. at 35 per cent load factor.	368,000	430,000	491,000	552,000	614,900	and industrial load. Actual 1 factor is 35.	

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Average rate in pies per K. W. H	9 17,250	20,200	\$ ·5 21, 700	8 23,000	7·5 24,000	
(d) Gaya peak load K. W Units consumed in K. W. H. at 16 per cent load factor.	330 463,000	380 534,000	400 560,000	440 616,000	500 700,000	Load is almost wholly domestic. Industrial load taken note of
Average rate in pies per K. W. H Revenue in rupees	12 28,900	12 33,300	11-5 33,500	11 35,300	10 36,400	separately. Load factor taken is actual.
(e) Ranchi peak load in K. W. Units consumed in K. W. H. at 10 per cent load factor.	50 69,100	80 110,600	100 138,200	120 165,900	150 207,400	Almost wholly domestic load.
Average rate in pies per K. W. H Revenue in rupees	12 4,300	12 6,900	11.5 8,300	11 9,500	10 10,800	
(f) Purulia peak load K. W. Units consumed in K. W. H at 16 per cent load factor.	30 41,470	40 55,300	45 62,200	60 82,900	80 110,600	Ditto ditto.
Average rate in pies per K. W. H Revenue in rupees	12 2,580	12 3,460	11 5 3,720	11 4,750	10 6,050	No.
(g) Arrah, peak load in K. W. Units consumed at 38% load factor. Average rate in pics per K. W. H.	100 333,000	110 366,000	120 400,000	135 450,000	500,000	Combined domestic and industrial load.
Revenue in rupees	15,600	17,200	8-5 17,700	8 18,850	7·5 · 19,500	
 (h) Giridib, peak load in K. W, Units consumed at 30% load factor Average rate in pies per K. W. H 	80 210,500	85 224,000	90 237,000 8•5	100 263,000	110 289,000	Ditto ditto.
Revenue in rupees	9,900	10,500	10,500	11,000	7.5 11,300	
(i) Deoghar, peak load in K. W. Units consumed at 16% load factor. Average rate in pies per K. W. H.	40 56,000 12	50 70,000 12	60 84,000 11.5	80 112,000 11	90 126,000	Increase in load is expected to be rapid as the supply company
Revenue in rupees	3,500	4,400	5,000	6,400	10 6,600	has just started operation and the scheme is not yet in full swing.
		<u> </u>				<u> </u>

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ferial number and descriptions		Уевг	Romarks.			
, eller Tember Big geserbeisen	Ist year.	2nd year.	Srd year.	Srd year. 4th year.		
1	2	3	4	5	6	7
	·		1		The second se	1 St. 6.279 544.4
C.—RAILWAY STATION LOAD. Monghyr	10	10	10	10	10	In practice, it is expected that much larger number of station
Sahebguvj	10	10	10	· 10	10	will be electrified at least at plac where the towns will be lit wi
Kiul	5	5	5	5	5	electricity. In this list, all s tions except Sahebgunj a
Gaya	100	100	100	100	100	Mokameh Junction, have th own power plant where generati
Sone-East-Bank	10	10	10	10	10	is done generally at rates in t neighbourhood of Re. 0-2-4.
Mokameh	5	5	5 (5	5	
Mokamela Ghat	10	10	10	10	10	-
Modhupur	75	75	75	75	75	
Jhajhs	90	90	90	90	90 i	
. Gomole	72	72	72	72	72	
l. Dhanbad	120	120	120	120	120	(i
Total	507	507	507	507	507	
2. Units consumed in K. W. H. at 40%	1,780,000	1,780,000	1,780,000	1,780,000	1,780,000	
Average fate in annas for K. W. H L. Pevenue in rupees	1.0 1,11,250	1.0 1,11,250	1.0 1,11,250	1·0 1,11,250	1 0 1,11,250	

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D.—INDUSTRIAL	,					Ì
IA.—Jamalpur Railway Workshop	4,000	4,000	4,000	4,000	4, 000	No anticipation is being made in regard to natural development of
Units consumed in K. W. H	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	load.
Revenue at 0.4 anna per K. W. H. in rupces,	2,50,000	2, 50,000	2,50,000	2,50,000	2,50,000	
IB.—Giridih Railway Collieries—	1			-		
Peak Load in K. W	2,200	2,200	2,200	2,200	2,200	Ditto.
Units consumed per year	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000	
Revenue at 0.33 anna per K. W. H. in rupees.	2,06,000	2,06,000	2,06,000	2,06,000	2, 06,000	•
IIIndustrial Load (Mining)-		_				8 67
Mica Mining area	1,500	2,000	2,500	3,000	3,500	For beginning, approximately 20 per cent of the load, has been
Soal Mining area	2,000	2,500	3,000	3,500	4,000	load, load factor of 50 seems
Total	-3,500	4,500	5,500	6,500	7,500	reasonable.
Units consumed at 50 per cent load factor K. W. H.	15,330,000	19,710,000	24,090,000	28,470,000	32,850,000	•
Avenage rate in pies per K. W. H	9	9	. 8	7.5	7	
Revenue in rupees	.7,20,000	- 9,25,000	10,02,000	.11,12,000.	. 12,00,000	

TABLE I-contd.

Serial number and description.	4	Year	of operation.	•	Remarks.	
**	lst year.	2nd year. Srd year. 4th year. 5th ye		5th year.		
1	8	8	4	5	6	7
		1			· · · · · · · · · · · · · · · · · · ·	
III.—Industrial Load (General)—				· · ·		
(a) Sahebgunj peak load	500	600	700	800	1,000	Existing load survey shows an already installed capacity of
Units consumed in K. W. H. at 33 per cent load factor.	1,448,000	1,735,000	2,021,000	2,315,000	2,890,000	2,000 H. P. in various mills.
Average rate in pies per K. W. H	. 9	9	. 8	7.5	7	
Revenue in rupees	67,800	81,400	84,300	90,500	1,05,200	
(b) Gaya peak load	1,000	1,100	1,300	- 1,500	1,600	Managing Director of two oi
Units consumed in K. W. H. at 33 per cent load factor.	2,890,000	3,185,000	3,760,000	4,340,000	4,640,000	mills, each working 24 hours al round the year consuming about 250 B. H. P. has already offered
Average rate in ples per K. W. H	9	. 9	8	7.5	7	to take power. Cotton and Jute Mill has no power for weaving
Revenue n rupees	1,85,500	1,49,200	1,57,000	1,69,200	1,69,200	section and are importing 400 looms at once for which power is required. Smaller loads have
						been neglected. A Silk Weaving Mill is approaching completion.

(c)	Monghyr Cigar	ette Factor	y .							[·
	Peak load in 1	K. W.	• •	••	120	. 120	120	120	120	
	Unite consume	ed at 33 per	r cent load fa	actor	348,000	348,000	348,000	348,000	· 348,000	•••
	Average rate in	n pies pèr l	Ķ.W.H.	••	9	9	9	9.	9	
	Revenues in r	upees	••	••	16,300	16,300	16,300	16,300	16,300	
(d)	Other Industri	al Loads.					,			
	Sultanganj	• . • •	••	••	95	120	140	160	175	Most of the
	Bariarpur	۰ ۲ ۲. ۲	• •	••	20	24	28	32	36	being under assumed the
	Lakhisarai	••	• •	••	60	75	90	105 ₁	115	already in mechanical
	Colgong	••	• •	••	6	8	9	10	12	on to the G year of oper
	Sabour	• •	• •	••	6	8	9	10	12	fise to 75 pe five years. I made of the
	Pirpanti	••	• •	••	11	14	17	19	· · 21	loads under
	Warisaliganj	••	••	••	26	33	40	47	49	18-BILE-VO-CO
	Shaikhpura	* *	••	••	30	38	45	. 52	55	 -
	Wazirgunj	••	• •	••	12	15	18	21	22	
	Nawadah	• • •	••	••	, 10	. 13	15	17	18	
	Hisua	••	••	••	9	11	13	15	- 16	- ex

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Most of these loads are small ones being under 10 K.W. It has been assumed that 40 per cent of the already installed capacity of mechanical power plants will come on to the Grid system in the first year of operation. And this will rise to 75 per cent in the course of five years. No anticipation is being made of the natural growth of loads under this class, though this is sure to come about.

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Sarial	. Year of operation.									
			-	lst year.	lst year. 2nd year.		4th year.	5th year.	Remarks.	
y	1			2	3	· 4	5	6	7	 -
(1) Other Indust	-i-l looda	enald						•		
(d) Other Industr	Mai loaus-	-conta.			Tion		4.50			
Bihar	••	•••	•••	86	108	130	152	162		
Burhee	••	••	•••	27	34	• 41	47	51		
Mokamah		••	•••	33	41	49	57	60		30
Barh	••	••	· ••	39	48	58	68	72		
Bukhtiarpore	••	• •		12	15	18	21	22		
Fatwah	••	• •		66	82	99	115	127		
Khusrupur	••	•••		64	80	96	112	120		
Poonpoon	• •	••	••	13	17	20	24	25		
Taregna	• •	••		38	48	- 57	66	72		
Jehanabad	••	••		51	64	77	90	96		
Tehta	••	••		30	38	45	52	57		

Guraru	••	••	20	25	30	35	37	
Rafigunj	• •	••	11	14	16	19	21	
Palmergunj		••	21	26	31	36	39	
Aurangabad	• ·	••	9	. 11	13	15	16	
Daudnager	••		10	13	15	18	19	
Dehri-on-Sone	• •	••]	10	13	15	18	19	
Sassaram	••		80	100	. 120	140	150	
Kudra	••		56	70	84	98	105	
Bhabhua Road			12	15	18	21	22	
Buxar	••		87	109	131	153	164	
Dumraon	••		33	42	50	59	63	
Gidhaur	••		10	12	15	18	19	
Jesidih	••		7	9	10	12	13	
Madhupore	· · · .		69	87	104	121	129	
Adra .	• •		192	240	288	336	360	
Barakar	• •		122	152	183	213	228	
Jhalda	••	••	28	35	42	50	53	
Hazaribagh			52	65	. 78	91	97	
Total	••	••	1,573	- 1,972	2,357	2,745	2,949	
Units consumed at factor.	33 per ce	nt load	4,550,000	5,700,000	6,800,000	7,940,000	8,520,000	
Average rate in pie	s per K. W.	H	12	12	12	12	12	
Revenue in rupees	••		2,84,000	3,56,000	4,25,000	4,96,000	5,34,000	

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Ferial number and description.		ı	1.i 1	Remarks.		
	lst year.	2nd year.	Srd year-	4th year.	5th year.	
I	2	8	4	5	6	7
L-AGRICULTURAL LOAD (PUMPS).		. 1		- 1		
Assuming 500, 600, 700, 800 and 900 pumps for 1st, 2nd, 3rd, 4th and 5th year respectively and at 8.25 K. W. each Agricultural Load in K. W.	4,125	4,950	5,725	6,600	8,250	In the U. P., pumps have been assumed to work for 3,000 hours per year. But it may be noted that there already most of them have exceeded this period
Units consumed at 33 per cent load factor K. W. H.	11,840,000	14,220,0^0	16,500,000	19,000,000	23,750,000	and in some cases, as much a 5,500 hours per year, has been recorded. In this scheme it is being assumed that pumps will
Revenue at 9 pies per K. W. H. in rupees.	5,54,000	6,65,000	7,75,000	8,90,000	10,90,000	work 2,920 hours per year.

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TABLE I-concld.

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BIHAR ELECTRIFICATION SCHEME.

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TABLE II.

ONTAINING AN ABSTRACT OF TOTAL POWER DEMAND, REVENUE, AND UNITS GENERATED.)

· .		•	Year of operation.		
Serial number and description.	lst year.	2nd year.	3rd year.	4th year.	5th year.
1	2	8	4	б	6

	(a) Powe	R DEMAND AT	Generating	STATION.		
Domestic Load in K. W.		308	365	440	502	576
Bulk Supply Load in K. W				•		
Patna		1,300	1,350	1,400	1,4 50	1,500
Bhagalpur		500	550	600	. 650 :	709
Monghyr]	120	140	160	180	200
Gaya		330	380	400	440	500
Ranchi		50	80	100	120	150
Purulia		30	40	45	60	80
Arrah	.	100	110	120	. 135	150
Giridih	•••	80	85	90	100	110
Deoghar		40	50	60	80	90
Railway Station Load in K. W	• ••	507	50 7	507	507	507
Industrial Load in K. W	ł					
Jamalpur Ry. Workshop		4,000	4,000	4,000	4,000	4,000
Giridih Railway Colliery		2,200	2,200	2,200	2,200	2,200
Mining area		3,500	· 4, 500	5,500	6,500	7,500
Sahebganj	••	500	600	700	800	1,900
Gaya	••	1,000	1,100	1,300	1,500	1,600
Monghyr	••	120	120	120	120	120
Other Industrial Centres	• • •	1,573	1,972	2,357	2,745	2,949
Agricultural Load		4,125	· 4,9 50	5,725	6,600	8,250
Total		20,38 3	23,099	25,824	28,689	32,182
Say		20,500	23,000	26,000	29,000	32,000
Demand at Power house with I Factor of 1.2 and line 1 20 per cent.		20,500	23,000	26,000	29,000	32,000

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Sarial number and description.	,		Year of operation.						
in fin an inden an inden fange fan inden inden inden		lst year.	2nd year.	3rd year.	4th year.	Sth year.			
1	¥ н	2	8	4	5	6			
	11.	(b) TOTAL RE	VENUE IN RUP	ees.		<u>. </u>			
1. Domestic Load	, 4- 8-	75,900	90,000	1,01,500	1,15,500	1,23,50			
2. Bulk Supply Load-			i	5					
Patua	••	1,42,200	1,48,100	1,53,400	1,53,800	1,58,90			
Bhagalpur	••	71,800	79,000	81,500	83,000	83,80			
Monghyr	, ≜ '♥	17,250	20,200	21,700	23,000	24,00			
Gaya	••	28,900	33,300	33,500	35,300	36,40			
Ranchi	••	4,300	6,900	8,300	9,500	10,80			
Purulia	••	. 2,580	3,460	3,720	4,750	- 6, 05			
Arrah	••	15,600	17,200	17,700	18,850	19,50			
Giridih,	••	9,900	10,500	10,500	11,000	11,30			
Deoghar	••	3,500	4, 400	5,000	. 6,400	6,60			
3. Railway Station Load	••	1,11,250	1,11,250	1,11,250	1,11,250	1,11,25			
4. Industrial Load-						1			
Jamalpore Railway Workshop	• • •	2,50,000	2,50,000	2,50,000	, 2,50,000	2,50,00			
Giridih Railway Colliery	••	. 2i,06,000	2;06,000	2,06,000	2,06,000	2,06,00			
Mining area:	••	7,20,000	9,25,000	10,02,000	. 11,12,000	: 12,00,00			
Sahebgunj	••	67,800	81,400	. 84,300	, 90,500 '	1,05,20			
Monghyr	••	1,35,500 16,300	1,49,200 16,300	1,57,000 16,300	1,69,000 16,300	1,69,20 16,30			
Other Industrial Centres	••	2,84,000 5,54,000	3,56,000 6,65,000	4,25,000	4,96,000	5,34,00			
Total		27,16,780	31/73,210	34,63,670;					
						1 1 1,02,00			
		(d). Units	Junità. 1941			L,			
1. Deparestic Lpad, K. W. H.		1 810,000	1 960,000	1,160,000	1,320,000	(i 1,520,0)			
	••	520,000	000,000	1,100,000	· 1,520,000	1 1,520,0			
2. Bulk Supply Load K. W. H									
Patna	••	4,550,000	4,740,000	4,910,000	5,090,000	5,260,0			
Bhagalpur	••	1,532,000	1,688,000	1,840,000	1,990,000	2,145,0			
Monghyr	••	368,000	430,000	491,000	652,000	614,0			
Gaya	••	463,000	534,000	560,000	616,000	700,0			
Kanchi,	A.8	69,100	110,600	138,200	165,900	207,4			
Purulia .	••	41,470	55,300	62,200	82,900	110,6			
Arrah	••	333,000 210,500	366;000 224,000	400,000 237,000	450,000 263,000	500,0			
	•••	56,000	70,000	84,000		289,0 126;0			
3. Railway Station Loac K. W. H.	••	1,780,000	1,780,000	1,780;0000		1,780,0			
					_,,				

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TABLE II—concld.

		······································	Ŷ	ear of operation.		
Serial number and description.		leë year.	2nd year.	3rd year.	4th year.	5th year.
1		2	8 		5	6
······································	(0)	Units Gene	RATED—vončlď.	~		
strial Load K. W. H.	K	*				
Jamalpur Workshop	••	10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
Giridih Ráilway Colliery		10,000,000	10,000,000	10,000,000	10,000,000	10,000,000
Mining area		15,330,000	19,710,000	24,090,000	28,470,000	32,850,000
šahebgunj	•• [1,448,000	1,735,000	2,021,000	2,315,000	2,890,000
Jaya	•	2,890,000	3 ,185,000	3,760,000	4,340,000	4,640,000
Yonghyr	•••	348,000	348,000	348,000	348,000	348,000
Óther Industrial Centre		4,550,000	5,700,000	6,800,000	7,940,000	8,520,000
cultural Load in K. W. H.	•••	11,840,000	14,220,000	16,500,000	19,000,000	23,750,000
Total		66,619,070	75,855,900	85,181,400	94,814,800	106,250,000
Say		66,600,000	75,900,000	85,200,000	94,800,000	106,300,000
ng losses in lines and transfo) per cent K. W. H. generated		80,000,000	91,000,000	102,200,000	112,900,000	127,800,000

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36 TABLE III.

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ABSTRACT SUMMARY OF EXPENDITURE (FOR DETAILS SEE TABLE IV).

leferer	108-	• • • • • • • • • •	i î	Initial.	Extra within 5 years.	Ultimate.
	- 1	•		Rs.	Rs.	· Rs.
Page	.37	1 Equipped Power Station	• •	62,86,000	••	62,86,000
	39	2 Transmission lines	••	1,39,72,800	26,13,750	1,65,86,550
1J	41	3 Transformation	÷.	17,02,200	8,49,400	25,51,600
"	45	4 Tube-wells	••	39,90,000	31,92,000	71,82,000
,,	46	5 Acquisition of coal mine	• -•	2,00,000	• •	2,00,000
	46	6 General Controlling office	••	1,50,000 , .	• •	1,50,000
		Total		2,63,01,000	66,55,150	3,29,56,150

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BIHAR ELECTRIFICATION SCHEME.

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TABLE IVA-(EQUIPPED POWER STATIONS).

IT IS PROPOSED TO HAVE TWO POWER STATIONS, ONE AT JAMUNIATAND IN THE COLLIERY AREA WITH A TOTAL EQUIPPED CAPACITY OF 20,000 K. W. (1×10,000 K. W. +2×5,000 K. W.) AND ANOTHER AT GAYA WITH EQUIPPED CAPACITY OF 15,000 K. W. (3×5,000 K. W.).

	······································	Initial year.	Extension within 5 years.	Total.
		Rs.	• 1	Rs.
1(A) Power-House equipment at Jamuniatand—	ι	-	· .
•	Power-House building including residential quarters.	3,00,000	Nil	3,00,000
F	ower-house equipments—			
	$1 \times 10,000$ and $2 \times 5,000$ K. W. Turbo alternater sets.	-	Nil	14,08,000
	Feed water softening preheating and pumping plant.	2,13,000	Nil .	2,13,000
	Complete pipe work inside and outside Power- house.	2,13,000	Nil	2,13,000
	Recooling plant	1,30,000	Nil	1,30,000
-	Turbine house travelling crane	45,000	Nil	45,000
	Coal handling plant	50,000		50,000
Į,	Switch Gear, inter-connecting Cable and power-house lighting.	2,13,000	Nil	2,13,000 •
	Automatically Starting Auxiliary Diesel Set	85,000	Nil	85,000
	Tube-well pumps	36,000	Nil	36,000
	Step-up Transformers	1,10,000	Nil	1,10,000
	Temporary Camping Equipments	.30,000	Nil	30,000
	Total	28,33,00	0	28,33,000
1 (F) Power-House equipment at Gaya Power-House building including residential quarters.	2,25,000	– Nil	2,25,000
1	ower-House equipments			
	3×5,000 K. W. Turbo alternater sets	11,74,500	Nil	11,74,500
	Feed water softening preheating and pumping plant.	1,62,000	Nil	1,62,000
	Recooling plant	1,00,000	Nil	1,00,000
	Turbine house travelling crane	35,000	Nil	35,000
	Complete pipe work inside and outside Power- house.	1,62,000	Nil	1,62,000
	Coal handling plant	40,000	· Nil	40,000
,	Switch Gear, inter-connecting Cable and power-house lighting.	1,62,000	Nil	1,62,000
	Automatically Starting Auxiliary Diesel Set	70,000	Nil	70,000
	Tube-well pumps	28,000	Nil	28,000
	Step-up transformers	90,000	Nil	90,000
	Temporary Camping Equipment	20,000	Nil	20,000
	Total	22,68,500		22,68,500
	Total of 1(A) and 1(B)	51,01,500		51,01,500
			-	

		, •	Initial year.	Extension within 5 years.	Total.
	*:		Rs.	•	Rs.
2 Contingencies at 5 per cent	₽. • • •	••	2,55,100	Nil	2,55,100
General charges at 81 per cent	••	••	4,33,700	Nil	4,33,700
Establishment at 7½ per cent	• •	••	3,82,700	Nil	3,82,700
5 Tools and plants at 1 per cent	••	••	51,000	' Nil	51,000
Add provision for unforeseen	••	* *	62,000	ทม	62,000
Total	•	••	62,86,000	- 'Nil	62,86,000
	•			-	 1

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TABLE IVB.

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TRANSMISSION LINES INCLUDING TELEPHONE LINES. (SEE INDEX MAP AND DETAILS ON NEXT PAGE.)

	•	a]	Initial.	Extensio	on within 5 years.	Ultin	nate in 5 years.
lerial no.	Description.	Rate.	Length of line miles.	Cost.	Length miles,	Cost.	Length miles.	Cost.
1	2	3	. 4	5	6	7	8	9
		Rs.		Rs.		Rs.		Rs.
1	66 KV Lines	11,000	542	59,60,000		, ••	542	59,60,000
2	33 KV Lines	5,000	360	18,00,000	·	••	360	18,00,000
3	11 KV	3,000	276	8,28,000	••	•••	276	8,2 8,00 0
4	11 KV Branch lines for tube-wells.	3,000	500	15,00,000	400	12,00,000	900	27,00,000
5	11 KV Tube-well Feeder lines.	2,000	500	10,00,000	400	8,00,000	900	18,00,000
6	6-6 KV Lines	2,000	11	22,000	•••		· 11	2 2,00 0
7	400 Volt Lines	1,250	200	2,50,000	100	1,25,000	300	3,75,000
	Total	••	2,389	1,13,60,000	900	21,25,000	3,289	1,34,85,000
8	Contingencies at 5 per cent	••				1,06,250	••	6,74,250
9	Establishment at 7 1 per cent.	••		8,52,000		1,59,375		10,11,375
10	General charges at 81 per cent.	••	•••	9,65,600	••	1,80,625		11,46,225
11	Tools and Plant at 1 per cent.	••	••	1,13,600	••	21, 250		1,34,850
. 12	Add provision for unforeseen	••	••	1,13,600		21,250	••	1,34,850
	Total	••	•••	1,39,72,800	••	26,13,750	••	1,65,86,550

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BIHAR ELECTRIFICATION SCHEME.

	Statement of H. T. Tra	nsmission lin	96		Remarks.
· · · · · · · · · · · · · · · · · · ·			. *	Miles.	
66 K.		·			
្វទ	muniatand to Jamalpore Kharagpur	via Giridih	, Jhajha,	103	Actual distance is 130 miles. But 27 miles of it are covered
G	aya to Bhagalpur via Jam	alpur	••	144	by the lines Gaya to Bhagal-
	aya to Jamuniatand via H	Koderma	• •	125	pur and Jamuniatand to Gaya.
	aya to Dehri-on-Sone	• •	••	50	
	aya to Fatna	••	•• .	• 60	· · · · · · · · · ·
Ja	muniatand to Ramgarh	••	••	60	
		. •		542	•
33 K.	v				
	ehri-on-Sone to Kudra		• -	32	
_	udra to Buxar	••	••	40	
	atna to Lakhisarai	••		76	
	atna to Arrah	••		37	
	hagalpur to Sahebgunj	••	•••	46	
	anchi to Ramgarh	••		30	
	amuniatand to Barakar vie	. Dhanbad		42	
	amuniatand to Purulia		••	32	· · ·
_	urulia to Adra			25	
				<u> </u>	
				360	
11 K.	V .				
	hakai to Deoghar	•••	••	24	•
	urulia to Jhalda	••	••	30	
	amgarh to Hazaribagh	••	- ••	30	
	udra to Karamnasa	••	•••	26	• *
G	iridih to Madhupore	••	••	. 24	
	audnagar to Aurangabad	••	••	20	
	lica Mining area	•• ' ·	•• .	50	• •
	oal Mining area	••	••	50	
N	awadah to Bihar	••	•-	22	••
				276	
					••
11 K.	V. ranch lines for Tube-Wel	la		500	It is proposed to run 11 K. V.
В	ranch intes for Lube-Wel	19	••	·	lines with fairly heavy section
_				500	
-	, ,				with small section wire will take current to various tube-
	m				wells.
11 K.	V.			500	
Т	ube-Well feeder lines	••	••.		•
	•			500	
6.6 K				6	
	ines Jamalpur to Monghy	Γ	• •	. 5	
1.	anchi to Kanke	••	• •		
		i.		11	
400 V	olts.	Natalh	۰ [¢]		
I	incs for Miscellancous I Electricity	vistribution	01 •••	200	
			- •		
				200	•

TABLE IV (C).

TRANSFORMATION AND SUB-STATIONS.

		Capacity	. K. V. A.	Cost in	rapees.	`	
Description-	Location.	lst year.	5th year.	Initial cost.	Ultimate cost.	Remarks.	
1	3	8	4	5	6	7	
			1			· · · · · · · · · · · · · · · · · · ·	
6/3 3 K. V .	Patna	2,500	4,500	36,800	56,000	It will be noticed that	
	Sone-East-Bank	3,000	6,750	43,700	70, 000	there is considerable difference in the capacity	
	Lakhisarai	600	1,000	17,500	26,200	of transformers required in the first year of opera-	
	Bhagalpur	1,500	2, 500	31,500	43,7 00 ·	tion from that in the fifth year. To install trans-	
	Ramgarh	300	500	12, 500	15,7 00 ·	formers of the ultimate required size initially	
6/11 K. V.	Rafigunj	1,000	1,500	21,000	28,000	would entail avoidable loss in them which is	
· •	Jehanabad	1,400	2,000	28,000	31,4 00 ·	undesirable. It is there- fore proposed that switch	
	Bhagalpore	1,000	1,500	21,000	28,000	gear and other structures should be of the ulti-	
1	Ramgarh	300	500	11,500	15,700	mate required size from the beginning, while	
-	Kodarma	2,500	4,000	· 35, 000	52,500	the transformer alone will be as per the initial	
	Giridih	100	200	4,400	6,200	requirement of capacity. As soon as loads	
	Chakai .	100	200	4,400	6,200	develop and increased capacity are required,	
	Bermo	1,500	2,000	28,000	31,000	bigger transformers will be installed at some	
	Nawada	3,000	4, 250	43,000	55.000	stations, which would not necessitate any	
	Lakhisarai	1,000	1,250	21,000	26,200	alteration or addition in switch gears, etc. Pro-	
	Shekhpura .	1,200	1,500	25,400	28,000 ·	vision has been made for additional transformers	
	Kharagpore	1,000	1,2 50	21,000	26,200	required for new tube- well stations. In many	
	Unforeseen	1,000	1,250	21,000	26,200	cases, however, it will also be possible to	
6/6·6 K.V.	Giridih	2,200	3,000	31,000	42,000	replace smaller trans- formers by bigger ones	
	Jamalpur	4,000	4,500	50,000	56,000	where new transformers	
6/•4 K.V.	Jhajha	100	100	4,400	4,400	have been installed.	
3/11 K. V.	Kudra	300	500	6,20 0	7,800		
	Buxar	300	. 500	6,200	7,800		
•	Kudra-Buxar	1,000	1,500	14,000	21,000 [.]	<u>.</u>	
	3 3 33	1,000	1,500	14,000	21,000		
	Sassaram	150	200	4 ,400	5,200		
	Dehri-on-Sone	1,000	1,250	14,000	17,500		

TABLE	IV(C)—contd.
•	

	Ĉepscity.	K. V. A.	Cost in	rapees.	· • • •
Location.	lst year.	5th-year.	Initial cost.	Ultimate cost.	Remarks.
2	3	4	5	6	, 7
Arrah .	500	650	7,800	12,500	
Maner	500	6 50	7,800	12,500	
Dhanbad	750	1,000	13,100	- 14,000	
Khusrupore	300	400	6,200	7,000	
Mokamah	300	400	6,200 ₁	7,000	
Bhagalpore	150	225	4,400	5,200	
Purulia	. 150	200	4,400	5,200	
Patna	1,400	1,700	- 17,500	- 26,200	
Renchi	100,	2 50	2,900	5,300	
Bhagalpore	600	800	- 10,500	15,700	
Kudra	75,	125	2,500	3, 500	
Buxar	150	200	4,400	5,200	
Arrah		200	4, 400	5,200	
Sahebgunj	800	1,200	15,700	18,200	
	30	30		1,600	
Adra		4 00		7,000	
Barakar				5,300	
			•		
•					
*					-
				900	
Do	50			1,600	
Do				1,800	
Dheri-on-Sone	75	75		1,700	
Guraru	50	50	•	1,600	
Palmergunj	40	40	•		
Do	20	20	900	900	
	20	20		900	
	2ArrahManerManerOhanbadIbhanbadKhusruporeMokamahShagalporePuruliaPatnaPatnaBhagalporeIbhagalporeSanchiBuxarArrahSahebgunjColgongArrahSahebgunjOlanbadBhasharif.Bhasharif.Bhabhua RoadDhanbadDumraonSassaramDo.Do.Do.Do.NorionSassaram<	Location.Ist year.28Arrah500Maner500Maner300Dhanbad300Mokamah300Mokamah150Purulia150Patna1,400Ranchi100Bhagalpore600Kudra150Bhagalpore600Kudra150Bhagalpore600Kudra150Bhagalpore600Kudra150Bhashour150Bhashour150Sahebgunj300Adra150Bhabhua Road40Do.100Sassaram15Do.100Dheri-on-Sone75Guraru50Palmergunj40Do.100No.100Coloon100Coloon100Sassaram15Do.100Coloon100Coloon100Sassaram15Do.100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100Coloon100 <tr< td=""><td>Ist year. 5th year. 2 8 4 Arrah 500 650 Maner 500 650 Dhanbad 750 1,000 Khusrupore 300 400 Mokamah 300 400 Mokamah 300 400 Bhagalpore 150 225 Purulia 150 200 Ranchi 1,400 1,700 Ranchi 100 250 Bhagalpore 600 800 Kudra 150 200 Arrah 150 200 Sahebgunj 800 1,200 Colgong 300 400 Barakar 150 250 Dhanbad 150 250 Bhabhua Roat 40 40 Do. 100 100 Sassaram 150 250 Dhanbad 150 50 Do. 100 100</td><td>Location: Ist year. 5th year. Initial order 2 8 4 5 Arrah 500 6500 7,800 Maner . 500 6500 7,800 Dhanbad . 500 6500 7,800 Dhanbad . 750 1,000 13,100 Khusrupors . 300 400 6,200 Mokamah . 300 400 6,200 Bhagalpore . 150 225 4,400 Farna . 1,400 1,700 17,500 Bhagalpore . 100, 250 2,900 Bhagalpore . 100, 200 4,400 Kudra . 150 200 4,400 Sanebgunj . 6600 800 10,500 Sahebgunj . 800 1,200 4,400 Sahebgunj . 800 1,600 1,600</td><td>Location. lst year. 5th year. Initial cost. Ollimate cost. 2 3 4 5 6 Arrah 500 650 7,800 12,500 Maner . 500 650 7,800 12,500 Dhanbad . 750 1,000 13,100 14,000 Khusrupore . 300 400 6,200 7,000 Bhagalpore . 150 225 4,400 5,200 Fatna . 1,400 1,700 15,700 26,200 Bhagalpore . 6600 800 10,500 15,700 Kudra . 150 200 4,400 5,200 Sahebgunj . 800 1,200 1</td></tr<>	Ist year. 5th year. 2 8 4 Arrah 500 650 Maner 500 650 Dhanbad 750 1,000 Khusrupore 300 400 Mokamah 300 400 Mokamah 300 400 Bhagalpore 150 225 Purulia 150 200 Ranchi 1,400 1,700 Ranchi 100 250 Bhagalpore 600 800 Kudra 150 200 Arrah 150 200 Sahebgunj 800 1,200 Colgong 300 400 Barakar 150 250 Dhanbad 150 250 Bhabhua Roat 40 40 Do. 100 100 Sassaram 150 250 Dhanbad 150 50 Do. 100 100	Location: Ist year. 5th year. Initial order 2 8 4 5 Arrah 500 6500 7,800 Maner . 500 6500 7,800 Dhanbad . 500 6500 7,800 Dhanbad . 750 1,000 13,100 Khusrupors . 300 400 6,200 Mokamah . 300 400 6,200 Bhagalpore . 150 225 4,400 Farna . 1,400 1,700 17,500 Bhagalpore . 100, 250 2,900 Bhagalpore . 100, 200 4,400 Kudra . 150 200 4,400 Sanebgunj . 6600 800 10,500 Sahebgunj . 800 1,200 4,400 Sahebgunj . 800 1,600 1,600	Location. lst year. 5th year. Initial cost. Ollimate cost. 2 3 4 5 6 Arrah 500 650 7,800 12,500 Maner . 500 650 7,800 12,500 Dhanbad . 750 1,000 13,100 14,000 Khusrupore . 300 400 6,200 7,000 Bhagalpore . 150 225 4,400 5,200 Fatna . 1,400 1,700 15,700 26,200 Bhagalpore . 6600 800 10,500 15,700 Kudra . 150 200 4,400 5,200 Sahebgunj . 800 1,200 1

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		Capa	oity.	" Cost in	rupees.	1	
Description.	• Location.	lst year.	5th year.	Initial coșt.	Ultimate cost.	Romarks	
1	8	8	4	5	6	7	
1/4 K V	Rafiganj	· 40 ⁽	40	1,400	1,400		
	Poonpoon	40	40	1,400	1,400	-	
	Taregna	75	75	1,700	1,700		
	Jehanabad	100	150	1,800	2,500		
	Tehta	75	75	1,700	1,700	•	
	Hazaribagh	100	150	1,800	2,500		
	Jhalda	100	100	1,800	1,800		
	Purulia	100	100	1 800	1,800		
	Gomoh	100	100	1,800	1,800	•	
	Fatwah	100	150	1,800	2,500		
	Madhupur	100	150	1,800	2,500		
•	Jesidih	100	100	1,800	1,800		
	Khusrupore	100	150	1,800	2,500		
	Bukhtiarpore	25 25	25	1,300	1,300		
	Barh	100	100	1,800	1,800	· · · · · · · · · · · · · · · · · · ·	
	Mokamah	100	150	1,800	2,500		
	Purulia	75	75	1,700	1,700		
	Hisua	30	30	1,300	1,300	×	
	Wazirgunj	25	25	1,300	1,300	· .	
	Nawadah	30	30	1,300	1,300		
- - -	Warsaligunj	50	50	1,600	1,600		
	Deoghar	110	110	1,800	1,800	• •	
	Lakhisarai	100	150	1 ,800	2,500		
	Shekhpura	100	100	1,800	1,800		
	Sultangunj	150	200	2,500	4,100		
			-				
	Kodarma Mica Mining Area	10×200	2 0×200	41,000	82,000		
	Coal Mining Area.	10×200	20×200	41,000	82,000		
	Tube-wells	25×75	50 x 75	39,600	79,200	Transformers for 3 well	

		Сара	oi ty.	Cost in	rupees.	
Description.	Location.	lst year.	5th year.	Initial cost.	Ultimate cost.	Romarks.
1	2	3	4	5	6	7
	Tube-wells	50×50	100×50	90,500	1,81,000	Transformers for 2 wells
	Do	325×25	550×25	3,74,000	6,37,000	Transformers for indivi dual wells.
6·6/.4 K. V.	Kanke	80	80	1,800	1,800	
	Ranchi	100	· 150	1,800	2,500	•
:	Bariarpore	• 40	40	1,400	1,400	
	Monghyr	300	400	5,200	7,000	
6·6/11 K.V.	Gaya	1,000	1,250	15,800	18,200	
	Jamuniatand	750	1,000	14,000	17,500	
	Total	••	•••	13,85,200	20,80,000	
	Contingencies	At 5%	••	69,800	1,04,000	
	Establishment	At 71%		1,04,700	1,56,900	
	General charges	At 8½%		1,18,600	1,77,800	
	Tools and plant	At 1%		13,900	20,900	
	Provision for writing off unforeseen.	••		10,000	12,000	
	Total	••		17,02,200	25,51,600	

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TABLE IV (D) TUBE-WELLS WITH UNMETALLED INSPECTION ROADS.

· •	LOAD		-		• • •
. ·		Init		Extensions within five years.	Total.
			Rs.	Rs.	Rs.
Tube-well	••	35,00			63,00,000
Unmetalled Track Roads	· • •	3,00	0,000	2,4 0,000	5,40,000
		38,0	0,000	30,40,000	68,40,000
Supervision charges @ 5	per cent	1,90	,00 0	1,52,000	3,42,000
Ţ	otal	39,9(),000	31,92,000	71,82,000
c	UBE-WELLS-	(DETAILS).		
				Rs.	Rs.
Cost per well (as detailed bel	AW)			7 000	19D1
Oper per well (as domined bor		••	• •		
Cost for 500 wells	••	••		•••	35,00,000
Details-					
	·		Rs		
(1) 6" strainer tube-well of	f 1 d cusec cap	acity	3, 05(о)	
(2) A. Pump and motor couplings and n starters and 124 H.	ocessary acco		75(
B. Mechanical fittings, valves, bends and cartage and erection	pipes with V	flanges, notch	50		es are actual s.
O. Electrical fittings co	mplete in ell r	espects.	22	4	
•		•	4,52	— . A	•
'Add 5 per ce	ent contingenc	ies	4,52 21		
· · ·		, .	4,74	0	
(3) Acquisition of ½ bigha per bigha.	of land @	Rs. 250	12	5	``
(4) Buildings, etc		•			
., -		Rs.			
(a) Operator's quarter	. 8	576)			
(b) 7' dia. sump we with water tank.	ll complete	760	Detail	s have been wor	ked out
(c) Earthen channel l	L.S	300			
	eral offices,	499			
residential quart			-	_	
			2,13	ō	
	Total	•••	7,00	0	
		-			

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PROBABLE APPROXIMATE COST OF 8' WIDE UNMETALLED TRACK ROADS. (1) 10' wide land for a mile of road .. $.10 \times 5,280 = 52,800$ s. ft. Approximately=1.25 acres. For 500 miles 625 acres will be required.

Land Acquisition for 625 acres at Rs. 300 per acre= Rs. 1,87,500.

(2) Making 8' wide Kutcha Track with necessary culverts at Rs. 220 per mile. For 500 miles=Rs.1,10,000.

		Ks.
Therefore total cost of Roads	••	=2,97,500
		Say 3,00,000

TABLE IV (E)-COAL MINE.

1 Acquisition of mine at Jamun	iatand wit	h appliances	••	Rs. 2,00,009
· TABLE IV (I	F)GEN	ERAL OFI	FICE.	Rs
1. General Controlling Office	.	••	••	1,50,000

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BIHAR ELECTRIFICATION SCHEME.

TABLE V (A).

COST OF GENERATION OF ELECTRICITY. 1ST YEAR OF OPERATION.

				09	
Interest on cost of Gener	-		••	33 per cent.	
Depreciation on Generati	ng Plant		••	5 per cent.	
Maintenance and operati	on of Generatin	g Plant	••	21 per cent.	
		Total	••	114 per cont.	
Cost of Generating Stati	on is Rs. 62,86	,000.	•		•
				Rs.	
111 per cent on above is	••	••		7,05,000)
Fuel cost	••	••	••	3,36,000	[See page 49.1
· .		Total	••	10,41,000	
Unite	s generated is s utilised is				-
Therefore Generation	n cost per K. W	.H. gene		2. 5 pies.	
	n cost per K. W	.H. gene	rated	2.5 pies. 3.03 pies.	
[*] Therefore Generatio Therefore Generatio	n cost per K. W	7. H. gener utilised	rated	- .	
[*] Therefore Generatio Therefore Generatio	n cost per K. W n cost per unit : YEAR OF OF	7. H. gener utilised ERATIO	rated N.	3 03 pies.	
[*] Therefore Generation Therefore Generation 5TH	n cost per K. W n cost per unit : YEAR OF OF	7. H. gener utilised ERATIO	rated N.	3 03 pies.	
[*] Therefore Generation Therefore Generation 5TH	n cost per K. W n cost per unit : YEAR OF OF	7. H. gener utilised ERATIO	rated N.	3 03 pies.	
Therefore Generation Therefore Generation 5TH Cost of Generating Static	n cost per K. W n cost per unit : YEAR OF OF	7. H. gener utilised ERATIO	rated N.	3.03 pies. Rs. 7,05,000	[See page
Therefore Generation Therefore Generation 5TH Cost of Generating Station 111 per cent on above	n cost per K. W n cost per unit : YEAR OF OF	7. H. gener utilised ERATIO	rated N. 86,000.	3.03 pies. Rs. 7,05,000	· •
Therefore Generation Therefore Generation 5TH Cost of Generating Station 111 per cent on above Fuel cost	n cost per K. W n cost per unit : YEAR OF OF	7. H. gener utilised PERATIO e Rs. 62, Total	rated N. 86,000.	3.03 pies. Rs. 7,05,000 5,36,000	[See page
Therefore Generation Therefore Generation 5TH Cost of Generating Static 111 per cent on above Fuel cost Units	n cost per K. W n cost per unit a YEAR OF OF on same as above	7. H. gener utilised ERATIO e Rs. 62, Total 27,800,00	rated N. 86,000.	3.03 pies. Rs. 7,05,000 5,36,000	[See page
Therefore Generation Therefore Generation 5TH Cost of Generating Static 111 per cent on above Fuel cost Units	n cost per K. W n cost per unit a VEAR OF OF on same as above e generated*is 1 s utilized is 1	7. H. gener utilised ERATIO e Rs. 62, Total 27,800,00 06,300,00	rated N. 86,000.	3.03 pies. Rs. 7,05,000 5,36,000	[See page

BIHAR ELECTRIFICATION SCHEME,

TABLE V (B).

COST OF TRANSMISSION OF ENERGY.

The transmission equipments consist of transmission lines and transformer stations :----

1st year of operation.-

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		Rs.	
Cost of transmission lines	••	1,39,72,800	
Cost of transformation and sub-station	••	17,02,200	
Tota	1	1,56,75,000	
			Rs,'
Interest on above @ 33%			5,40,000
Establishment $@ 2\frac{1}{2}\%$		••	3,92,000
Depreciation @ 2% on transmission	lines		2,79,500
and @ 3% on transformati		••	51,100
	* ;; ;	Total	12,62,600
Units generated Units utilised Therefore cost of transmission per unit gen Therefore cost of transmission per unit util by year of operation The cost of transmission lines The cost of transformation and sub-station	66,6 erated ised		pies. pies.
Tot	al	1,91,38,100	
•		······································	Rs.
Interest on the above @ 31%		••	7,20,00
Establishment @ 2½%	••		4, 80,00
Depreciation on transmission lines @ 2	% ••	••	3,81,70
and on transformation @ 3	%••	••	77,80
		Total	16,09,50
		800,000 300,000	

Units utilised	••	106,30	0,000	
Therefore transmission	cost per	unit generated	••	2.42 pies.
Therefore transmission	a cost per	unit utilised	• •	2.91 pies.

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BIHAR ELECTRIFICATION SCHEME.

TABLE V (C).

Cost of fuel per unit of generation including lubricating oil, water, waste, etc.

Consumption of steam in Turbines of 5,000 K. W. capacity in fbs per K. W. H. may be taken at 12 fbs. 1 fb of Jharia Coal (second class) will supply 6.7 fbs. of steam. So coal required per K. W. H.

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$$=\frac{12}{6\cdot7}=1\cdot79$$
 fbs. say 1.8 fbs.

On this basis, thermal efficiency of plant comes to 11.22 per cent.

Taking wastage of coal in handling @ 10 per cent and price of coal at Jamuniatand at Rs. 2 per ton and that at Gaya @ Rs. 6 per ton, cost of fuel per K. W. H. at Jamuniatand comes to

$$=\frac{1.8\times2\times16}{2240\times9}=0.0286$$
 anna.

at Gaya

$$=\frac{1\cdot8\times6\times16}{2240\times9}=0.0858$$
 anna.

Therefore average cost of fuel per K. W. H.

To the above add 0.01 anna for lubricating oil, water, waste, etc.

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Hence the cost comes to (average) = 0.0572 + 0.01

=0.0672 anna.

Total cost of fuel, etc., in first year of operation

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 $= 80,000,000 \times .0672$ anna.

=Rs, 3,36,000.

Cost of fuel, etc., in fifth year of operation

 $=127,800,000 \times 0672$ anna.

=Rs. 5,36,000.

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BIHAR ELECTRIFICATION SCHEME.

•TABLE VI. OPERATION COST IN RUPEES.

111000 - 20 - 362 - 312	Year of operation.				
Serial number and description.	lst year.	2nd year.	Srd year.	4th year.	
1	2	8	4	5	
I. Average cost of fuel including oil, water, wastage, etc., per K. W. H.	0 ·0672	0.0672	0.0672	0 0672	
in anna (from page 49).	Rs.	Rs.	Rs.	Rs.	
2. Total cost of fuel is rupees	3,36,000	3,82,000	4,30,000	4,74,000	
3. Maintenance, operation and establish- ment charges at 2½ per cent on capital.	6,68,000	6,96,000	7,44,000	7,84,000	
4. Interest charge at 34 per cent on . capital.	9,85,000	10,48,000	11,17,000	11,76,000	
5. Depreciation on plant at 5 per cent	3,14,300	3,14,300	3,14,300	3,14,300	
Transmission at 2 per cent	2,79,500	2,92,500	3,05,600	3,18,700	
Transformation and sub-stations at 3 per cent.	51,100	÷ 55,100	. ^{67,400}	72,100	
Tube-wells at 5 per cent	1,99,500	2,39,400	2,79,300	3,19,200	
6. Total of cost of generation, main- tenance, repairs, establishment, interest and depreciation charges in rupees.	28,23,400	30,27,300	32,57,600	34,58,300	

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BIHAR ELECTRIFICATION SCHEME,

TABLE VII. -

FINANCIAL RETURNS.

, •			Year of operation.	4		
Baference.	lst year.	2pd year.	Sid year.	4th year.	5th year.	Bomar Lo.
1	2	8 .	- 4	6	6	1
	Re.	Rs.	Rs.	Rs.	· Rs.	
. Capital outlay	2,63,01,500	2,78,85,500	2,97,50,300	3,13,55,300	3,29,56,650	
Anticipated gross revenue in rupees	27,16,780	31,73,210	34,63,000	38,02,500	41,62,800	
Anticipated annual charges in rupees inclusive of depreciation, interest charges, etc.	28,23,400	30,27,300	32,57,600	34,58,300	36,81,900	
Net return after meeting all possible charges.	()1,06,620	45,910	2,05,400	3, 4 4,200	4 ,80,900	Contribution of the scheme towards the general revenues of the province,

APPENDIX.

Tube-well system examined as a separate organisation.

The main report visualises both the electrification scheme and the tube-well irrigation. system as parts of a single whole, and the Tables and Statements' attached thereto show the financial aspects and implications of the two together. In the United Provinces for purposes of account, the two parts have been separated. It would, therefore, be interesting to analyse the tube-well system alone and separate its financial aspects from that of the electrification scheme.

A reference to Table II(C) will show that in the first year of operation, the agricultural consumption of power has been taken to be 11,840,000 units against a total of 66,600,000 units, i.e., 17.8 per cent. In the fifth year of operation, again, the consumption becomes 23,750,000 units against a total of 106,300,000 units which also works out at 22.3 per cent. If we add line and transformer losses which would amount to about 20 per cent to these figures, we get the total generated energy utilised on irrigational work. Thus agricultural consumption of energy in first year of operation=11,840,000+2,368,000=14,208,000 units.

In fifth pear of operation it is 23,750,000 units+4,750,000=28,500,000 units.

It would be difficult to allocate, with a reasonable degree of accuracy, a fraction of the capital invested on generation and transmission works to the tube-well system. For all practical purposes, the object will have been achieved and proportionate capital expenditure on generating plants and transmission lines will have been taken into consideration, if we take the price of current consumed on it at a rate which would include pro rata interest charges and depreciation of plants and distribution system.

The figure for cost of generation of electricity has been worked out in Table VA and is 2.5 pies in the first year of operation and 1.87 pies in the fifth year.

As for the cost of transmission of current-

In the first year of operation-

Cost of transmiss	·			
specially mean	ton system excluding the for Agricultural I	load = 100 01 (1	.13,60,000 25,00,000) % being the tal charges all accounts.	
		· _1·22	★88,60,000=1	.,08, 09, 200
Cost of transfor excluding these	mation and sub- e for Agricultural le	station $= \frac{122}{100}$ o	f (13,85,200	ş
	**	•	5,04,100)	
	· .	22%	being the	
		to	tal charges all accounts.	
		×	·22×8,81,100=	=10,74,942
		Tota	ıī	1,18,84,142
		:	_	Rs.
Interest	@ 33% '	•• ••	. 4,4	15,655
Est.	@ 2 <u>1</u> %	•• ••	2,9	97,104
Dep.		namiasion .	* 2,:	16,184
, F		sformation		32,248
	- ,-	•		

Units generated is 80,000,000.

Units utilised is 66,600,000.

Therefore cost of transmission per unit generated =2.19 pies.

Therefore cost of transmission per unit utilised = 2.86 pies.

In the 5th year of opera	tion—		+ Rs.
Cost of transmission specially meant fo	system excluding lines = r Agricultural load	22% k total	34,85,000 5,00,000) peing the charges 11 accounts. 39,85,000=1,09,61,709
Cost of transmission ing those for Agri	and sub-station exclud- cultural load	л,	(20,80,0 00 8,97,200)
		sitotal on a	charges charges ll accounts.
			×11,82,800=14,43,016
		Total	• • • • • • • • • • • • • • • • • • • •
Interest Est. Dep.	 @3½% @2½% @2% on transmission @3% on transformation 		Rs. 4,65,177 3,10,118 2,19,234 43,291
	`	Total	10,37,820
Units generate Units utilised Therefore tran			127,800,000 106,300,000 1.55 pies.
	asmission tost per unit ut		1.87 pies.

Including generation and transmission, the cost of current in the first year of operation $=2\cdot5+2\cdot19=4\cdot69$ pies per unit. In the fifth year of operation this becomes $1\cdot87+1\cdot55$ $=3\cdot42$ pies per unit. These figures are complete and comprehensive and take into account all possible charges which must be allocated to the production and distribution of energy for agricultural purposes from the electrification scheme as separated from the irrigational part of it.

(a) At these rates, cost of current in the first year of operation = 14,208,000×4.69 pies=Rs. 3,47,060 and in the fifth year of operation, it will be 28,500,000×3.42 pies=Rs. 5,07,656.

Now the details of the capital expenditure on the projects are given in Tables IVB, C and D, and we get the exclusive expenditure on the tube-well scheme as follows :----

	•	First year of operation.		Fifth year of operation.
			;Rs.	Rs.
Tube-wells and inspection tracts		• •	39,90,000	71,82,000
Transmission line		. •≢	25,00,000	 45,00,000
Transformers		••	6,15,000	10,92,000
•• ••• •	Total	••	71,05,000	1,32,74,000

(b) Interest at 32 per cent on these comes to-

		٩			Rs.)
In the first year	••	••	` • •	••	2,66,100
In the fifth year	••	. ¥		••	4,96,500

(c) Depreciation, again,

Reckoning at 5 per cent on tube-wells and tracks,

2 per cent on transmission lines, and,

3 per cent on transformers gives,

For 1st year,	tube wells	••	••	••	Rs. 1,99,500	
÷	transmission 🔥	••	••	••	50,000	
	transformer · .	••	••	••	18,450	
	Total	••	*	••	2,67,950	
For 5th year,	tube-wells	• • •	• •	••	3,59,125	
-	transmission	••	••	• •*	90,000	٩
	transformer	••	••	••	32,760	
•	Total	% -	••	••	4,81,885	

(d), Taking maintenance and establishment charges at 21 per cent on capital outlay we get

for 1st year of operation Rs. 1, 7,625. for 5th year of operation Rs. 3,31,862.

Thus the total inclusive annual charges which consists of four parts, namely, (1) price of current consumed, (2) interest on the capital outlay, on the tube-wells and works exclusively appertaining to them,

(3) depreciation, and,

(4) maintenance and establishment charges, for the tube-well system come to-

In the 1st year Rs. 3,47,060 + Rs. 2,66,100 + Rs. 2,67,950 + 1,77,625 = Rs. 10,58,735. In the 5th year Rs. 5,07,656 + Rs. 4,96,500 + Rs. 4,81,885 + 3,31,862 = Rs. 18,17,903? Coming now to the question of revenue, in Table,

I(E) at 9 pies per unit of current income-

for 1st year is Rs. 5,54,000.

for 5th year is Rs. 10,90,000.

which leaves a deficit of Rs. 5,04,735 and Rs. 7,27,903, respectively.

The revenue, however, will be much exceeded in practice for the proposal is to charge at an average rate of Re. 1 per bigha per watering. Of course, the detailed schedule of tarifi has not been worked out, and in case of some crops the charge will be at a lower leve!, while in the case of others, it will be higher. But the idea is to work it out so that an average rate of Re. 1 per bigha per watering will be obtained, i.e., Rs. 1-9-0 per acre per, watering.

Now 3" of irrigation will be given per watering and therefore $1\frac{1}{2}$ cusecs will irrigate one acre in two hours, i.e., the hourly earning of a well will be about Re 0-12-6. In the United 1 rovinces, wells were estimated to work for 3,000 hours per year, and this figure has been exceeded in most cases. Here also, for agricultural load, a load factor of 33 per cent has been assumed, which gives a total working hour of $\frac{365 \times 24}{5} = 2,920$ hours per year. Annual earning of each well will be Rs $2,920 \times \text{Re}$. 0-12-6 = Rs. 2,281-4-0.

Total incomes-

1st year will thus be 500 × Rs. 2,381-4-0=Rs. 11,40,625.

5th year will thus be 900 × Rs. 8,281-4-0=Rs. 20,53,125.

These figures not only meet the inclusive annual charges, but leave considerable margin above them. This is about a lac in the first year and rises to over two lacs in the fifth year of operation.

It will be noticed that the anticipated annual revenue is almost double of what it was reckoned in Table I(F) of the main report. This means that a rate of Re. 1 per bigha per watering works out to a price of Re. 0-1-6 per unit of energy consumed. Whether the irrigation scheme should be made self-supporting, or be allowed to be subsidised by the electrification scheme and a lower rate charged for irrigational load, is a point for consideration. But even without being subsidised, it will be possible to do irrigation at cost price at a rate of Re. 0-14-9 per bigha per watering in the 1st year and a rate of Re. 0-13-11 per bigha per watering in the fifth year of operation, i.e., at rates of Rs. 1-7-7 and Rs. 1-6-3 per acre per watering respectively.

BGP (Fin)40-100-17-7-1939-LNL & others.

REPORT

ON THE

FIRST REGULAR WAGES SURVEY

OF THE

PUNJAB

TAKEN IN

DECEMBER 1912.

Price: Re. 0-6-6 or 7d.



Lahore. .PRINTED AT THE PUNJAB GOVERNMENT PRESS, .1913. Report on the first Regular Wages Survey of the Punjab taken in December 1912.

X:952.236++ E2-

1. A preliminary survey was held in December 1909, the result of which was published as No $\frac{24}{49}$ of the new series of selections from the records of the Financial Commissioners. Under the orders of the Government of India the first regular survey should have been held in December 1911, but as the kharif harvest of that year was poor, the enquiry was postponed under the authority of paragraph 13 of Standing Order No. 40. Rabi 1912 was a good crop and kharif 1912 was nearly average, so the survey was taken in December 1912.

URBAN WAGES.

2. The towns selected for the enquiry into the rates of labour in urban areas were Lahore, Amritsar and Multan. The last-named town was substituted for Delhi, which was selected in 1909, owing to the transfer of Delhi to the Imperial Government in October 1912. The method of enquiry was the same* as in 1909 and the results are

*Paragraph 1 of the memorandum of 1909.

given in table A. It was not possible to shew the numerical strength in 1912 of the various classes of labourers, as owing to a difference in the method of classification adopted at the recent census the figures are not available. The rates now reported shew an increase in all classes except brass, copper and bell metal workers. The decrease in the rate paid to this class in Lahore is attributed to a falling-off in the demand, but possibly the 1909 rate was incorrectly reported. As is to be expected, the rates paid to unskilled labourers, carpenters and masons in urban areas are considerably higher than the rates paid in rural areas except in Labore. The Lahore urban rates for these classes are very little higher than the rural rates, and, except in the case of unskilled labourers, are lower than the urban rates in Multan, which is surprising.

RURAL WAGES.

These are tabulated in statements B and C. It is unnecessary to 3. repeat the explanatory remarks, most Wages of unskilled labour.

of which still hold good, given in paragraphs 2-4 of the memorandum of 1909. In 1909, for the enquiry into rural wages, 12 villages were selected in each field kanungo's circle, but as this number proved excessive, the Financial Commissioner sanctioned a reduction to 4. He also sanctioned the omission of column 6 of table C of the memorandum of 1909. Otherwise the method of enquiry was the same as in 1909. Out of 1,666 villages selected for the enquiry returns were received from 97 per cent. The 45 non-reporting villages can be classified as-

Permanently unsuitable		•••	9
Temporarily ditto	***	•••	25
Omission unexplained	***		11

Enquiry may bring to light more permanently unsuitable villages among the 11 where the absence of wages is unexplained, and Deputy Commissioners will be asked to substitute other villages for all found to be permanently unsuitable.

The general result of the present enquiry, as far as cash rates are concerned (columns 2-5 of Table B), is that there has been a general increase on the wages of 1909. This increase was anticipated in paragraph 14 of the memorandum of 1909 and will be discussed later.

4. In Hissar, while the commonest rate has risen, the range of typical cash rates has fallen. This is due to Exceptional districts. the fact that kharif 1909 was a bumper harvest, and the exceptional demand for unskilled labour at harvest time probably led to rates slightly higher than normal being paid. In Gurgaon, where the lowest wage in the province is paid, there has been no change since 1909.

This is the only district in which the old customary rate appears to survive. In Ludhiana the rise has been very sharp. The explanation of "the Deputy Commissioner implies that the general causes leading to a rise of wages have been exceptionally operative in the district. In Ferozepore wages have fallen. The Settlement Officer is unable to explain the decrease. The causes of the high rates in 1909 are detailed in paragraph 4 of Mr. Renouf's memorandum. Possibly the relative inferiority of the autumn harvests of 1911 and 1912 increased the supply of labourers from Rajputana. In Montgomery the range of typical rates is lower than in 1909. The Deputy Commissioner reports that the rates of 1909 are open to suspicion, and that the rates now reported are correct; but for a district in which the demand for labour owing to the excavation of the Lower Bari Doab Canal must be extensive the new rates seem low. In Lyallpur wages have remained stationary, while in most of the other districts of the Central Punjab they have risen sharply and are as high or nearly as high as in Lyallpur. The reason is that so many labourers have migrated to Lyallpur from the adjoining districts that the labour market in the latter has become seriously depleted, and in Lyallpur has become relatively overstocked.

5. As in 1909, the rates of unskilled labour returned from districts were checked by the rates paid to coolies at Cooly rates at railway stations in rural tracts. selected railway stations in rural tracts.

			AVERAGE DAILY SARNINGS WHEN PAID						
Station.	Branch of Bail- way.	District.	By th	e day.	By t	he job.	By the month,		
			1909.	1912.	1909.	1912.	1909.	19 <u>12</u> ,	
*** **			A . P.	<u>Å.</u> P.	A. F.	A. P.	A. P.	A. P.	
Palwal	Great Indian Peninsula Rail- way.	Gurgson	10 3	80				*** -	
Sonepat 🛶	7 Rast Indian (Rohtak	***	80	4 6	80		-	
Kharindwa	5 Railway. (Karnal			6 0	6 0	·	**\$	
Raman) Řejputana) Malwa Rail- {	Ferozepore {	***	4 0	86	40	•••		
Fazil ka	5 way.	Renozehore (. •••	70		70	60	•••	
Keithal	h r	Karnal ve	60	6 s	•••			6 11	
Jagadhri 🔐		Ambala	-	80			60	6 11	
Phagwara	ļ	Kapurthala State.	50	6 11	. 6 0			6 11	
Batala		Gurdaspur	6 0	75	80			75	
Pattoki		Lahore	80	. 86	80			75	
Wazirabad	North-Wes-	Gujranwala	68	65	58	, 		6 11	
Ĝojm	tern Bail-	Lyallpur	80	6 9	۰. • نو	mi		6 11	
Bhalwal	way.	Shahpur	•••	69			8;\$	6 11	
Gujar Khan		Rawalpindi	8 0	6.8	10 6			65	
Bhsickar		Mianwali	Goods	coolies are	not employ	ed.			

Lodbran

The results are tabulated below :----

A. P.

6 İI

6 11

6 11

75

75

6 11

6 II.

6 11

5 10

A

In most cases the railway station rates are considerably higher than the typical rates reported from districts, but this is to be expected when many of the stations are situated at large towns. There is nothing in the railway station rates which throws discredit on the district rates.

Multan

....

...

There are some unexpected variations in the rates of 1909 and 1912. The sharp rise at Sonepat is due to the increased demand for labour at Delhi in connection with the building of the Imperial city. The decreases at Palwal, Raman, Gojra, Bhalwal and Gujar Khan are due to less goods being handled in December 1912 at these stations than in December 1909.

6. The following table compares the percentage of villages report-Increasing tendency to substitute cash for grain ing cash and grain wages paid to unskilled labourers in 1909 and 1912 :---

	,	P	urely cash.	Cash with grain or other sup- plement.	Purely grain.		
1909	•••		4 9	48	3		
1912 ,			58	40	2		

In Hissar, Gurgaon, Gujrat, Jhelum, Rawalpindi, Mianwali and Muzaffargarh the few grain wages reported in 1909 have disappeared, while in Gurdaspur the percentage of villages in which purely grain wages are paid has fallen from 21 to 2. In Hissar, Gurgaon, Jhelum and Rawalpindi there was, even in 1909, no general custom of paying grain wages, and the few cases then reported were due to the excellence of the autumn harvest. The decrease in the other districts is due to the growing tendency to substitute cash for grain wages.

The value of the grain wages agrees fairly closely with the cash wages paid, but the number of villages in which a grain wage is returned is too small to afford a reliable index of this kind of wage.

7. The wages of village artisans paid by the day in rural areas are given in Table B. Such wages are re-

ported from 89 per cent. of the selected villages in the case of carpenters, 19 per cent. in the case of blacksmiths and 75 per cent. in the case of masons. The wages of blacksmiths can hardly be considered representative, as they are reported from such a small proportion of the selected villages. Blacksmiths generally get a share of the produce like other village menials, and if they take non-agricultural work are paid by the job. Some districts in the north-west of the province report that the same man does the work of a carpenter and a mason, and where this is the case, the wages are the same, but where there are both carpenters and masons, the wages of the latter are higher. The same rise is apparent in the wages of village artisans as in the wages of other classes of labour. Estimates of the annual receipts of carpenters and blacksmiths not paid by the day (the mason is not a village menial) were prepared by Settlement Officers under the orders contained in paragraph 14 of Standing Order No. 40. The estimates naturally give much lower results than the wages tabulated in statement B, as the former only represent the village artisans' receipts from zamindars and do not include their earnings from other sources. The Settlement Officers' estimates are in fact so much lower than Kanungos' that they are useless as a check on the latter. For this reason their abandonment was proposed by Mr. Renouf in 1910, but the proposal was negatived by the Financial Commissioner. This decision might be reconsidered, as the preparation of the estimates serves no useful purpose.

8. The estimate of the wages of ploughmen has again proved the most difficult part of the enquiry for the

reasons given in paragraph 8 of the memorandum of 1909. Ploughmen are paid monthly wages in about 68 per cent. of the selected villages. Elsewhere they are paid a share of the harvest produce. Columns 16 and 17 of Table B shew that their wages have risen in the same way as those of other labourers. These wages do not include the value of perquisites enjoyed by ploughmen at harvest time, especially at the spring harvest, when, as remarked in paragraph 9 of the 1909 memorandum, the ordinary wage is suspended and the ploughman works as a reaper on a special wage either for his master or for others. In Rohtak ploughmen are not paid by

the month but by the year, and as the figures reported by kanungos appear unreliable, the entry has been left bank. The settlement of the district was in progress in 1909 and the figures returned in that year were obtained from the special estimate submitted by Settlement Officers under paragraph 14 of Standing Order No. 40. The wages reported from Ludhiana are unreliable. They range from Rs. 8 in 10 to Rs. 17 in 7 and Rs. 19 in 13 villages out of a total number of 36 villages. The Deputy Commissioner has verified the figures and reports them correct, but rates of Rs. 17 and 19 are obviously abnormal and have been rejected. In Ferozepore the rates range from Rs. 6 to Rs. 14 in almost equal proportions, while 4 villages return a rate of Rs. 22-8-0. The total number of villages is, however, only 37, or 54 per cent. of the selected villages. The fact is that in neither district is there a general practice of paying cash wages to ploughmen, and from the kanungos' returns it is very difficult to fix a normal wage. The separate estimate of the annual wages of the ploughman fixed by the Settlement Officer, Ferozepore, amounts to Rs. 96 and this agrees with the estimate of neighbouring and similar districts and is probably a normal wage for ploughmen in the district. The large increase in the rate in the Mianwali District is ascribed by the Deputy Commissioner to the under-valuation of supplements in 1909, and this explanation seems correct.

The separate estimates of the annual income of ploughmen framed by Settlement Officers agree fairly well with the Kanungos' estimates, except in the case of Gujranwala, where the value of the supplements has obviously been omitted by the Settlement Officer. The estimates are as follows :--

District.				estim	ement Officer ^s ate of plough annual incom
					Rs.
Ferozepore	•••			•••	96
Lahore	•••	•••	***	•••	132
Amritear	•••			•••	96
Sialkot	•••	400-		•••	97
Gujranwala	•••			•••	48
Gujrat	•••	•••		•••	89

The Settlement Officer of Hoshiarpur reports that ploughmen are not paid annually in his district, and by an oversight no report was received from Shahpur.

9. On this subject a reference should be made to paragraph 9 of the supplements. But it is subject a reference should be made to paragraph 9 of the memorandum of 1909. Except in a few districts no very clear intructions were issued by district officers as to the value to be assigned to supplements, and the

values assigned were not carefully checked. A notable exception was Amritsar, where particular attention was paid to this question. In this district the value of a meal was fixed at 1 anna in the case of unskilled labourers and at 2 annas in the case of artisans. These were also the rates fixed by Mr. Renouf in 1909 for all districts and as they were adopted in many districts at the present enquiry, they were again accepted as standard rates for all districts. There is nothing to add to Mr. Renouf's description of the supplements of ploughmen except that fodder for milch cattle is given in Mianwali, Multan, Muzaffargarh and Dera Ghazi Khan in addition to the districts mentioned in 1903.

GENERAL.

10. The causes of the remarkable rise in wages during the ten years Causes of the general rise of wages. memorandum, and in paragraph 14 it was stated that these causes would remain in operation for some time to come, and that a further rise in wages might be anticipated. As table B shews, this anticipation has been realised. Since 1909 the prices of the principal food-grains have fallen but slightly, as the figures given below show, and there seems no probability of their falling much below their present high level :---

		. ,	BETAIL PRICES IN RUPEES PER MAUND.						
· · · · · ·	Period.		: Wheat.	: Bajra.	Gram.	Jowar.			
			- 	1	: :				
				•					
Average of 1906-09 ~			48+ :	3.37	2.87	2.82	2.63		
Ditto of 1910-12 .	с. 1999-е на селото се	-		3 09	2.78	2.29	2.49		
Decrease per cent.	•••	9.00	3.84, s j	8 '	1 3 P	19,	5		

The years 1910-12 were healthy, and the total mortality per mille was only 33, 34 and 27, respectively, as compared with an average of 42 for the 10 years ending 1912, but in 1910 and 1911 the deaths from plague amounted, respectively, to 6-7 and 9 per mille, and this mortality must have still further reduced the depleted ranks of unskilled labour. The demand for labour on railways and canals was at least as great in 1912 as in 1909, and owing to the industrial development of the province the demand in factories was greater, as the following figures show :---

		Ţ	ear.	,		Number of factories in the Punjab.	Average daily num- ber of operatives (male adults) employed.
1909	. ***	***			·	259	23,643
1910	484			+44		262	24,604
1911	***	•##	, 			268	24,034
1912	443	р ч. 410	488	889		234	28,280

11. The latest wage census in the United Provinces was held in Comparison with the United Previnces. August 1911. No comparison of the

urban wages in the two provinces is of any value, because the urban areas selected in the Punjab are all in the centre of the province, where wages range much higher than in the United Provinces, but the wages of unskilled labour, artisans and ploughmen in rural areas can be compared in the few districts of the two provinces which adjoin-

		BATES O	DAILY W	AGE PAID TO	AID TO BATHE OF DAILY WAGE PAID					
		Unskilled Laboursts,	Carpenters.	Blackmiths,	Monthly wage of floughmen,		Unskillað Jabour er sj	Carpenters.	Blacksmitht,	Monthiv wage of Pleughmen,
Punjad Dist	riet.	Annse.	Annas.	Annas.	Be.	Adjoining United Provinces Districts,	Annas.	Šunas,	Annas.	R8.
						Mathra	2 to 3	5 to 8	6 to 8	计初码
Gargeon	-	2 to 2		***	6107	Aligarh	22 to 24	6 to 6 <u>1</u>	54	to 时
						Bulandshahr	21 to 3	51 to 61	6 to 8	41 to 6
Rohtak		i 🔹	8		-	Meerat	32 to 4	61 to 72	8	é to đ
Xamal	-	8 to 5			4 to 10	Musaffaruagar	2) to 4	6 to 6)	8 to 6 <u>1</u>	3] to 6
			114	-	4 10 10	Isabamapur	3} to 3}	71 to 61	The to Be	é to €
Ambala	Į.	🛔 to 🖤	8 to 18	8 to 14	7	Saharanpur	計切時	71 to 81	72 to 82	4 to 6

6

* Paragraph 5 of the report on the wage census taken in the United Provinces in 1911.

Except in the Gurgaon District, the Punjab rates are in all cases somewhat higher, but the correspondence is fairly close, and the United Provinces* rates for unskilled labour, especially

in the north-west, were rendered ab-normally low by the partial failure of the autumn harvest of 1911. Outside the Ambala Division, and especially in the Central Punjab, the rates for all classes of labour are very much higher than in the United Provinces.

The result of the survey is generally satisfactory, and there are no **12.** reasons for doubting the accuracy of General. the wages now returned ; but there is still room for much improvement in the conduct of the survey by district

officers. The insufficient attention paid to the valuation of supplements has already been alluded to, but in other respects also the instructions were frequently disregarded by field kanungos, and their mistakes passed unnoticed owing to inadequate supervision by the superior staff. This not only throws a heavy burden of work on my office, but also involves a considerable amount of guess work in the alteration and elimination of obviously incorrect returns.

In only very rare cases was any attempt made to explain variations or abnormal features in the new figures. A model report was received from the Amritsar District where Pandit Nand Lal, Settlement Tahsildar, was placed in charge of the survey, and thanks are due to him and to the Settlement Officer for the care bestowed on the enquiry in this district.

B. T. GIBSON.

Director of Land Records, Punjab.

TABLE A.

RATES OF DAILY WAGE IN ANNAS AND PIES (INCLUDING MONEY VALUE OF ANY SUPPLEMENTS IN KIND) MOST COMMONLY PAID TO CERTAIN CLASSES OF LABOUR IN DECEMBER 1909 AND 1912, IN THE TOWNS NAMED, TOGETHER WITH PARTICULARS OF POPULATION AS AT LAST CENSUS OF PHE NUMERICAL STRENGTH OF THE RESPECTIVE CLASSES OF EMPLOYMENT.

_ · 1		2	8	4	ِ ۲	6	7
<u></u>		AROBE	TOWN, AMBITSAR- POPULATION, 152,756. 99,243.			ATION,	
CLASS OF ORDIFARY SEILLED LA	BOUL.	Numerical strength of class named.	Wages per diem.	Numerical strength of class named.	Wages per diem,	Numerical 'strength of class named.	Wages per dism,
h			A. F.		· A. P.		* A. P.`
(Wage Ce 1909.	nna of	450	12 0	559	12 0	•	•
Workers in iron and Wage Ce hardware. 1912.	nsus of	•	16 0	. * * ;	- 14 0 to 18 0	•	18 0
Wage Ca 1909.	to [°] ana	71	20 0	`3 37	- 16 0		•
Brass, copper and bell- Wage Comstal workers. 1912.	ensus of	+	16 O	t	16 0	t.	16 0
Wage Ca 1909.	neus of	1,360	14 0 50 16 0	1,064	16 0	, •	•
Carpentern { Wage Ce 1913.	nsus of	+	17 0	t	16 0 to 20 0	+	20 O
Wage Ce 1909,	neus of	864	86 10 50	287	4 0	•	=
Cotton-weavers (hand in- dustry).	nsus of	† .	50 to 50	†	60	∶†	6 8
Wage Ce 1909.	to war	2,038	14 0 to 16 0	671	16 0	• .	.
Masons and builders { Wage Ce 1912.	nsuk of	+	14 0 to 18 0	†	160 to 280 U	•	20 0
Wage Ce 1909.	neus of	4, 275	15 6 to 7 0	1,524	15 0 10 7 0	. 🖷	•
General labour (un- akilled). 1913.	to sua	+	26_0 to 8_0	` †	‡5_6 to 8_0	•	15 0 to 8 0

•Multan was not included in the enquiry in 1909 (see paragraph 2 of the mumorandum).

Columns 2, 4 and 8 for 1912 are blank owing to the different method of classifying occupations adopted in the Census of 1911.

The lower rates are generally paid in cotton mills and the higher rates in workshops where the work is heavy. .

RURAL WAGE RATES'IN THE PUNJAB AS DETERMINED BY ENQUIRY

1	2'	8	4	б	6	7	8	9
		· · · · · · · · · · · · · · · · · · ·	Un	SKILLED LA	BOUR BY D	AY .		
	Carb.				Grein.			
DISTRICT.	19	09.	19	12.	19	09.	19	12.
	Range of typical rates.	Most common rate.	Range of typical rates.	Most common sate.	Value.	Weight.	Value.	Weight.
						/		
	Annas,	Annas.	Annas.	Annas.	Annas.		Annas.	
Histar ^a	5 to 6	б	4 to 51	6 <u>1</u>	Б	3 seers Gur		
Rohtak	8 1	31	4	4	•••		, 	
Jurgson	2 to 8	2	2 to 3	2	2 to 3	8 seers		
Karnalt	81 to 4	4	3 to 5	3 and 5	•••			
Ambala.*	4	4	4 to 6	б			•••	
limlağ			***		***	611	•••	
Kangraj	8 to 4	8	\$ to 4	8 end 4	4	5 seers	84 and 43	Varying
Hoshiarpur	4 to 6	5 and 6	4 to 7	5 and 6	•••			
- Jallandar	5 to 61	6	6 to 8	6 and 7	•••			·
Ludhiana	5 ta 8	6	7 ta 10	8				
ferozepore	6 to 8	6 and 8	5 to 7	5 and 6	61	Varying		
-						-		
Lahore	5 to 6	6 '	5 to 8	- 6	7	8 seers		
Amritear¶	6	6	6 to 7	6			-	·
Gurdsspur**	5 to 6	б	5 to 6	5 and 6	5 to 61	Varying	.19	
Sialkot††	5 to 61	б	5 to 8	6	8	S seems		
Gujranwala	6 to 8	8	6 to 8	6 and 8	41	\$ 20013	6	Varyin
n		6	e 4- 0	6	21	$2\frac{1}{2}$ seers	***	
Gujrat‡‡	6	6, 7 and 8	6 to 8 8	8		1		
Shahpur Jhelum	6 to 8	0, / ang 0 4	4_to 61	5 and 64	 3}	8 to 4 seers		
D 3:000	4	4	4 and 5	4	81	4 500TS		
	4 to 5		áto 6	5 and 6				
	≜ to 5	4	4 to 7	4 and 6	•	St seers		
hlianwaliji iy.								
Montgomery¶¶	5 to 8	6.	5 to 6	6	***	-		
Lyallpures	6 to 8	6, 7 and 8	6 to 8	8 and 8	• • •		-	•••
lhangttt	6 to 8	6 and 8	5 to 8	8	140	·		***
Mulian	4 to 6	4	4 to 6	5	31	Varying	41 and 45	Wheat
Musaffergarh	4 to 61	•	\$ to 5	4 and 5	S to 41	Varying		
Dera Ghasi Khanttt	_		4 to 6	6	3i to 5	Varying	4 and 6	Varying

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(c) Blacksmiths are generally paid by a share of produce. (d) Calculated from the Settlement Officer's estimate **B**.

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IN DECEMBER 1912 COMPARED WITH THE RATES RETURNED IN 1909.

10	11	12	13	14	15	16	17	18	
CABPENTE	IB BY DAY.		мітн вт (a).	MASON	BY DAY.		HMAN BY NTE.		
								BEMARKS.	
1909.	7912.	1909.	1912.	1909.	1912.	1909.	1912.		
Annas.	Annas.	Annas.	Annes.	Annas.	Annas.	Rs.	Re.	······································	
8 to 12	8 to 16			12 to 16	10 to 20	15 to 8	6 to 8	*Ploughmen are paid monthly	
7 to 8	8			8	8	7 to 8		cash wages in only 17 per cent of the selected villages.	
6 to 8	8	4	-	6 to 8	8 and 12	4 to 6	4 to 7	tNo daily wages are paid to arti	
8	***	•••		8 to 10		7 to 9	6 to 10	sans in rural areas.	
8 to 12	8 to 12‡	10	8 to 14	10 to 14	12 to 16	6 to 8	7		
7	•••			6 to 7	•••				
6 to 10]	6 to 11	6	7	6 to 12	6 to 12	6	7 and 8	\$No daily or monthly wages ar paid in rural areas in this dis	
10 to 11	10 to 12	444	6 to 12	10 to 12	8 to 16	7 to 8	7 to 9	trict. Unskilled labour is pro	
12 to 14	12 to 16	401		12 to 16	16 and 18	71 to 9	8 to 9	themselves who help each other in return for meals, and arti	
12	12 to 16	12	14 and 16	12 to 14	14 to 18	7 to 9	8 to 10	sans receive their meals an a lump sum on completion o	
12 to 16	12 to 20	12 to 16	12 to 20	16	16 and 20	8 to 10	6 to 14	the work. The ploughmen' work is done by a class o servants called "Baithns who are provided with focc	
12 to 16	12 to 18	16	16 and 18	16 to 20	16 to 22	6 to 8	7 to 10	clothes and bedding and ar also sometimes paid a fixe	
10 to 12	12 to 16			12 to 16	12 to 20	6 to 8	7 to 9	sum of money for their lif long service.	
10 to 1 2	10 to 16	10		12 to 16	12 to 16	9 1 (ð)	7 to 8	In the Kulu Sub-Division o	
8 to 12	11 to 15		12	10 to 14	11 to 16	7	7 to 8	the district artisans are paid a in the Simla District. Plough	
10 to 16	12 to 20	***	12 to 18	12 to 20	16 to 20	7 to 8	6 to 10) men's wages in 1909 shoul have been shewn as Rs. 6 t Rs. 7. Rupees 6 was a clerics error.	
12 to 14	13 to 16	***		12 to 16	12 to 16	7 to 8	8 to 8]	TPloughmen are paid cash wage	
12 to 14	16 to 20	196	18 to 20	16 to 18	16 to 20	5 to 11	7 to 11	in only 85 per cent. of th selected villages.	
10 to 12	10 to 16			10 to 12	10 to 16	7	6 to 8	**Only two of the selected vil lages return a grain wage. ++Only three of the selected vil	
8° to 12	10 and 12	8		8 to 12	10 and 12	7 to 8	7	lages return a grain wage.	
8 to 12	8 to 16	8 to 12		8 to 12	8 to 16	6	8 to 7	ttPloughmen are paid cast	
16	12 to 16	8	8 to 16	10 to 18	12 to 18	Б	5 to 9	wages in only 48 per cent. of the selected villages. \$\$Higher values were assigned to supplements to plough-	
16	16 to 20		16 to 18	16	16 to 20	. 6	6 to 12	men's wages in 1909.	
12 to 20	16 to 21		16 to 21	16 to 20	16 to 21	9 to 12	8 to 12	seems to have been incorrectl calculated.	
16	12 to 20		10 to 16	16 to 20	16 to 20	6 to 7	6 to 8	¶¶The rate of ploughmen's way in 1909 seems to have bee	
10 to 12	10 to 20		16	11 to 14	10 to 20	6 to 8	7 and 8	incorrectly calculated.	
10 to 16	10 to 18	•••		10 to 16	14 to 18	4 to 7	5 to 8	1909 should have been fixed a Rs. 8 to Rs. 12.	
12	12 to 14	-	10 to 12	10 to 12	12 to 20	4 4 0 7	4 to 7	<pre>the set of the se</pre>	

at harvest.

According to kanungos' returns it worked out to Rs. 6 to Rs. 8.

TABLE C.

RATES OF DAILY WAGE IN ANNAS AND PIES (INCLUDING MONEY VALUE OF ANY SUPPLEMENTS IN KIND) MOST COMMONLY PAID TO AGRI-CULTURAL LABOURERS IN DECEMBER 1912, IN SELECTED VILLAGES IN THE VARIOUS DISTRICTS OF THE PUNJAB AND THE NUMBER OF VILLAGES IN WHICH.RESPEC-TIVELY SUCH RATES OF WAGE ARE PAID.

. 1	2	8	. 4	6
Rate of daily wages including value	NUMBER OF VILLAG STATED BATE I A OASH	S FAMILIAB AS	Number of villages in which the rate	Total number of villages in which the
of payments in kind.	Without supplement.	With supplement	is familiar as a grain wage.	stated rate prevails.

HISSAR.

(a) Common rates (i 0., those which obtain in more than 10 per cent. of the villages of which rates were reported).

Д. 4 5 5	P. 0 0 3	10 5	4 15 (2) Other rates.	 10 9 15
22233444669	0 9 6 8 6 9 0 6 0	2 1 1 1		 2 1 4 1 3 3 3 6 3 2 1 1 Total 63

ROHTAK.

			(a) Cammon raiss.	• •	
۵	0	- 11	, 48	m	63
			(b) Other rates.		
9 3 4 5	0 0 6 0	3 		988 200 - Akk 208	2 1 1 1
					Total 64

GURGAON.

1

ŧ

(a) Common rates.

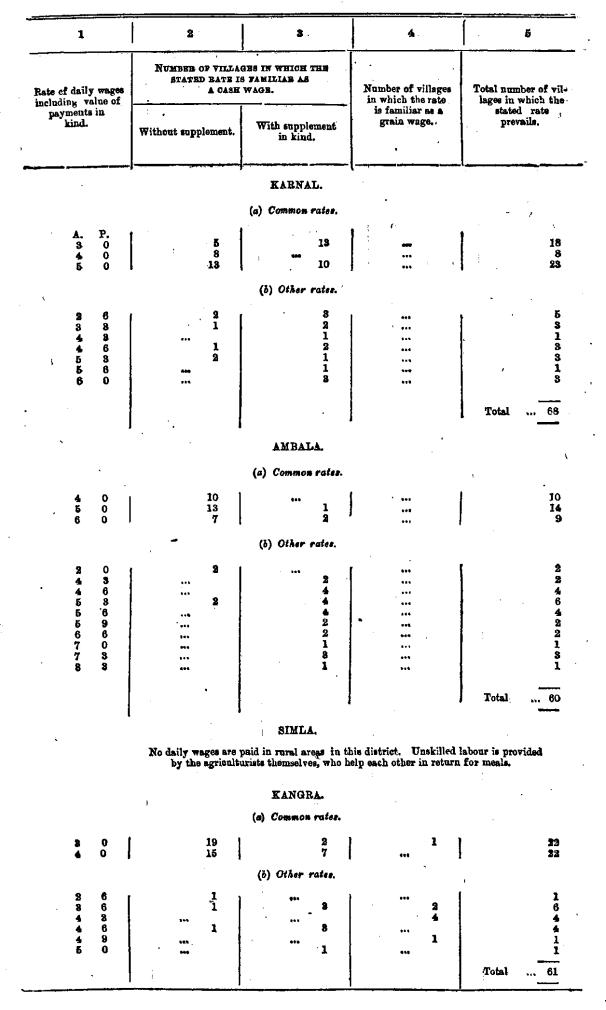
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	* 8	0 0	48 ~ 20			48 20
、	2 3 4 6	5 9 0 0	5 1	(b) Other rates. 1 	100 414 994	3 1 5 1 Total I 76

iT

TABLE C-continued.



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TABLE C-continued.

1,		2	, 8	4	5
Rate of daily jucluding	alue	NUMBER OF VILLA STATED BATE IS A CASE	VAMILIAB AS	Number of villages in which the rate	Total number of vil- lages in which the
of paymer in kind	•	Withont supplement.	With supplement in kind.	is familiar as a . grain wage.	stated rate prevails.
		ر حدی المحمد میں المحمد میں ا	HOSHIARPUR.	, <u></u>	
	P .		(a) Common rates.		
4	0	9 9			9 14
4 5 6 7	0 0	8	8 9	1	17 9
		,	(b) Other rates,		
8	0	i 4 [,	f · •••	(4
8 8 7 4 4 7 4 4 5 5 6 6 8 8 8	3 6	8	1	*** .	1 , 3
4	8 9		2 2		2 - 2 8
5 5	8		2 3 2 5		8
5	6 9		5	•••	2 5 6
6	6 9 0	2	1	•••	1
8 9	8	1	•• 1	,	· I 1
		1]	Total 80
			JULLUNDUR.		
			(a) Common rates.		
6 7	0 0	13 10	2 - 9	,	15 19
8	Õ	9	2		- 11
		ç	(b) Other raise.		
5	۰.	1 1	***		1
			•		Total 46
		,	LUDHIANA,		,
			(a) Common sates.		
• 7	0	8 7	5	j	8
· 7 8 9 10	0 0 0	7	6 8	•••	8 13 8
10	Ó	I 1	8	·	6
E	0		(b) Other rates.		
5 6 6 7 8 9 1	09	•••• •••	1		1 1 2 3 1 1 5 2 1
6	0 8 ·	2	·*** \$	400 430	2
6 7	6 6	51.5 785	1	810 - UN	
8 9	6 6 6 0		2 1 5 2 1		5
¥1	0	~ m	1	***	1
					Total 51
		, 1	FEROZEPORE.	1	
			(a) Common rates.	x	-
Б 6 7	0	18 10	8	1 =	16
Ö	0 0	10 8	4 ~ 6		14

1		- 2	3	4	б	
Rate of daily including v	wages	NUMBER OF VILLAGES IN WHICH THE STATED BATE IS FAMILIAE AS A CASH WAGE.		Number of villages in which the rate is	Total number of village in which the	
of paymen in kind.	i te	Without supplement.	With supplement in kind.	familiar as a grain wage.	the stated rate prevails.	
		 	EROZEPORE-concle	/		
•		ſ	(b) Other rates.	•		
▲ . 4	Р. 0	2	1	1 1	3	
4 5 5	9 8	1	2	··· -	· 2	
5	6	1 1	2 4 4		2 3 5 4 4 2 1 1	
6 6	8 6	***	4		4	
. 6	9		4 1 1	1	2	
• 6 7 8	8 0	***	1 1	P28	1	
8 10	9 0			***	1	
10	U	•••		•••	1	
			· · ·		Total 66	
			LAHORE.			
		•	(a) Common rates.			
5 6	0	2	6		8	
7	0	. 13 5	. 3 4	***	16 9	
8	0	6	J		6	
			(b) Other rates.			
4	0 3	2	2		. 2	
4 5 7 9	6	***	1		· 1	
9	0		2		2	
	.	È.			Total 46	
	•		AMRITSAR.	· ·	·	
			(a) Common rates.			
6	0	15	4		. 19	
7	0	6			9	
• •			(b) Other rates.	-		
4 4 5 5 6 6 8 9	8	_ 1	1		<u> </u> 1	
5	0		i	444 444	1	
5 5	\$ 6	1	···· 1	•••	I	
6	3 6	411	i	•••	1 1 1 1 1 1	
. 8	0		1 1 2 1		1 4	
9	0	•**	1	•••	1	
					Total 40	
i.	I			I		
			GURDASPUR.			
	•	• •	(a) Common rates.			
5 5	9 0 0	*** 8	10 13	1	10 22	
6	0	18	7		20	
			(b) Other rates.			
4	0	4 2 1	· · ·	1	4	
6	8	1	1	· · · ·	4 2	
5 6	9 8	***	1 6 8 3 1 4		6	
6	6	***	- 8	91) 111	8 8	
0 7	9	1			1 K	
4 5 6 8 7 7 8	8 0		1 -		4 4 8 6 3 8 1 5 1 2	
	*	2		300		
					Total 83	

TABLE C-continued.

TABLE C-continued.

1		2	3	4	5
Rate of daily wages including value of payments in kind.		STATED BATE IS	GES IN WHICH THE S FAMILIAN AS A WAGE. '	Number of villages in which the	Total number of villages in which
		Without supplement.	With supplement in kind.	rate is familiar as a grain wage.	the stated rate prevails.
		,	SIALKOT.		l· ── ·····
A.	Р.		(a) Common rates.	1 ^{- 1}	, [,]
6	0	6		ere `	8
		l	(b) Other rates.	J	. .
4	6	(2	1		2
4	9 0	8	2 2	***	2 2 5 1
5	8	•••	1	1	
5	6 9	124 203	3		, 3
6 6	3 6		4 3		4
55566777888	9 0	•••	4 3 3 2 5 4	***	8 3 4 3 2 5 4 3 3 1 1 1
7	8	 	5		5
77	6 9	····	4 3	***	4
8	Õ	3		8+s	· 3
. 8	0 8 6 8	***	Î I	•••	
9	8				1
) }		Total 54
		•	GUJRANWALA.		
			(a) Common rates.		
6	0	17 22	-	***	17 22
8	U		(b) Other rates.		
	0	1 2			2
4	8 6	·		1	
5	0 6	2	- 1	49 4	2
6	9 3		1 1 2 1 2 4	***	î
6 6	3 6	···· · · · · · · · · · · · · · · · · ·			3
7	0		2	***	6
8	6		···· ··· ··· ··· ··· ··· ··· ··· ··· ·	I	1
9	0 8	***		···· 1	0 1
4 5 6 6 7 8 8 9 9 9 11	6 0 8 6 0 8 6 8 8 8		1		2 1 1 2 1 1 2 8 6 4 1 6 1 1
	-				
					Total 72
			GUJRAT.		
•	•				10
6 7 8	0 0 0	13 5 8	1	677	13 6 8
8	0	1 8		***	8
			(b) Other rates.		t
4 5	0	8		•••	3
5	8		1	、 •••	i
4 5 5 7 9	8 6 8	1	 2	eng '	5 4 1 2 8
9	0		2	***	2
-] 1		

TABLE C-continued.

1	-	2	8	4	Б	
late of daily weges including value		STATED BATE I	GES IN WHICH THE 8 FAMILIAE AS A WAGE.	Number of villages in which the	Total number of villages in which	
of payine in kind	n ts	Without supplement.	With supplement in kind.	rate is familiar as a grain wage.	the stated rate pleyalls.	
·]	SHAHPUR.	ا م در معرفی میروند. میروند میروند میروند ایروند میروند میروند میروند میروند میروند میروند میروند میروند میروند م ا		
Å.	Ρ.		(a) Common rates.			
8	0	84	· ···	••• {	.84	
		ł	(b) Other rates.	l l		
4	0	1	1 1		. 1	
5	0	6			6 4 5	
6 7	0	4		***	. 5	
78	3	***	1	••••	1	
8 9	6 0	•••	1 1 4 2 1	***	1	
10	0	- 1	,2		8 8	
10 11	6 U	· · · ·	8		1	
	• .		_			
	i	,			Total 63	
			JHELUM.	,		
			(a) Common rates,	,		
4	0	6			. 6	
4 5 5	8 0	8	5	***	5 8	
5	3	51.0	6		. 6	
6	9	419	1 7 {	*** }	7	
			(b) Other raise.			
6	0	8		f 61.7	33	
7 7	8	694	- 2	***	2	
8	0 3	1	3	••• -	9 1 8	
5	•			***		
	·				Total 44	
			RAWALPINDI.			
			(a) Common rates.			
4 6	6 6	***	- 28 15	** *	28 16	
	- •		(b) Other rates.			
	•	. •	· · · · · · · · · · · · · · · · · · ·			
6 8 8	0 6 0	1	8	***	18	
8	0	1		•••	1	
				· · · ·	Total 48	
			ATTOCK.	I		
			(a) Common rates.			
4	8		1 6		б	
4 5 6	0	8	6	•••	9	
o	U I	6	(d) Other rates.	· ··· /	19	
4	0	. 4	(0) Ginor Faller.	-	4	
4	0 6		1 1		. 1	
4 4 5 6 8	8 6 6 9		- 4	•••	° 8 ∡	
6	6		1		1	
6 8	9 0	··· 1	۱ 		" 3 " 4 1 1	
-	-					
		1			Total 39	

TABLE C-continued.

1		2	8	4	5	
Rate of daily wages including value of payments		NUMBER OF VILLAG STATED BATE IS CASE V	A BA SALLING	Number of villages in which the rate is familiar as a	stated rate	
in kind.	•	Without supplement.	With supplement in kind,	grain wage.	prevails.	
· · · · · · · · · · · · · · · · · · ·			MIANWALI.	- [*] *		
			(a) Common rates.			
A. 4	Р. 0 0	. 18	go÷	· · · · · · · · · · · · · · · · · · ·	18	
4 5 6 7	0	9 13	+++ +=+	-	9 13	
6 · 7	8 0		4	***	7	
	•	•	(b) Other rates.	•	-	
4	8		1	· ··· ·	1	
4 5 7	8 9	•••	8 1		· 3 1	
			•			
		l í		} }	Total	
		•	MONTGOMERY.		I	
			(a) Common rates.			
5 6	0	9	2 1	1	11 25	
v	v	. 25 ((b) Other rates.		20	
▲	0	1 5 1	(c) Under Factor.	1 ••• 1	4	
	8		1		1 2	
- 6 7 7	6 3 0 6	1			. ī	
78	6		1	•••	1	
_	-					
			·	i. I	Total	
		·	LYALLPUB.			
			(a) Common rates.			
6	0	12 1	4	r ••• I		
6 7 8	0 0 0	12 4 12	3 6	***	7 17	
			(b) Other rates.			
4	0				1	
4 5 9 10	0000		1		1 4 1 1	
	U		•		-	
		{ }		1	Total 47	
'n		, ,	JHANG.	•		
		· .	(a) Common raise.	۰. ۲	•	
5	0	I 8 'f	2	ł ••• (10	
5 6 8	0 0 0.	8 10 83	· •••	1	10 83	
-		((d) Other rates.	• • • •		
7	0	i z i	1	1	8	
			•			
		1			Total 56	

· · · · · ·

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1		2	· 8	4	б	
Rate of daily including va	wages	STATED BATE IS	GES IN WHICH THE FAMILIAE AS WAGE.	Number of villages	TO PROMING OF ANIMARCO	
paymen in kind	te I.	Without supplement. With supplement in kind.		familiar as a grain wage.	in which the stated rate prevails.	
			MULTAN.		·]i	
			(a) Common rates.	•		
Д. 4 б б	P. 0 0 8	19 81 11	··· 23		12 93 11	
		•	(b) Other rates.		• .	
8 8	0 8	´ 2	1	-	- 2	
4	8 9	884 144 118	1	· ···· • • • • • • • • • • • • • • • •	1 5 4	
4 5 5 6 6	8 9 6 9 0		1		2	
6 6	0 8		•••	1	8	
					Total 80	
		1	MUZAFFARGARH. (a) Common rates.			
4 5	0	42 18	` 16	 	43	
		; .	(b) Other raise.			
2	8.	<u> </u>	1		1	
2 3 3 3	0 3 6		1	***	3	
	8		··· 11 		11	
5 5	' 8 9	1		••• •••	5 1	
4 5 5 8	' \$ 9 0" 8 0	10 1				
9	0	1			1 Total 108	
		5	DEBA GHAZI KHAN	[7		
			(a) Common rates.	••		
4	0	6 13 8	¥8¥+	•	10	
4 5 6 6	0 0 9	 13 	··· 1	••• 1 47	10 13 10 8	
	;	[(ð) Other rates.		j	
. 2	, 9 8			1 1 1	· · . 1	
2 3 4 4 7 8	9	 	1	1		
4 7 8	9 9 8 9 0 0	 	1	•••		
J	J	• •		194	1 Total 52	
		ł _				

TABLE C-concluded.

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REPORT

ON THE

SUMMER CENSUS

OF THE

PUNJAB HILL STATIONS, SIMLA. DALHOUSIE AND MURREE,

1921.

BŤ

L. MIDDLETON, J.C.S.,

Superintendent of Census Operations, Punjab.



Lahore : PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRINTING PUNJAB,

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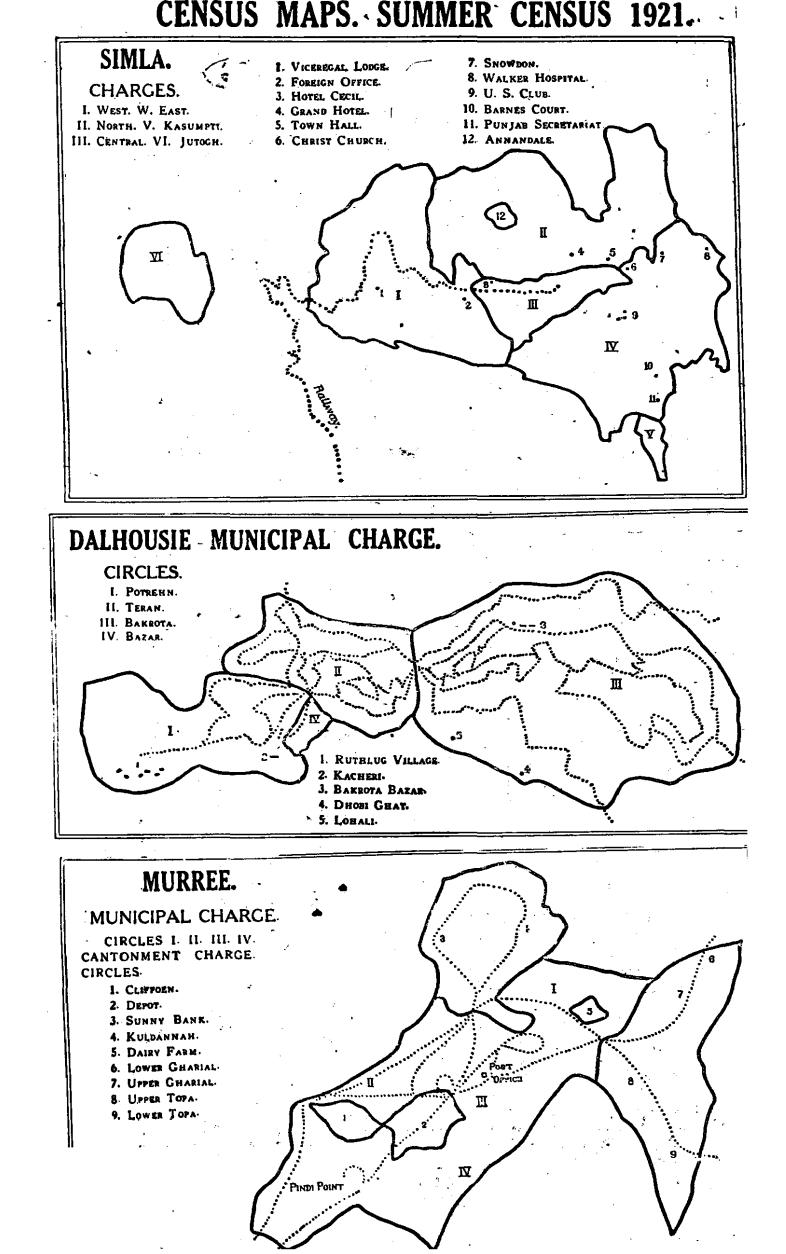
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20	Occupation	1.00		164		ið
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27	Sex		***			ib
28	Literacy					28
29	Occupation	• #¥.		***		29
30	Occupied Houses		•••			S(
	Table IReligion, Sex a 1911.	nd Age,	with corr	esponding fig	ures for	÷ \$1
	Table II-A Nationality a	nd Birth-	place	***		32 94
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57	Literacy			4 ,4,4			4
88	Occupation	. ••••	همه	1.4.4	444		~ \$
, 89	Occupied Ho			•••	• • • • • • • • • • • • • • • • • • •		. 4
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Report

ON THE

Summer Census

OF THE

Punjab Hill Stations, Simla, Dalhousie and Murree,

Held on the 30th June 1921.

CHAPTER I.—ADMINISTRATION.

1. The Census Commissioner for India, in his letter No. 695, dated the Orders and date. Orders and date. The September 1920, suggested that, as in 1911, a summer scensus in addition to the regular

census held on March 18th should be taken for administrative purposes during the summer of 1921 in the Hill Stations of the Punjab. These Hill Stations are, in various degrees, deserted during the cold weather and hence the results of the regular census give little indication of the maximum population for which provision has to be made by the municipalities and other authorities. The suggestion was adopted, and orders were given for a Census to be held in Simla, Dalhousie and Murree during the summer of 1921 in Punjab Government Memorandum No. 2302, dated the 11th October 1920.

In consultation with local authorities it was decided to hold this census on the 30th June; the same date had been selected in 1911 so that its adoption rendered the results comparable with those of that year; in all three stations the normal summer population is then in residence whilst in the most important-Simla-this date avoids the two periods when the population is temporarily swollen owing to the attractions of racing, polo and football.

2. As already mentioned, a consus on similar lines had been held in Previous Summer Consuses. Previous Summer Consuses.

the results are collected in three separate printed reports; except for this there had been no previous summer census in Murree and only one in Dalhousie, namely, one held on the 21st June 1898 of which, however, no records exist beyond the total population of the municipal area which was recorded then as 3,310. In Simla, on the other hand, there had teen several previous enumerations held under hot-weather conditions, namely, those of (1) 22nd July 1869; (2) September 1878; (3) September 1889; (4) 14th August 1898; (5) 26th July 1904 and (6) 22nd August 1907; these had been held for a variety of purposes and do not provide general statistics; no independent records of the first four exist but an account of them is given in the printed report of the census of 1904; for the census of 1907 reference must be made to a manuscript report preserved in the Deputy Commissioner's office or to a very short account printed on page 14 of the Simla Improvement Committee's Report of 1907. Little attempt will be made in the present report to compare the figures recorded in 1921 with any previous ones except those of 1911.

3. The boundaries of the areas dealt with were in each case the same Area included in the Census. Area included in the Census. 18th March, and with a few triffing exceptions

corresponded with those of the summer census of 1911; in Simla the census included the municipalities of Simla and Kasumpti and the Jutogh Cantonment, but not the bazars of Kasumpti and Sanjauli which lie within Indian States; in Dalhousie and Murree the census was confined to Municipal and Cantonment limits. Maps of the areas concerned will be found as the beginning of this report.

4. In each station the census divisions formed at the regular census in. Consus Divisions and Agency. employed as supervisors and enumerators are shown in the following statement :-

	· · · · · · · · · · · · · · · · · · ·		571			D	DEOUS	IB. ' '		Vuert	.
Bich No.	Census Divisions and Agency.	simia Ménicipality.	Karampti Municipality.	Jutogh Cantonment.	Tótal.	Mudicipelity.	Centonment	Total.	Municipality.	Cautonment.	Total.
Ĩ	Number of charges at	. 4	1	. 1.	. 6.	.1	1	3	1	1	ź
. 2	Number of circles	19	1	1	21	4	5	9	4	9 -	<u>1</u> 3
:8	Namber of blocks	152	.3	13	.168	.31	19	50	41	.18	69
	Namber of Supervisors	19	1	.1	21		5	9	4	9	18
	. Manicipal atall we	2 18	1 1		13	2		2	1	· ·	` 1
	District staff	3			3	2	4	- 6	8	t	· 8·
	~ Military establishment	4 1 1000 - 7 1	- 	11	. 1		1	1	<i>,</i>	9	9
	P Coversinds of India Clerks	1.2	- 4411 -		.2.	2700V	2800]. 		
•	Public Works establishment	1			1			·			·
• • •	Non-officials	1	r : ••••	· • ••• .	. 1	+44			•••		
B	Number of enumerators	163	3	18	179	83	19	63	86	17	63
•	Municipal staff	45	8		48	2		2	18		13
- 1	District staff	122 .		(18) I	-22	2		2	" 15	- 12.0	15
	District Board staff			1 1	1	<u> </u>					
	Military establishment		· . 4	11	n		2.	8		-9	9
	Police establishment	. 10		1	11	1		1	Б		Q
	Postal establishment					l sela i ≜	Į. 		1 I		i
	"Publis Works establishment	- 10		1	· -:10		·	•••	 1		·
• • •	Ballway staff	4		 [*]	i 🖌	, ; ,,		r=+"		·	£
	Government of India Clerks	~. 29			22	•••	.15	15		° €: ••••	
	Punjab Government Clerks	. 8	·e•		3) 	***				
	Non-sficials	47	-		- 47	- 24	3	26	2	8	

It will be noticed that in Simla and Dalhousie some blocks had more than one enumerator allotted to them, whilst in Murree some enumerators held charge of more than one block,

In Simla Mr. W. J. Litster, O.B.E., the Secretary of the Municipal Committee, Was in general charge of the operations having the following charge Superintendents working under him :--

"Sheikh Muhammad Shaban, Superintendent of the Municipal office,

Mr. J. A. Savedra, Sanitary Inspector,

M. Habib Ullah, Superintendent of Octroi,

M. Muhammad All Naqi, Sanitary Inspector,

and being in direct communication with Colonel Bateson, the Canton-*mont Magistrate at Jutogh, who himself performed the duties of Charge Superintendent.

of the operations and Mr. J. Glaskin, the Municipal Secretary, and

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Lieutenant D. R. Bateman of the 1st Welsh Regiment assisted him as Charge Superintendents. Exactly the same division of duties was adopted in Murree where Mr. F. C. Bourne, the Sub-Divisional Officer, was in control with the Municipal Secretary, Mr. Ivan Gordon and Lieutenant P. J. Roberts of the Gloucester Regiment as his Charge Superintendents.

All these officers carried out their duties very satisfactorily and under their control the band of voluntary workers who acted as supervisors and enumerators were able to carry out an enumeration which proved to be of commendable accuracy.

5. Frevious to the census a set of printed instructions and a description

The Enumeration.

of the special forms to be used were issued from the office of the Provincial Superintendent of

Census Operations; these are reproduced as Appendices I and II of this report, and as the instructions were closely followed any detailed description of the work of enumeration is unnecessary. The instructions were based on those issued in 1911 and modified in the light of experience then gained and no suggestions for their future amendment were received from the officers in control of operations. In Murree and to some extent in Dalhousie too close an adherence to the census divisions of the winter census and too great a reliance on the house-numbering carried out for that census caused some slight incovenience; and if similar instructions issue for future censu es the necessity of a careful revision of the house numbering should be insisted upon. Very few supplementary instructions were issued, but in consequence of experience gained at the regular census special steps were taken to ensure that the heads of offices supplying supervisors and enumerators were informed beforehand of the names of the men and the exact times they would be required so that no inconvenience should be caused by an unanticipated call on the various offices.

Though no trouble had occurred at the regular census from any opposition on the part of the public, the fact that this census followed soon after the general census and within a few days of a special census of the British Army in India was calculated to cause some irritation amongst those who were included in all three and had no information as to the different objects with which they were taken; to avoid this notices were published in the Press and also issued in the form of hand-bills warning the public of the date of the census and asking for their assistance in making it a success.

6. The special forms used are reproduced in full in Appendix II; in The Europeration Forms. fication; Block Lists, Circle Summaries and Charge Summaries, whilst a special form of enumeration pass was also issued. It will be noted that on account of the purely administrative purpose of the summer consus it was possible to simplify the schedules and these contained only thirteen columns as opposed to seventeen in the schedules used in March.

Very great care was exercised at the Census Office to ensure that the number of forms issued should be sufficient without being wasteful, an estimate of requirements based on the actual number of forms used in 1911 was first sent to each of the three Census Officers who were asked to prepare their indents with special reference thereto, and each indent was the subject of eareful scrutiny before it was met. Even so the following fable will show that further economy might have been effected, and will form a useful guide for the future :--

Form.	rin (****ananana). 1.1	Simila,	DALHOUSIN.	MURRES.		
Covers-English Covers-Urdi General Schedules-English General Schedules-Urdu Household Echedules Plock List-English Block List-Urdu Circle Summary Charge Summary		Issued. Uesd. 90 210 250 210 3:0 275 12,000 8,040 5,000 4,400 90 260 280 30 80. 8 8	Issued. Used. 22 8 50 42 135 110 300 300 500 835. 22 2 33 30 15 13 6 4	Issued, Uned, 70 40 1909 20 20 1200 1210 1200 360 100 50 48 120 4		

7. The final enumeration was completed in accordance with the instruc-The Ficel Enumeration and Publication of the Kesults. The Ficel Enumeration and Publication of the Ficel Enum

vincial Superintendent by the afternoon of the 2nd July. From Dalhousie the results were received even more quickly and were known on the evening of the 1st; the accuracy of the provisional totals was not so commendable as the speed with which they were communicated as the following comparison with the finally checked figures will show :---

• • • •	,	- Sim	LA.	DALHO	USIE.	MOBRES.		
	in (Provisional Totale.	F ral Totais.	Provisional Totals.	Final Totals.	Previsional Totals,	Final Tetals.	
	•	· ·						
		[]						
Ноцеев	***	8,062	8,062	1,586	1,536	2,858	2 8 5 3	
Mait	Far	£ 8 ,565	\$\$,5 00	4,878	4,853	11,792	11,799	
Fémales		11,945	11,917	1,92	1,968	4,030	4,025	
Perions		45,510	45,477	6,970	6,821	-15,823	15,821	

3 The duties of the local authorities in connection with the summer Abstraction and Compilation. books were sent down to the Census Office in Luborc; here the entries were copied on to slips by a special staff chosen from the sorting branch of that office; these were then sorted according to the various heads required for the tables in which the statistics are set forth in the following chapters of this report.

The expenses incurred in connection with the census are shown in £. Espen ilare. the margin; the total cost works out at Rs. 2-13-6 Rs. A. P. Eugmerationfor each 100 persons enumerated. In 1911 the ... 910 4 4 ... 53 5 0 ... 102 8 0 Simle ... 53 ... 102 D-ibousis Murrer ... total e penditure came to Rs. 1,609-14 11 or 0 0 Simla 80 Biwitas. Absizaction B. wede. 0 ... 174 107 3 10 Rs. 2.9-3 per 100 persons and was made up as 0 J Frees Nutices,. 1,539 8 2 Total follows :- Simle, Rs. 1,428-7-1; Dalhousie,

Es. 54-14-6; Murree Rs. 126-9-4.

10. The Officers in charge of local operations mentioned in paragraph Notice of Officers. 4 deserve thanks for the arrangements made; in no case was there any hitch in the work—a fact which testifies to the carefulness with which preliminary arrangements had been made and to the attention paid to the instruction of the enumerating staff. I am especially grateful to Mr. Bourne for the personal interest he took in the work. The Charge Superintendents and those who worked under them in the great majority of cases performed their honorary duties with commendable zeal; the duties are not interesting and are apt to expose the census officers to some discourtesy from a few members of the public,—to the best of my knowledge no enumerator was subjected to this,—but they all took the risk and their services merit appreciation.

The Military Officers who took charge of operations in the three cantonments held more responsible posts than most Charge Superintendents and all deserve thanks for their capable handling of an unusual duty.

The following have been mentioned by local authorities as having performed especially useful miscellaneous duties :--

Mr. R. L. Gupta, Stenographer, Simla District Office.

D. Karm Chand, Naib-Tahsildar, Dalhousie.

Lala Ghanaya Lal, Head Clerk, Municipal Office, Dalhousie.

11. All the Hill Stations with which this report is concerned, are com-

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Buggestions for the next Comme. population of a cantonment does not follow any the military requirements of the natural laws of growth, but depends on the military requirements of the moment; the population of the municipal areas of the three stations, though not independent of that of the cantonments, does, however, tend to follow definite laws of expansion or contraction. Statistics for the stations as units merge two distinct sets of figures which obey different laws, they also treat as a whole two distinct areas under two distinct forms of local administration. I suggest that if special censuses are held in these stations in the future, the figures for cantonmen's and municipalities should be kept separate throughout and tabulated separately.

Both in 1911 and 1921 it was decided to hold special summer censuses in these three hill stations, and it is probable that this may establish a precedont which, in the absence of adverse comment at this time, may be chrystallised into routine. I therefore take this opportunity of pointing out that, as a cantonment population depends solely on military requirements and is at any time known to very close limits of accuracy by the military authorities, very little benefit is obtained from a census held in cantonments unless it is held for some special object for which statistical information is required at the time. In Dalhousig and Murree the Municipal Areas by themselves are not of great importance, I would suggest that the special summer census of these two places be discontinued entirely, or at any rate confined to Municipal limits. In Simla I would suggest that the special summer census should be confined to the Municipalities of Simla and Kasumpti, and that a considerable time before it takes place the local authorities should be consulted as to the exact statistical information they require ; provided that there is at the time some intention of taking action as regards town improvement, I would suggest that the census be elaborated on the lines of that held in 1904 to provide reliable information as to accommodation and overcrowding in all divisions of the municipalities.

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CHAPTER II.-RESULTS OF THE CENSUS IN SIMLA.

The tables compiled to show the results of the census in Simla will

Beference to Statistics.

12.

be found at the end of this chapter. Table I

religion, sex and age and also compares the figures with those recorded at the summer census of 1911; Table II deals with nationality and associates this with birth place in Part A and with literacy in Part B; Table III gives a very brief classification of the occupations of the people enumerated.

13. The total population amounted to 45,477 and it is interesting to

. The total population.

compare this result with those of the corresponding census in 1911 and of the census taken under

cold weather conditions in March 1921; the figures show an increase of 2) per

Date,	Persons,	Malon	Females
\$0-6-11 18-3-21 \$0-6-21	87.895 27,494 43,477	29,459 21,007 83,560	11,917 6,487 9,436
Year.	Simla and Kasumeti Munic pal- it es.	Rate of increase por sanum.	Jatogh Can: n- m.nt,
1869 1879 1689 16:8 1904 1907 1911 1921	14,348 17,440 24,179 80,405 85,04 85,04 85,007 4,907	18 80 20 29 00 02 20	 1.612 1,917 1,859 1,670

cent. in the decade, and an excess of 65 per cent. of the summer over the winter population. This population was distributed as follows :- Simla Municipality 43,395 ; Kasumpti Municipality 602; and Jutogh Cantonment 1,57?, and can be compared with the results of previous summer censuses as in the margin.

It is probable that the first three censuses did not cover the Kasumpti Municipality but the figures for this would be too small to have any appreciable effect. The population appears to have grown steadily up to about 1904 and then to have remained practically stationary until the last decade; it is surprising that the opening of the Kalka Simla Railway in 1903, does not appear to have had any appreciable effect on the numbers.

It should be noted that it is on record that 1907 was a particularly unfavourable year for visitors the numbers of whom were far smaller than usual; on the other hand the numbers in 1911 were expected to show an increase of residents due to the permanent location of the Military Offices of the Government of India in Simla and to the presence of a number of casual visitor attracted to India by the Coronation Darbar. The increase during the last decade can be put down muinly to the increase in staff of the Government offices, an increase which probably reached its maximum during the war but which will be of permanent character in so far as it is connected with the extension of representative Government.

Unfortunately for comparative purposes the past summer censuses 14. were not taken in the general census years The Seasonal Variation in Population. b.fore 1911; we can, however, roughly estimate the summer population of those years by assuming the rate of increase to have been steady through the years intervening botween successive censuses : doing this, we get the following interesting figures :-

		SIMLA AND KASUMPTI MUNICIPALITIES.						
Yerr.		POPULATI ANNCAL PEB C	stmuer nter po- per cent.					
		Winter.	Summer.	Excess of sur over winter pulation per				
1661 1661-91 1491 1691-19,1	,,,, ,,,, ,,,	12,305 08 1×,279 06	18,789 41 26,562 2.4	53 100				
1901 1901-11	344 2444 2441	14,180 8-4	83,055 ∂•9	134				
1911 1911-21 1921	• • • •••	16,934 4·0 26,43 0	36,007 2*2 43,907	90 66				

The winter population of Jutogh Cantonment varies without reference to natural laws of growth on account of its purely military nature, hence the figures for Jutogh have been omitted from this statement.

The course of the increase in summer population has been traced in the preceding paragraph; from these figures it is clear that up to 1901 there was no corresponding increase in the winter and that from that year onwards the winter population has increased faster than that of the summer and at an accelerating pace; the tendency during the last twenty years has been for a larger and larger proportion of the inhabitants to remain

in Simla throughout the winter; eventhe exceptional increase in the numbers of Government servants coming to Simla during the last decade has not affected this tendency, in fact owing to the scarcity of accommodation in Delhi and the expense of avoidable travelling it is very largely amongst this class that the increase in winter population is now taking place. At present the summer population exceeds that of the winter by 63 per cent. but the probabilities are that future censuses will show a smaller excess owing to an expected rise in the number of those remaining permanently in the station.

15. No very elaborate classification of nationality was attempted Nationality and Birth-place, Table II-A. and the population has been shown under the heads European and Allied Races (including Americans, Australians, etc.), Anglo Indians, Indians and Asiatics. The classification probably attains a high standard of accuracy; at first sight it might appear that 1,715 of the 3.833 Europeans enumerated having been born in India raises a presumption that many of these are Anglo-Indians who have recorded themselves as Europeans; but though this tendency on the part of certain sections of the Anglo-Indian community may vitiate the statistics to some extent the first impression given by the figures is considerably modified when it is observed that over one sixth of the Christians were children of under ten years of ags. Previous to the census of 1911 Europeans and Anglo-Indians had not been distinguished in the summer censuses; grouping these together the inset table shows the racial constitution of the population at various times :--

	OF TOTAL TION.	PES MILLE POPULA	ULATION.	TOTAL POP		•	
•	Indiane and Asla- tics.	Europeans and Anglo-Indiana.	Indians and Asia- tucs.	Europeans and Auglo-Indians.		mor census,	Sum
	908	97	13,414	1,434			1569
	874	126	15,242	2,198	•••	104	1878
,	859	141	20,779	8,400	•••		1859
,	86 1	136	26,279	4 1 8		***	1:98
	873	322	82 ,926	4,590			1904
	878	122	33_031	4,576	•••		1977
* 	869	131	82,950	4,945		•\$*	1911
	897	108	40,772	4,705			1921

From 1904 onwards, but not before, these figures include Kasumpti and Jutogh. The figures for Europeans and Anglo-Indians are somewhat surprising; there has been an actual decrease in their numbers during the last ten years whilst a glance at Table III shows that the number of Government Officers has risen enormously, it may be concluded that whilst the European population must have been augmented by so large an addition of officers the effect has been more than counterbalanced by a very general substitution of Indians for Europeans in subordinate, and even higher grade, posts.

A synopsis of Table II-A showing the districts and countries in which the major portion of each class of the population was born, and comparing

	Euro	PBAN.	ANGIO	INDIAN	INE	ian,	Asta	T 70.
Place of Birth.	1911.	1921	· 1911	1921	1911	1921.	; 1911 ;	1
	• · · · · ·							1999 - 1999 1999 1999
Total 1	. 3,9 81	8,888	984,	872	82,686	40,728	264	44
and defendence in the second	1,243	869	i 214	226	6,614	8,497		
Simla Hill States		8			2,030.	1,878	•••	
Ambala, District .		19	8	17	2,022	2,667	. : ••••	·
Kangra District	··· · ···	12	. 4	8	8,569	3,460		i Jueni
Hoshiarpur District		:	1 •••	441	2, 500	2,570		
Jullundyr District		7		2	1,078	9,190		in.
Lahore District	84	135	51	.65	499	1,200	: : .:	r
Paliala State		4	6		791	1,045	[• •
Rest of the Punjab	105	107	'89	25	8,681	4,951	1	
Total Punjub	1,457	(59	867	828	22,984	28,488	1	·
United Provinces		817	146	125	6,691	7,180	-1	.:.*
Bengal	101	475 ·	206	206	1,357	1,508		
Kashmir	m . 4.	8	8	***	493	1,027	2	••
Rest of India	250	264	247	146	1,858	1,920	. 3	
		1,059	602	477	9,794	11,685	6	
	. 21	14		9	- 7	543	267	. 14
	1,736	2,005	11	54	. 	61	·	1 în a
Rest of Earope	150	51	- 2	8	1	1		***
Other Continents	. 46	48	2	2	•••		i 1	

these figures with those recorded in June 1911; is given below : --

or putting these same figures into another form so as to show the birth-place of a typical thousand of each nationality;

· · · · ·			EUROI	BAX.	Awelo-I	NDIAN.	Indi	1AM.	Ana	TIC.
Place of Bi	rtb _t	·)911 ·	1921	1911	1921	1911	1921	1911	1991
Simia District Simia Hill States Ambala District Kangra District Hoshiarpur District Jul.undur District Lahore District Patiala State Rest of the Panjab	•14. •14. •14. •14. •14. •14. •14. •14.		815 *** *** *** *** *** ***	96 1 5 8 3 5 1 28	218 318 3 4 3 4 3 52 6 90	259 20 8 	203 62 63 1(9 80 83 16 24 113	209 46 66 85 63 54 29 20 133		404 404 111 400 111 400 400 400 400 400
Total Panjab	•••		869	171	*/ 873	876	700	700	4	
Vnited Provinces Jongal Kashmir K. st of India	१९• 	1 1 1 1 1 1	49 26 1 63	87, 124 1	149 909 951	144 236 168	902 6- 15 1- 1- 61	177 57 25 47		- 199 - 199 - 1999 - 1 - 1999 - 1 - 199
Total India ex-	Punjab		189	1 8.6	613	649	800	286	23	•••
Pest of Asla British Isles Rest of Europe Diher Ç-stimente	699 449	111 111 111	5 488 88 19	529 18 18	, 11 2 2	10 62 2 2	()	18 1 	978	1,000

More than half the Europeans enumerated were born in the British Isles,

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• very much higher proportion than in 1911. The majority of the Europeans are of the official class and in 1921, many more of them were military men than in 1911; we may trace the decline in Indian-born Europeans to two causes; first the larger proportion of military men who, as a class, have less hereditary connection with India than the civilian element; and second to the growing disinclination amongst European officials in India to choose an Indian career for their sons. Amongst the Europeans, born in India there is a great falling off in the numbers born in the Punjab, accompanied by an even more remarkable increase in those born in Bengal and the United Provinces; those who have had parents in the country more often than not tend to drift to the same Province as, their parents, and this change must be due partly to the multiplication of officials with the Government. A very remarkable feature of the 1911 consus was that about one-third of the Europeans were born in Simla itself; in 1921 though the proportion of young children has not fallen off the number of Simla born has fallen to less than one-tenth of the total; the explanation of this eurious fact is not apparent, but the statistics for 1921, are, far more in agreement with what would be expected on general grounds.

The Anglo-Indian community shows very little variation as regards birth-place from that of 1911; of these born in the Punjab a very much larger proportion were born in Labore and Simla; though the total figuresare too small to draw any general conclusions it may be noted that this illustrates a tendency evident in the Punjab; in earlier days this community had its beginnings throughout the province and as time passed it began to collect more and more in Labore and Simla where suitable occupations were to be had; nowadays the majority of the Anglo-Indians are children of Anglo-Indian parents and the community is more cohesive and localised than before. Another point to notice is the increase in the number born in the British Isles, indicative of a desire for and a possibility of gaining the advantages of travel and a higher Western education which has arisen amongst the more prosperous members of the community.

The figures for 1911 and 1921 show remarkably little variation for Indians, the Indian population comes from the same places in the latter as in the former year; the places shown in these inset tables are those from which the largest numbers come and throw considerable light on the classes of Indians present in Simla in the summer months. The Simla District is a small one and the majority of those born in it were born within the actual station; the surrounding hill country lies in the Simla District, the Simla Hill States and the, hill territory of Patiala State; the inhabitants are constantly visiting head-quarters both to obtain casual labour or permanent employment and in, the ordinary course of their daily life. The Kangra District and part of the Hoshiarpur District lie in the hills at no great distance and large numbers of men come from them every year to work as rickshaw coolies, servants and casual labourers; the proportion of women amongst these immigrants is very low. Jullundur and Ambala are both neighbouring plains districts, and the high proportion of Simla inhabitants who come from them is due mainly to their proximity. The United Provinces and Bengal supply a very large proportion of the ministerial staff is the various offices, whilst Kashmir is represented very largely both amongst the trading and cooly classes.

The non-Indian Asiatics form a negligible part of the population; in 1911 they were nearly all Tibetan traders and coolies, in 1922 they were mostly born in Persia though a few came from Nepal, Afghanistan and Goa.

16. An attempt was made to distinguish members of the Arya and Brahmo Religion. Table I. Samaj from orthodox Hindus at the enumeration, but though representatives of these bodies had expressed a strong desire that they shou'd not be included under the term Hindu it is doubtful whether the attempt was successful and probable that many members, returned themsels es as Hindus. The distribution of 1,040

- r	
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TO	

	= 1 91	11	19	ก	5
Religion,	Male.	Temalo.	Male.	Fømale.	
Hindu	466	117	469	136	2
Mumalman	150	50	175	- 148	•
Christian	6 SO	76	67	67	4
Sikh	23	6	25	10	ł
Othew	2	1	. 2	1	
Total	751	249	733	·263	1

persons over the main religions according to the summer consuses of 1911

nd 1921 is shown in the margin. It will be een that the variations involved are very slight; Hindus and Sikhs have increased at a greater ate than the total population whilst the increase in other religions has been less; with 20 per cent, increase in the population as a whole there have been increases of 52 per cent. amongst Sikhs, 24 per cent. amongst Hindus, 13 per cent. amongst Mussalmans and orly per cent. amongst Christians.

The surrounding country is inhabited almost entirely by Hindus; the immigrant population consists largely of Hindus of the trading classes or of the hill-cooly type, and Hindus also predominate in the clerical staffs

of the Government offices; it is therefore not surprising that 60 per cent. of the population belong to this religion.

The disproportionately rapid increase amongst Sikhs during the last decade is of little significance as their total numbers are so small that the chance location of a few families and their retainers at the time of enumeration would easily account for the increase of 52 per cent. in their numbers.

The increase amongst Christians has been very small and was confined almost entirely to females: there were only nineteen more Christian men of over twenty'years of age in 1921 than there were in 1911; this is natural enough when the European and Anglo-Indian communities have actually suffered a loss in numbers, for these form about 77 per cent. of the Christian population. Assuming that all Europeans and Anglo Indians are Christians, the balance of Indian Christians has risen from 976 to 1,427 in the decade.

Comparing the figures with those recorded in March 1921 it is seen that all religions share alike in the winter excdus; 38 per cent. of the Hindus leave the station, 33 per cent of the Sikhs, 43 per cent. of the Musalmans and 44 per cont. of the Christians,

Age. Table I.

	· · · · · · · ·	- -				
Åge-gronf.	Hindus	Sikhs.	Massinans.	Christians.		
0 4	86	1:3	67	83		
69	71	69	64	103		
.1074	73	78	69	. 92		
16-19	1.117 -	117	99	65		
.20-81	169	165	189	1.100		
25	1.154	186	149	1.4		
80-84	113	110	137	110		
35 - 89	70	70	82	1 15		
:40~41	61 5	67	78	1 77		
<u>45</u> -49 .	.80	86	- 38	66		
бо - б 1	83	29	89	41		
. 55 59	j 11	8-	18	18		
60-64	13	11	20	1 37		
· (569``	. 8'	8	6	8		
CYEP 70 .	. 8	5 -	11	11		

17. The number of persons in every 1,000 in each religion in fiveyear periods of age is shown in the marginal table. If this table be reduced to a graph,

the remarkable similarity of age distribution in the three Indian religions is most striking; except for the excess of Sikh childern under five years (which may be fortuitous) the graphs for Hindus and Sikhs are practically identical; the graph for Musalmans follows the same variations very closely, but up to 25 years of age the numbers are consistently smaller and after that consistently larger; whilst the Hindus and Sikhs are most widely represented in the age group 20-24, the Musalmans attain their maximum in the next group. In all three of these religions the very rapid increase in numbers from the age of 15 till about 25 and the equally rapid decline after the age of 45 is reached are most noticeable; it is this period between the ages of 15 and 45 years which is the wage-earning period showing clearly what a large proportion of the population is foreign to Simla and is attracted there only by the possibilities of

employment. It is noticeable that children below 15 years of age are most numerous amongst the Sikhs and least amongst the Musalmans, being directly proportional to the ratios between women and men in the three religions; naturally those men who are able to have their wives with them in similar and most likely to be surrounded with their children,

The variations amongst the Christians of different age periods form quife a different curve; up to the age of 45 the curve is a comparatively level one and thereafter falls off rapidly; it shows no sudden rise at the wage-earning age; it reaches its maximum five years later again than that for Musalmans and it shows a larger percentage of old people than in any of the three religions of the Indian races. All these points are curious; regarding the Christian population (as so many people would) as consisting of a few children not yet sent to school in Europe and of a large number of officials with a few dependent relations, one would expect to find this bulk of it in the age periods 0--10 and 20--59. And this view is supported by the figures for males if taken alone : the numbers of these rapidly decline from 0 to 19 years of age, spring up again at 20 and remain at a high level till 45 when they start to decline and drop with a rush at 55. It is the figures for females that obscure these very natural fluctuations when we merely study the figures for Christians without relations to sex. The number of females is at its maximum in the earliest ages and steadily declines as the age increases, the only check in an absolutely steady decline occurring about the age of 30 when there is an inconsiderable ris. The figures for Christian females in Simla run through very much the same course by ages as amongst the indigenous population of a town or tract not affected at all by migration; it is indeed curious that this unstable and fluctuating population should show such a feature. and the first firs

Comparing the figures with those recorded in June 1911 we see that the propertion of adults in the population has dropped very considerably in all classes except the Sikhs, and the reason of this is not far to seek; in 1921 the March population amounted to 60 per cent. of the June population, in 1911 the corresponding percentage was 41; without great inaccuracy we may say that in 1911 only 41 per cent. of the summer population remained in the station for the winter whilst now 60 per cent. do so; naturally it is amongst those who make a permanent or quasi-permanent home in the station that we may expect to find the larger proportion of children.

18. At the time of enumeration there were in Simla only 36 females

Sex. Table I.

•		BB OF F 100 MA	
Nationality or Religion.	J une 1911.	March 1921.	June 1921.
Europeau	98		136
Anglo-Indian	109		83
nd'sn	27		80
Aviatio	29		10
Hindu ··	25	23	29 - 39
Sekb 🕶 Insesiman 🚥	20	£7 25	27
	- 96 ·	315	100
Christian	83	34	72
Dibers		39,	. 14
Total	83	81	86

to every 100 males, the reason for this disparity is more easily seen when the population is separated into its component parts by nationality and by religion as is done in the marginal table. It is at once evident that the disproportion arises from the composition of the Hindu and Musalman population which outweighs the remainder. The rural tracts of Simla District show a proportion of 95 females to 100 males, so the disparily in the head-quarters is not due to a simifar state of affairs in the surrounding country and its cause must be found amongst those who are attracted to the town for special purposes; amongst Indians these are largely labourers and domestic servants who seldom bring their families with them, and traders who if they have establishments elsewhere usually regard them as their head quarters in which they make their home. Amongst the officials, who embrace all

classes of the community, are both men who live in Simla throughout the year and who only visit it during the hot weather; the former probably endeavour to have their families with them though financial reasons often prevent them; the latter amongst Europeans comprise many bachelors, and amongst Indians are men who on account of lack of accommodation. high cost of living and travelling, and aversion to the, to them, unnatural conditions of hill life usually leave their families in the plains. Amongst Christians the numbers of the saxes are more equally divided, whilst among Europeans who comprise 62 per cont. of this community females preponderate over males; this is due to the attraction of Sinla as a health and social resort and during the summer mouths there are many European ludies in residence whose husbands are in the plains on duty. This last fact

rather conflicts with the diminution in the proportion of Christian women to men between March and June, and it is unfortunate that the statistics of the March census do not give the number of European women in residence at that time. For this diminution there are clearly two main causes, first the large proportion of bachelors amongst officials and in the army and, second, the very great preponderance of girls amongst the resident European children in Simlathis preponderance being very evident in Table I and being due to the fact that it is customary to regard home life as essential for British boys at an age when it is thought that girls can remain in India without detriment to their education and health. A remarkable fact is that in 1911 every community except the Sikhs showed a higher proportion of women in the winter than the summer, whilst in 1921 this was only the case amongst the Christians. I hazard the suggestion that whilst the Christian community has remained practically stationary in the decade and had much the same residential ac-commodation in the two census years, the Indian population has increased without an adequate increase in accommodation; Europeans complain bitterly of the lack of accommodation in this overcrowded station, but the evil is far more intense amongst Indians; the lodging which an average Indian clerk manages to secure in Simla for the summer is such that it is quite impossible for him to bring his family to it.

19. The test of literacy employed at the ceasus was whether a person could both read and write a simple letter ; of the Liternoy. Table II-A. ' total population 15,175 persons or 33 per cent.

were recorded as literate, and 9,014 or 20 per cent. as literate in English. corresponding percentages in 1911 were 51 and 19, thus showing a slight advance in education during the decade. One noticeable peculiarity is that the

	TRE C	entage	0¥. 1.11	BBATI
	In an 220	y lan- age.	In En	glish
Noticnality.		¦		
	Males.	Kemales.	Males.	Females.
Luropeon Aoglo Ludian Iadian Aziatio	89 84 80 90	87, 79 17 50	89 73 14 8,)	87- 74 5 50
Total,	3,	82	19.	22

is shown by the following figures :-

females scarcely fall behind the males in literacy ; 34 per cent. of the ma'es and 32 per cent. of the females were shown as literate, whilst for literacy in English the figures are 19 per cent. for, males and 22 per cent. for females. More detailed figures are given in the inset table. Illiteracy amongst Europeans and Anglo-Indians in practically confined to young children, for only 11 per cent. and 16 per cent. were recorded as illiterate. The main interest of the figures for literacy is confined to the Indian population, and the progress made during the decade

The

	17 av 18	. ,			 Рив	OFNTAGR AMONGST	DF LITEB. INDIANS	ATES,	
			5 ● ₁ ,		In asy I	apguage.	e. In Englis		
• •			9.91.		}911 .	1921.	. 1 911.	1921	
	Perrong Malea Malea	1 = 4 4 = 4	····	*** ***	 23 26 9	27 80 17	9 11 2	12	

The spread of education amongst the classes of Indians, who frequent Simla is very rapid particularly amongst females : the proportion of literate woman lias practically doubled in a decade.

20. Occupations were recorded under six main heads-(1) Government, State and Municipal Service, (2) Trade, (3) Occupation. Table III. ing on their income, and (6) all others. Under (5) are included, persons deriving their income from investmente, rent and so on. • 20 ***** e

Of the total population 29,556 are actual workers or people with private incomes, whilst 15,921 are dependent upon them.

The printed Summer Census Report for 1904 contains much Information about occupations for that and for previous census years; below is given a comparative table for the last four censuses. It must be noted that the figures for 1904 and 1907 do not include Kasumpti and Jutogh and that the classification employed in those two years was not identical with that used in 1911 and 1921:--

Ocoupstion.	Ň	UMBER OF WOR	eers and deven	DENTS.
	1904	1907.	1911.	1921,
Covernment, State and Municipal service	9,788 -	11,234	11,4:4	16,9.9
Dffi.cer#	1,208	1,076	1,051	1,500
Non-Commissioned Officers, subordinates and	4,976	5,570	4,050	10,576
olarks. Soldiers, Constables and Menials	8,549	4,585	6,818	
L'edors	4,956	8,088	8,158	3,619
Transport.workers	8,849	2,828	8,888	6,159 ,
Domestic Servants	11,648 /	11,957	7,774	7,621
Living on privato incoms	750	882	853	525
Others	4,819	8,689	11,818	12,244
- Contra - C	35,350	85,577	87,895	45,477

Out of every 100 of the 1921 population 37 depended on Government and Municipal service, 16 on domestic service, 11 on transport and 8 on trade. Apart from the small amount of trade involved in supplying the wants of the agricultural population in the surrounding country the station practically exists solely on Government service; all other occupations exist for supplying Government requirements or the requirements of Governmeut servants; bearing this approximate truth in mind it is interesting to note the decline in the standard of living which has occurred during the last ten years as exemplified by the numbers of people employed in subsidiary occupations, and in parti-

Occupation.	1911.	1921.
Officere Subordinates, etc Tradere Transport workere Domestic servants	800	100 705 241 844 468

cular in domestic service, for a fixed number of Government servants of superior rank. Apparently the machinery of Government has become so complicated that each officer now requires a double staff of subordinates to cope with his duties, and even so he and his subordinates together have had to reduce their staff of domestio servants by 37 per cent,

This leads to a consideration of the very remarkable differences in the increase in numbers amongst the various occupational classes of the community. With a total increase in population of 20 per cent., Government servants have increased by 48 per cent.; traders by 15 per cent., transport workers by 52 per cent., domestic servants have decreased by 10 per cent., and others have increased by 5 per cent. The increase in transport workers is largely due to the presence of large numbers of coolies carrying building materials for the erection of Government buildings; with the exception of these it is clear that the station has been flooded with an enormous additional population employed in Government offices without any adequate increase in the numbers of those employed in supplying their wants and ministering to their needs.

So far the figures discussed have included both workers and dependents; to 100 workers there were 54 dependents in 1921 as opposed to 52 in 1911;

Officers	***	184
Subordinates	144	182
Boldlers, etc.		8
Traders	-	69
Transport workers	-	18
Domestic servants	++1	89
Others		- 44

- the number of dependents relying on 100 workers of each occupation is as shown in the margin. In 1911 throughout India the number of dependents on 100 workers was 113 and these marginal figures show to what a large extent the people in Simla come there merely for employment and

leave their families and dependents elsewhere. Most of those who read this

report will know by personal observation to what a large extent officers with their subordinates and servants in Simla are separated from their families, but it will probably surprise them to see that traders and miscellaneous classes are much worse off in this respect.

21. The definition of a house for census purposes will be found in the instructions in Appendix I to this report; the number of occupied houses recorded at the last

four summer consuses is given in the margin. In 1904 and 1907 the definition

Year.	Simla and Kasampti.	Jutogh	Total.
1904	4,255	- 411	6,688
1907 7911	8,4:0 7,059	438 858	8,973 7,442
1921	7,634	428	8,062

of a house was different from what it was in 1911 and 1921; bungalows and servants' quarters were treated as in the latter years, but where a building was inhabited by several families each residing in a separate part shut off from the others it was counted as one house in the former years and as several houses in the latter; for instance, each suite "houses" in 1911 and 1921 whereas the whole

of rooms in an hotel formed a "house" in 1911 and 1921, whereas the whole hotel formed one "house" in 1904 and 1907. Comparison in the numbers is practically useless: apart from the difficulty of defining a house, the individual methods of enumerators and their supervising staff at different censuses may very well cause a difference in excess of the apparent increase between 1911 and The only fact which can be gathered definitely from the figures **19**21. is that an average of 564 persons inhabited every 100 houses and this although separate suites of rooms in hotels, flats and tenements were treated as separate houses. But this one fact forms a final and devastating comment on the overcrowded state of the station which has already become apparent in the examination of figures throughout this chapter. The summer census of 1904, which was taken with special objects in view, dealt very fully with the housing problem and contains some illuminating statistics on the subject : such a census is a complicated and laborious piece of work and cannot be repeated frequently; nor is one necessary at present; that of 1904 revealed evils of congestion which have not been remedied and which exist in a more acute form now.

The following figures are taken from the 1904 report and deal with a

Teeslike	[, NUMBER OF	AVBBAGE NUMBER OF PERSONS OCCUPTING					
Locality.	Rooms.	Sleeping rooms.	Ten rooms,	Sleep- ing rooms.				
Bara Bazar	3,911	2,675	18	28				
Lakkar Bazar	811	206	23	27				
Chota Simla Bazar	806	2 2 1	19	27				
Boileauganj Bazar	294	215	.18	.91				

time when the population (omitting Jutogh) was 35,704 as against 43,907 in 1921. To anyone interested in the housing problem of Simla the 1904 report, which is fortunately available in print, affords a mine of information and will well repay study.

SUMMER CENSUS, SIMLA, SOTH JUNE 1921.

TABLE I.-RELIGION, SEX AND AGE, WITH CORRESPONDING PIGUEES IN 1911.

						LL BELIGION			HINDU.		VEDIC D	e <u>arm (Ar</u> f	SAMAJ).	Br	ARMO BA	MAJ.		eire.	
	Åge	period.			- <u>-</u>	· 		·	 _			<u>.</u>		<u> </u>))		 	
-	<u></u>				Persons.	Males.	Femslos.	Persons.	Males.	Females.	Persons.	Males.	Fomales.	Pertons.	Malen.	Pemales.	Persons.	Maler	Females.
ll sges, 1921 ,, 1911		 	***	114 145	45 ,477 87,895	98,560 28,459	11.917 9,436	27,131 22,127	21,101 17,676	6,020 · 4,451	890 	2 38 	152 •••	8	8	. 1 ,	1,570 1,028	1,192 854	438 174
0— 9, 1931 ,, 1911	***	4 s s 6 s 4	•••		7,101 4,669	4,085 2,4⊎8	3,016 2,176	4,224 2,296	2,650 1,258	1,574 1,048	99	52	47 ***	1	1	***	270 176	141 	129 63
0—14, 1921 " 1911) 	610	r • • •	***	8,415 2,919	2,291 1,910	1,124 1,609	1,985 1,651	1,481 1,154	604 497	86	21	15	en#	1 		128 108	78 90	45 18
5—19, 1921 ,, 19 11	 	*** ** *	484 198		4,936 8,708	3,659 2,855	1,277 853	3,170 2,355	2,508 1,996	667 369	5 2	8 2	20				183 142	. 142 119	41
0 and over, 1921	•••• •••				80,025 26,599	23,525 21,201	6,500 5,398	17,742 15,825	14,467 13,278	8,275 2,552	203	133	70	2	1	1	994 602	771	223 71
etail for 1921-		***			851 365	459	392	458	2 70	189	20	12	8	· #89			04 9	25	89
2 8 4	*** 584 884	 	868 845 1.14	 	759 857	218 459 507	147 800 850	213 460 570	146 299 381	67 161 189	16 11	1 6 . 7	10 4	"1			25 35	1 n 21	14 14
59	***	***	40 <i>5</i> } 952		914 8,855	590 1,852	324 1,503	617 1,908	432 1,122	185 784	_ 10 	. 6 . 20	4 20	9844 		•••	29 108	16 64	12 44
0-14 5-19 0-24	,		*** ***	486 686 967	8,415 4,936 6,951	2,291 8,659 5,498	1,124 1,277 1,458	1,985 3,170 4,596	1,481 2,503 8,751	504 667 845	86 52 54	21 32 84	15 20 20	•••	13,8 140		128 183 264	- 78 142 197	- 45 41 67
529 1084	.	***		111	6,841	5,068	1,378	3,918	8,247	671	50	36	14	1		Î	214	168	51
5	••• ••• /••	***	••• •••	*** • • •	5,250 8,453 8,02 5	4,111 2,738 2,356	1,139 720 669	3,078 1,891 1,6 47	2,524 1,578 1,809	554 813 888	87 84 20	18 16 13	9 8 7	· " 1	 	40.9 4,44 444	172 110 69	8 191 86 74	41 24 15
5 49 0 54		*** 442	***	*** ***	1,605 1,601	1,240 1,250	359 851	806 896	6/ 9 729	147 167	10 5	8 2	2 3	144 °		144 193	56 45	50 82	- 18 - 18
i559 i+64 i569	,	884 884	***	148 149	551 700 808	409 491 120	142 209	291 869	224 278	67 91	5	4 1	1 3 2	695 144	- 415 - 415	·	12 18 5	9 16 5	
U and over	***	•••	***	411 197	208 845	120 248	88 97	94 156	59 109	85 47	2 9	"" 1 ·	2 1	***	110, 211		9	5 8	. "]

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Norss.—The Vedic Dharm and Brahmo Samaj were included amongst Hindus in 1911. The figure 4 in the first column means those who had completed 4 years of age but had not completed 5 years, similarly with all other figures.

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SUMMER CENSUS, SIMLA, SOTH JUNE 1921.

TABLE I.- RELIGION, SEX AND AGE, WITH CORRESPONDING FIGURES IN 1911-concluded.

		• •			•				-		[]			7		Qтн	BRS.		•	•	-	
					. 3	ÉUŞALMAN.	÷	C	`HRI STIAN .	i		Tota].			Jain,	;	[Parei	•		Jew.	,, ,
	Age period.		-		Persons.	Malen.	Females.	Persons.	Males.	Females.	Persons.	Maler.	Females.	Pertons.	Malos.	Fentalos.	Persons.	Males.	Pemaley.	Porsona.	Males.	Pemales.
All ages 1921 , 1911	440 985	ente 6110	tae tae		10,187 8,709	7,954 6,819	2.18 8 1,890	6.192 5,921	3,061 3,027	8,071 2,894	1 24 110	72 t-8	52 97	79 38	44 81	35 7	40 25	24 18	16 12	5	4	1
0-9, 1931 n 1911	***	· • • • • • • • • • • • • • • • • • • •	*-* ***	14. 8-1	1,827 1,004	738 567	5 <u>89</u> 487	1,139 1,181	481 559	- 658. 681	41 11	22 9	19 8	30 6	18 4	17 2	9 1	.7	2	2	8	
10—14, 1921 " 1911	****	***	*** ***		696 669	504 482	192 187	566 471	202 169	864 302	·9 2∪	5 15	4 5	4 7	8 7	. 1 	5 5	.2 2	8 8			· 4.
15 19, 1921 " 2911	***	•••			1,00 3	798 - 599	210 178	518 427	184 138	384 294	10	5 8	5	75	4	3 1	8	2	8	1		
20 and over, 1921 	### - ###	+3 6) - f	•30	 #=1	7,111 8,204	5,91 9 5,171	1,192 1,093	3,909 3,842	8 .194 2 ,175	2,715 1,867	64 66	40 51	24 15	88 20	24 16	14	24. 15	15	9.7	21	1	1 •••
Under 1 1 2 3	404 	*** *** *** ***		***) * *** ***	195 70 138 126 147	101 87 ≻0 55 83	94 88 58 70 64	109 68 115 108 108	48 25 58 85 51	61 40 57 70 55	5 8 5 6	8 2 5 8 3	2 1 8 8	· 3 2 3 · 5 4	1 1 8 3 1	2 1 9 8	1 2 1 1	1 1 9 	 1 	1	1	
59 1014 1519 2024 2529	1 000 000 100 700	105 105 155 155	 	 	651 693 1,003 1,410 1,5(·5	881 604 793 1,165 1,252	210 193 210 245 258	688 5:6 519 614 640	258 202 184 840 364	875 864 884 274 276	17 9 10 18 18	7 5 6 8	10 4 5 7 7	13 4 7 10 8	4 8 4 5 8	- 9 1 5 5	8 5 2 3 4	22	1 3 2 9 1	1	1	
80—34 85—39 40—44 45—49 50— 5 4	809 684 878 44 884	413 398 863 114 494	 	 	1,292 133 790 887 899	1,058 729 666 822 889	² 284 104 124 65 60	873 582 474 342 151	874 816 290 203 145	239 266 184 189 106	8 12 5 4 5	6 7 4 8	2 5 1 2	8 4 4 9	6 3 9 9	2 1 1	 7 1 2 4	 8 1 2	14		1	
55—59 50—64 55—69 70 and o ver	 	**** F#8 ***	404 128 600 863	dos Jas sga un	135 20u 52 108	112 151 95 90	23 4 9 17 18	107 117 49 70	59 43 20 40	43 64 29 30	1 2 1			- 1	1	194 197 198 198	2	*** 2 1	••• •••	444 52.7 7		· · · · · · · · · · · · · · · · · · ·

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Noras.- The figure 4 in the first column means those who had completed 4 years of age but had not completed 5 years ; similarly with all other figures. The column " Others. Total. " for 1911 includes 46 Endthiats in a Ruddhiate mere commercial in 1921 16

SUMMER CENSUS, SIMLA, SOTH JUNE 1921. TABLE II-A.-NATIONALITY AND BIETHPLACE.

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															-			
	District, State, Province or				TOTAL.		EUBOPEA	N AND ALLI	LD BACES,		GLO-INDIAR	:S.		Indiana,			ASIATIOS.	
Serial No.		te, Province or where born.		Persons.	Males.	Females.	Persons.	Males,	Females.	Persons.	Males.	Females,	Persons.	Males.	Fomales,	Persona	Males.	Fomaişa,
	Total Populatie	ביבים מנו		45,477	33,560	11,917	3,833	1,626	2,207	872	476	896	40,798	81,418	9,310		40	•
	Total A.—Dist within the	riets and Punjab	States	29,472	21,849	7,623	666	\$71	\$85	\$25	157	171	28,468	21,421	7,067	·		·)
	Total & 1Di Punjab.	istricts wit	hin the	25,353	18,348	7,005	647	266	881	828	157	171	24,878	17,925	6,453			-
`1	Hissor	64 0	•••	115	94	31		3		. 3	2		111	90		-		•
3	Bohtak			193	161	. 32							193	161	32			
S	Gargaon	***	•=	71	65	16	1		1	114			70	55	15			
4	Karnal	t are	•••	278	198	80	*	i	2	2		2	274	198	1 76			
5	<u>Ambala</u>			3,703	1,911	792	. 19	5	. 16	17	10	7	2,687	1 1,596	769			
	Simle			9,092	6,040	8,053	\$69	.149	120	236	59	137	8,497	5,802	3,695		. Na a	
7	Kangra			8,475	8,224	251	13	9	8		2	1	8,460	\$,213	247		.	
	Hoshiarpur			2,570	6,014	556							2,570	2,014	556			
9	Juliundas		8 14	2,199	1,563	626	7	1 3	4	2	2	، شد	3,190	1,558	682			,10
10	Ludhiana	•••	***	\$27	125	102	2		2	2	1	1	823	234	99			
11	Terosepore	, bea	t er	117	- 84	. 38	9		6	1 1		⁺ 1	107	81	26	-	•••	Ma
13	Lehore	•••	•••	1,590	['] 851	539	185	63	67	55	19	_ 16	1,300		456			***
18	Amritter		***	685	327	228	10	5	5	•••			545	822	223			1 13
14	Gurdaspur			308	193	116	1		1	1	1		306	19 1 -	115			
15	Sialkot	•••		165	165	100	6		. 8	· •		2	358	168	90			•••

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SUMMER CENSUS, SIMLA, 30TH JUNE 1921.

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TABLE II-A .- NATIONALITY AND BIETHPLACE-continued.

	Distrist, State, Province or Country where born.				TOTAL		RUBOPSAN	AND ALL	ED BACES.	A	1910-IBDIAN	18.		Indiașs.	<u>.</u>	ASIATIOS.		
				Persons,	Males,	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Malss.	Fomales.	Persons.	Kales,	Females
1	Gujranwala			232	157	75	-	l	•••	-			232	157	76	,	、 ***	,
17 71	Sheikhupura	-	***	1		1	•••					•••	1		1			***
18	Gujist			220	153	67					- in		318	158	-65	***		
9	Shahpur	***	***	208	178	85	-		-		100	••••	208	178	-35			
10	Jhelum		800	176	133	43	2	• 1	I I			·	174	132	42	734		
n	Rawalpindi			\$67	283	84	34	24	20	11	7	•	822	263	60		•••	
23	Attock			25	18	15	4		1		-	-	21	10	11	. 90		
18	Mianwali		•••	13	8	Б	••••			1	1		12	7	5			•••
	Montgomery			20	5	15	- 18		6				14	Б	, 9	•	++1	
5	Lyallpur	498	834	62	85	27	2	1	1	. 14 4			60	34	26			
16	Jhang	•••	***	76	70	6	-			[']		1	78	70	-6	-		
27	Maltan	••••	***	137	96	42	17	5	12	i	1		119	89	80			ļ
28	Muzaffargarh		-894	108	87	31				-	***	•••	108	87	21	-		÷
29	Dera Ghazi Khau		, 141	50	82 (18	8		8	•••	•••		47	82	15			
	Total A-2.—Stat	es withir	n the j	4,119	3, 501	618	9	5				***	4,110	3,496	614	·····		· · · · · · · · · · · · · · · · · · ·
	Ponjab.	m.4.1	i	1.001	1,708	178		· ·	8				1,878	1,708	170			
	Simla Hill States		••••	1,881	1,7V0 84	3	-						36	34	2	••••		
ю	Bashahr	•••	•••	86	189	14	•••	••••		· · · ·		144	208	189	34		-	PFE
1	Nalagarh	P41	•••	208	TON	- 7								•		1	}	

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	(7	- ī			3		1		· •	1		· _ • .	. 1	· •
82	Baghal	-		726	637	89		•	= 1	=	-		726	637	89			
53	Kumbarsain			162	196	26	-					***	163	136	26			u's s
84	Bhajji		-	99	99					•••			99	99)	***		m
85	Mablog	•••		48	36	13		•••	•••	•••	# 14		48	36	12		•••	111
36	Dhami	***		74	69	5		<i>.</i>				•••	74	69	··· 5	•••		
87	Bilaspur	***		533	508	25	8		8	400	- 249	•••	530	508	22	•••	540 ⁻¹	
88	Lobarn	***		7	4	8				448		•••	7	· 4	3			*
89	Nahan		1.04	93	76	17							93	76	17	ţ	•••	1. Care
40	Mandi	4 1 3		649	519	131	1	1	- 1				648	517	131	***	•••	
41	Saket			110	81	26	•••				•••	•••	011	85	26			•••
42	Reporthele			193	108	15					•••		123	108	15	•••		
43	Malerkotla		, 1914 -	8		8		1.00		•••	***		3	• • • •	3		•••	
4	Faridkot	***	***	98	38	60					•••		. 68	- 88	60		···· j	
45	Chamba :			31	7	24		***	104				81	. 7	24			
46	Patiala		•=•	1,049	<u></u> \$98	153		1					1,045	89 2	153		184	[
47	Jind		•=•	12	12						161	100	12	11	•••	- ut	181	
48	Nabha	***		40 [29	'n	•••		•••		e		40	29	11	589		
49	Bahawalpur				31	2	1	401	1	***		-	23	21	. 1 .			
				·		<u> </u>				477		· 196	11,635	9,489	2,196			
	Total BProvin in India beyond	the Punjai	ates 5.	18,171	10,042	3, 129	1,019	822	737									
,	Total B-1. Pro		***	11,759	8,764	2,995	1,082	\$18	714	455	26 8	187	10,272	8,178	2,094		- un	·
					10							1		9	18		<u> </u>	
50	Ajmer-Merwara	ana -	••		11	4	6	5	1	439			· 9	6	8			
	Balachistan			15	1,190	999	475	149	826	206	102.	104	1,508	939	5 89			
52	Bengal		***	2,189	2,130	300	1	1					84	61	3	-		***
53	Bihar and Orissa		-	65	- ,	125	92	83	5 9	56	84	32:	241	197	- 44		· ·	
54	Bombay		88 4	389	. 384	120	#2			1				te F			1	
55	Burma		•••	63	. 40	23	S O	34	16	11	7	1 •	\$2	, 19	8			- autor
1	Central Provinces	and Berar	+++	115	68	47	9	5	4	13	9	4	98	54	39		-	
57	Dolbi			829	496	888	89 <u>.</u> 89	12	27	16	16	***	774	468	806			***
				I I	 	L			1	· · · · · ·		<u>.</u>						

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SUMMER CENSUS, SIMLA, 30TH JUNE 1921.

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TABLE II-A,-NATIONALITY AND BIETHPLACE-concluded.

		Total.				S AND ALLI	ED BACIS.	A ;	IGLO-INDIA	F#.		Indiane,			ASIATICS.	ICE.
Seriai No.	District State, Province or Country where burn.	Persons,	Males.	Fomales.	Persons.	Males.	Females,	Persons.	Males.	Females.	Persons,	Halos.	Femeles."	Persons.	Males.	Females,
58	Kadras	264	140	124	47	17	30	22	16	8	195	107	85	•••		
89	North-West Frontier Province _	184	154	50	16	7	9	4	2	2	164	145	19	Jet		
60	United Provinces of Agra and Oudn.	7,622	6,329	1,293	317	75	242	125	81	. 44	7,180	6,178	1,007	•••		
	Total B-2,- States -	1,412	1,278	134	27	4	28	22	13	. 9	1,863	1,261	102	-++4		•••
61	Central Indian Agencies	35	12	28	10	694	10					13	13			
62	Gwalior	66	47	19	1		2	· 6	.	6	58	47	11		•••	***
68	Hyderabad	42	35	7	5	1	4	5	***	3	84	34		144 504		***
64	Kashmir -	1,080	959	71	8	3	***				1,027	956	71			
65	Rajputaua Agencies	239	225	16	7	•••	7	13	18	•••	219	` 212			194	
	Total C Countries in Asia	610	574	86	14	4	10	9	8	1	543	522	21	44	40	4
66	Afghanistan	14	14		***		•4	***			8	8		6	8	411
67	Chine	13	9		7	` 8	4	1	. 1		· 5	5	-	404		114
68	Ceylon	1	1		1	1	8 48				+47		<i>(</i> 34	•••	444	
69	Portognese Settlement "Goa"	65	59	8	5		5	5	5		53	. 58		. 2	1	. 1
70	Nepal	442	418	24	***	•••	814	1	•••	- 1	487	416	91	4	· 3	2
71	Fersia	35	83	2	1		1	2	2					\$2	81	L
72	Siam	1	1	•••	•••	***1	*18				1	-1		m	-	
72	Straits Settlement and Malay	2	2		644 1	•••	5 40	••••			2	2				
- 74	Tibet	87	37	····		•••	•••	514		•••	87	87		•••		***
	Total D Countries in Europe	9,174	1,085	1,089	2,056	1,020	1,036	56	29	27	62	36	26	·····		

																алай 1	- 1 - 1 - 1		
	75	England and Weles		1,927	947	980	1,825	895	9 80	45	20	25	57	82	25		•••	100.	
	76	Scotland	• •••	120	58	62	114	52	62	. 2	- 2	_	4	4	ine'				
	77	Ireland	4	78	52	21	. 66	46	20	7	6	1	***			·		-	
	78	Belgium	•, • ••	1	. 4	-10		•••		1	1	- 140	••••		•••				•
•	79	Denmark	• •••	1	1	• •••	1	1	•••	-						·	¥u.		
	80	France .	• . •••	21	2	19	21	ื่อ	19				***	·	***	•••			
•	81	Germany	•, ar	5	2	8	4	2	2				1	***	1		•••	ta p	
	- 1	Gresce	• **	1	1		1	1	•••					444	•••	· .i.			
		Holland	• …	2	2	`	2	, 2	-	845		·	148 -			•==			
		Italy	• • •••	5	. 5			5		•••	•••		•••					•••	
		Portugal	• •••	4	3	1	3	8	***	1		1	•••		•••				
		Russia	• •••		2	1	3	2	1	'		913	•••	•••,					
,	- 1	Spain		2	1	. 1	. 2	1	1			749	-		•••	·		•••	
	(Switzerland	• •••	8	. 7	1	8	7	1	···· ·		- III		499	414	, 	1.1	•••	21
	8	Turkey "	•	1	1		1	1			•••	•••			•••		·		,
		Total E Countries	in ≜frica	7	. 8	· · 4	7	8					-:.	487			·	·	
	90	Africa, unspecified	• …	7		4	7	8	4		-44	+=,	. =03	***					
		Total FConntries	in America	1 17	8	14	16	2	13	2	1	1	•••				····.		
	91	America, unspecified	-	8	2	6	8	2				· · · · ·	······································		•		1	·	. •
	93	Canada "			1				6			•••	***	-	•••	•••	,	•••	
	93	Newfoundland				··· 6	ι δ·	***	-17 5	· 1		-1.69)- (21 .	· • •••			
	94	United States			, *** 		2		3	···· · · · · · · · · · · · · · · · · ·		1				3.0	•••		
			•							,	***		***	P4#	444	***	***	•=	
		Total GCountries	in Austra-	26		22	26	• \$	-92				***	492	610	***	**	***	
	9b	Australia	4																
		· ·		. 26	4	23	26	\$	23		. 		•••	ing a				. ••	

SIMLA SUMMER CENSUS, JUNE 30TH, 1921.

					Total.			LITEBATE.			ILLITERATE	· · · · ·	LITE	BATE IN ENG	LIOR.
	Nationality.	•.		Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.
Total				45,477	83,560	11,917	15,175	11,335	3,840	30,302	22,225	8,077	9,014	6,361	2,653
European and	allied races	•	•••	3,633	1,626	2,207	3,361	1,448	•1,913	472	173	294	3,361	1,448	1,913
Anglo-Indians		•••	· •••	872	476	396	715	402	813	157	· 74	68	661	369	292
Indians	•••	•••	•••	40,728	\$1,4 18	9,310 '	11,085	9,473	1,612	29,648	21,945	7,698	4,978	4,532	446
Asiatics		44.	. 	44	40	4	14	12	2	30	28	2	14	32	2
, 1 - 4										_ · ·	•				

TABLE II-B .- NATIONALITY AND LITEBACT.

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SIMLA SUMMER CENSUS, JUNE 307H, 1921.

TABLE III-OCCUPATION.

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					•	G	OVERNMENT, ST.	ATE AND MUNIC	IPAL BERYANTS	.						
		TOTAL.			Officere.		Non-Commis	sioned Offiners, and Clerks,	Sudordivates	Soldiere, an	Consta bles ¢ un specifie	, Mexicle 1.		TBADEES.	26.	
N	Persons.	Males,	Females.	Persons.	Males.	Females.	Persons,	, Males.	Females,	Persons.	Males.	Females.	Persons.	Males.	Bemales	
		,,,,,	í				·			·	Bs,		·	·		
otal population "	45,477	33,560	11,917	1,500	907	593	10,576	6,144	4,482	4,838	4,808	525	8,619	2,695	924	
staal workers	29,556	27,915	1,641	640	575	65	4,543	4,149	894	3,975	8,975		.2,141	2,105	36	
ependents	16,921	5,645	10,276	860	832	528	6,033	1,995	4,088	858	838	525	1,478	590	888	
	1	,	ļ			,	ļ	· ·				l i		· .		

		Тваквровт.												·	
•	-	Coolice of all so		Mals-dr	içere, çarl-drive	rs, elc.	Дом	UBTIC QEBY.	L¥75,	LIVING	O¥ PBIVATI	I INCOME.		OTEBBS.	·
	Persona,	Males.	Females.	Persons.	Males,	Females.	Persons.	Males.	Females.	Persons.	Males.	Females,	Persons.	Males.	Females
Total population	4,898 4,154	. 4,148 8,981	755 173	261 220	_ 248 218	18 2	7,021 5,040	5,810 4,624	1,705 416	525 222	269 183	268 40	12,244 8,321	9,537 8,106	9,707 515
Pependents	744	16 <u>2</u> '	582	41	. 30	, 1 1	1,981	692	1,289	808	50	\$2 3	8,628	1,481	2,192

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22. The results of the census have been collected together in four tables which will be found at the end of this chapter. The total population of the station,

including both the municipal and cantonment areas, was 6,821; this total

	• • ; P	OPULATIO	ON.		
Date of Census	Mun'ci- pality.	Canton- ments,	Total.		
17th February 1891	870	740	1 610		
26th February 1891 21st June 1 98	807 8,210	425	1,282		
Ist March 1901	805	608	1,°16		
10th March 1911	938	644	1,682		
S0th June 1911	8.949	8 ,653	7,592		
18th March 1921	1 467	948	2,405		
80th Jane 1921	. 8.955	2,866	6,821		

is compared with the total population recorded at previous censuses in the margin. Insufficient record exists of the summer population in former years to give any clear idea of the growth of this station; it is however quite evident that there has been no steady increase, and in consequence there is no pressure on the accommodation, and the space available is well in excess of the requirements of the inhabitants even at the time of year when the place is most frequented. The decrease of ten per

cent. in the summer population as recorded in 1911 and 1921 is due to military movements and should certainly not be taken as indicating any tendency towards depopulation. The enumerations carried out under cold weather conditions show a general tendency in the upward direction, which became very marked in the last decade; but here too the increase in population depends more on military requirements than on natural laws of growth. The cantonment population alone is sufficient to obscure any natural law in the variation of the total population; whilst that cf the municipality is not independent but largely subsidiary to it. In the municipal population we can trace a regular growth, both in summer and winter, together with a super-imposed variation proportionate to the variation in cantonments.

23. Owing to the artificial nature of its constitution little advantage is to be derived from a detailed examination of the figures for population in different areas in the cantonment. On the other hand within municipal limits it is interesting to

	1911.	1931.					
Division,	Persons,	Persons.	Males.	Females			
otrehn .	715	847	558	289			
l'ebra '' es	1,162 910	1 255 962	869 608	3E9 854			
sekrota adar Bazar	1,162	868	607	281			
'otal Munici- painty.	8,949	8,955	2,612	1,918			
filitary Lines	2,672	1,697	1,406	291			
lospital	800	878	245	128			
Cantonun e n t Bazar.	671	796	560	.236			
Fotal Canton-	8,648	2,866	3 ,211	655			

trace the growth and decline of population in the main divisions, which luckily are so well marked by nature as to have been adopted as census circles both in 1911 and 1921. The municipal area lies on three hills, Potrehn, Tehra and Bakrota lying in a line from West to East; of these Tehra is the most thickly populated, it lies nearest to the cantonments and the Station Club and other places of public amusement are situated on it; Potrehn is a small hill and on its slopes are the local Courts of Justice and the police lines, but there are fow private houses; the Sadar Bazar, which is the most densely populated locality in the station,

lies in the hollow between these two hills; Bakrota is the largest and highest of the three hills, but is somewhat far from the centres of the social life of the station and contains comparatively few houses, its distance from cantonments prevents military officers on duty from living upon it and the houses are occupied mainly by civilians or by the families of men on duty in the plains.

The small villages of Kathlag and Lohali which are within municipal limits were included with Potrehn and Bakrota respectively for census purposes.

The greatest increase, 19 per cent., is shown by the Potrehn circle; whilst Tehra and Bakrota show increases of only 8 and 6 per cent. respectively The Sadar Bazar shows a remarkable drop of 24 per cent. but it should be noted that its inhabitants are largely of the cooly class who have no fixed place of abode from year to year:

24. The population was classified, as in 1911, under four main Nationality and Birthplace. Table II-A Under the term European have been collected

Nationality.	Popul.	ATION.	INCARASE (+) OF DEOREASE (-) IN THE DECADE.			
• .	1911.	1921.	Actual.	Per ceut.		
Total Ruropean Anglo-Indiau Indian Asistig	7,592 2,256 25 5,255 56	6,921 1,661 76 5,028 50	-771 -595 +51 -227	- 10 - 26 + 204 - 4		

Americans, Australians and other allied races. The actual number of non-Indian Asiatics shown in the 1911 report was thirty; but twenty six persons born in Nepal were shown as Indians; these were really Gurkhas and are more correctly shown as Asiatics.

The decline in the number of Europeans is due in the main to military requirements and need cause no anxiety to those interested in popularity of

to those interested in popularity of the station. Of the Europeans, 1,409 were born in the British Isles, or 818 per mille as opposed to 803 in 1911; 207 or 125 per mille were born in India as against 159 per mille in 1911; the increase in the proportion of British-born Europeans is very possibly due to the upheaval caused by the war; the European population is mainly military and the personnel of the army in India probably has less hereditary connection with the country than in pre-war days. Compared with Simla the proportion of British-born Europeans is very high and this is no doubt due to the more exclusively military composition of the Dalhousie population.

There are far fewer persons born on the continent of Europe than there were in 1911, which again is probably a result of the war which called men of all nationalities back to their own countries.

The numbers of the Anglo-Indian population are too small to render any comparison useful; it should be noted that there is always a tendency for these people to record themselves as Europeans and that in all probability some were classed as such at each summer census; more than half those enumerated in 1921 were born in Lahore and were probably clorks attached to Lahore offices having their headquarters in Dalhousie.

The decline in the number of Indians is very small, and scarcely as much as would be expected to result from the decline in Europeans; all the Indians enumerated at both the summer censuses were born in India and the district or province of origin of a typical thousand is shown in the margin. There

	NUMBER P.	s e Mille,
Place of Birth,	1911.	- 1921. ¹
Gurdaspur District Kangra District Hoshiarpur District Lahore District Chamba State Hest of Paojab	50 J	207 58 66 78 181 197
Total Punjab United Provinces Kashmir State Rest of India		787 49 117 47

has been curiously little change in the constitution of the Indian residents by birthplace. Dalhousie itself lies in the Gurdaspur District but is surrounded by Chamba territory; hence it is natural that these two places should contribute most largely to its population. Kashmir State, Kangra District and part of Hoshiarpur District lie in hilly country within easy reach of Dalhousie, and the inhabitants of these hills are attracted by the prospects of unskilled employment to any centre which itself lies in the hills. That a large number of Indians born in Lahore are found in

this station is due to the fact that both civil and military offices from Lahore move up to it in the summer.

The United Provinces are probably represented by men in the army as well as by numerous clerks.

The Asiatics are mainly Gurkhas connected with the army, their presence being due to the fact that the Gurkha station of Bakloh is close to Dalhousie; there are also a considerable number of Tibetan coolies who visit the station. The actual figures are given below: --

•		• • • •	· · · ·	· · · · ·		• • • •	1911.	1_21.
	Nepalese	•	<u></u> 	•••	р ө өн	•••	26	35
:	Persians	1	•••	***			2	100
:	Jibetans	i.			•••	•••	. 28	17
	Turks	• ,	a*• a •	•••••	•••	, 	•••	1

25. The religions recorded were Hindu, Sikh, Musalman, Christian and Parsi; an attempt was made at their own request to distinguish members of the Vedic Dharm (Arya Samaj) from Hindus, but only 47 persons returned themselves as belonging to it and it is probable that others of this faith returned themselves as Hindus; though separate figures are given in Table I, they cannot be accepted without question, and the term Hindu will be used as inclusive of the Vedic Dharm in the paragraphs which follow:

The distribution of the population by religion at different times is given

Roligion.	March 1911.	June 1911,	March 1941.	June 1921.
	· · · ·	ACTUAL	NUMBERS	· · ·
Total	1,582	7.592	2,405	1 6.9 2 1
Hindu 👘 👬	881	8,210	1,802	2,721
Sikh	43	180	61	445
Musilm n	465	1,795	839	1,895
Corating,	156	2,445	218	2,053
Others	. 7	12	8 6 9	7
· · · · · · · · · · · · · · · · · · ·	PE	B WILLE	OF TOTAL	4
Hindu	657 ,	423	541 (899
Sikh	27	17	- 21	21
Musalman	291 .	236	849	: 278
Christian	318	322	89	801
Others	. 4	8		1

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in the margin Hindus predominate both in the summer and winter and constitute more than one half the population in the winter; the surrounding country is inhabited entirely by Hindus; all other communities have been attracted to the station from a distance and of these only the Musalmans have formed any permanent colony.

Leaving on one side the variable military population, the remainder may be grouped roughly as follows :---

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Hindus, permanent residents of the agricultural and trading classes, traders and coolies from the surrounding hill-country, and office clerks.

Sikhs, mainly in Government service.

Musalmans, practically all of the servant class with a sprinkling of small traders.

Christians, mostly Europeans either on leave or on civil duty, with a small proportion of Indian Christians mainly of the servant class. Indian Christians were not separately classified, but subtracting the number of Europeans and Anglo Indians from the total number of Christians there remain 315 persons who must belong to this community.

It is of interest to note the extent by which the summer population ineach religion exceeds that of the winter; the percentages are, Hindus 109; Sikhs 184; Musalmans 126; and Christians 864. The Hindus form the most stable factor in the population whilst the Christians are practically all summer visitors.

26. The number of persons in every 1,000 of each religion in fiveyear periods of age is shown in the marginal . Age. Table 1. table. The total number of Sikhs is so small that chance variations obscure any regular law which may apply to the

			(🚓 /	
▲ g •.	Hindu,	Sikh.	Musal- man,	Christian
			<u> </u>	
C4	- 64	90	69	110
5—9	82	166	98	95
10—14	72	. 69 -	59	42
15-19	111	110	. 102 -	69
20	138	- 110	105	298
2529`	180	-88	161	120
80-34	119	68	1 1 6	∣ มีเน
5 39	76	90] 110	65
4 0 44	68	84	6ì	82
<u>45–49 </u>	41	108	į 4 9	- 24
50-54 ·z·	- 44	34	84	19
66—59	18	- 7	18-	12
CO-64	20	- 28	1 25	8
6669	8	· 14	8-	5
70 and over,	i - ∙10-	·	l 11	5

figures. The trend of the figures for Hindus and Musalmans is much the same and leads to the following conclusions; the number of young children. is less than in a normal community and it is evident that a great many of the summer immigrants cannot be accompanied by their families; the number of children drops considerably in the age-group 10-14 and it may be concluded that even those who go to Dalhousie en famille very often leave their children of school-going age behind in the plains; the largest numbers are found between the ages of 15 and 40, indicating that a very large pro-portion of the immigrants come only for employment and are not accom-panied by their families (this fact is

further supported by the sex figures at different age periods); after the age of 40 the numbers steadily decline, though the fact is somewhat obscured by the well-known tendency to record ages in round numbers, and it would appear that the majority of persons over forty are residents and not immigrants.

The figures for Christians, of whom 81 per cent are Europeans, illustrate the following facts :- Dalhousie as a health resort is popular amongst people with young children in the country, for the number of children of tender years is out of all proportion to the total number of persons ;large numbers of children are sent to Europe about the age of six or seven and the numbers in this, as in other hill stations, decline rapidly at this age ; between the ages of 20 and 35 a very large number of British soldiers swells the Christian population and the youngest of these cause an increase in the age-group 15-19 which, apart from soldiers, is usually a small one amonget Europeans in India; after 35 the private soldier ceases to affect the numbers to any great extent, but officers—both military and civilian—are still an appreciable factor, but gradually become fewer till the age of 60, after which the Christians are only represented by a few families who have made their permanent home in the station.

· Sar Table I

	NUMBER OF FEMALES TO CRE HUNDERD MALES						
Natiozality or religion.	Marob 1911.	Jure 1911.	Merch 1921.	Jane 1921.			
European an Anglo Iudian	51 50 58	31 2,400 29 17 81 19 28 28	47 81 85 162	50 95 85 0 \$1 48 83 55			
Tota)	50	80	47	41			

27. The sex distribution by nationality and by religion both in 1911

and 1921 is given in the margin. The total population of 6,821 persons only includes 1,968 females, that is to say there are only 41 females to every 100 males. This abnormal sex proportion might be expected to arise from the large number of male summer visitors, who bring no families with them; but though the disparity is greatest amongst the summer visitors, the proportion of women being less for every religion except the Sikh in the summer than in the winter ; yet it is surprising ' to find that the state of affairs is very much the same in winter and that in March 1921 there were only 47 females to 100 males.

If we examine the sex figures by ages, we see that up to the age of 10 vears the sexes are normally divided, males exceed females, but only to the extent that this is found throughout India. After the age of 15 is reached the proportion of females drops very rapidly for all religions, except the Christians amongst whom the reverse is the case ; we may ascribe this to the fact that amongst Indians the wage earning period is now commencing and -a: good many boys come: to the station for employment, whilst among Eurepeans boys are sent away to school in larger numbers than girls: Directly the age of 19 is reached the Christians exhibit the same features as the others; the male population leaps up in comparison with the female; this of course is due to the presence of British soldiers.

The abnormal disparity of the sexes in the winter is hard to explain, though it is no doubt partly due to the fact that the winter population, like that of the summer, though to a less degree, is an unnatural one and consists largely of men attracted to the place in search of employment; it is not quite correct to regard the March enumeration as dealing with winter conditions, for by March there is a certain amount of activity in the place due to the preparation for the reception of the summer visitors.

28. Table II-B shows the actual number of persons of each nation-Literhoy. Table II-B: Ality literate in any language and literate in English; the standard of literacy adopted was the same as that which has been accepted for census purposes throughout India, namely the ability both to read and write a simple letter. The number per mille of each nationality who have been recorded as literate by this test is shown below :--

•	Num	PER PER MIL	L <i>E</i> ÉTTERATE	: IN
National ity.	Any l	anguage.	En	glish.
	Males.	Females.	Males.	Females
Total population	360	176	251	116
Europeans	867	292	862	276
Anglo-Indians	838	730	808	703
Indians	213	110	76	80
Asiatics	"25 7 [·]	· 48	57	

The few Europeans (5 males and 10 females) who were recorded as literate, though not literate in English, are, presumably, amongst those born on the continent of Europe.

Amongst Christian males only 837 per mille and amongst Christian females only 717 per mille are above ten years of age; amongst Europeans the corresponding numbers must be even lower; it follows that practically all male Europeans except very young children are literate, but the extent of literacy amongst the females is surprisingly low.

The number of Anglo-Indians is so small that the figures concerning them cannot be taken as indicative of any general conditions prevailing amongst them; even so these figures are most arresting. Only 33 per cent. of the 'males are recorded as literate; but 73 per cent. of the females, which covers the whole of the adults, were so recorded. The uneducated members of this community would be less likely to be following occupations enabling them to take their women-folk to Dalhousie than the others, and this partly explains the figures which can also be partly explained by the 'presence of a large number of small Anglo-Indian boys in the station.

Amongst Indians the standard of literacy is very much higher than, in the Punjab as a whole; amongst males it is much the same as in the large cities and towns of the province, but amongst females it is very much higher even than this. In a cantonment a comparatively high standard

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. of, education is to be expected, but the figures for, females cannot be explained, entirely in this, wayn a fact, which does help to explain them is that, members of the lower grades of Indian Society in Dalhousie; are usually unaccompanied by their wives and daughters.

Amongst the total population of 6,821, the unusually high proportion not 4,681, are recorded as actual workers, only 2,140 persons being dependent upon them; as there were 1,166 children of less than ten years of age in the station "this leaves only 974 dependents of mature years, a very small number indeed.

i The occupational distribution of the total population and of actual workers per mills as recorded at both the summer consuses is given below:-

14

• • •			P NUMBER P	BR MILLE,	
Ocenpation.		‡ T o	tal,	Actual	workers.
		#1911.	1931.	1911.	1921,
_	,	1			
Government service, etc., Officers Nou-Commissioned Officers Soldiers, etc.	••• • etc.	866 (83) (55 (278)	303 (39) (54) (210)	366 (4) (13) (3 J 9)	235 (18) (44) (223)
Traders Trausport Workers Conlies		64 88 (27)	101 97 (92)	40 48 (34)	88 118 (110)
Drivere Domestie Servants Luving on Private Means	899 867 681	(6) 197 21	(5) 218 9	(9) 223 10	(8) \$40 7

The only classes which have decreased relatively to the total population are those in Government service and those living on their private income; the latter are too few in numbers to have any effect on the population as a whole, and this table brings out very clearly the fact—which has already been noted—that the decline in population is entirely due to military movements.

The actual decrease in the number of Government servants and their dependents is 714 or 26 per cent. against 771 or 10 per cent. in the population as a whole; the decrease in the number of people engaged in occupations subsidiary to Government service or in ministering to the wants of those in Government service must be far more than 172 which is the number by which those recorded as of "other" occupations has declined; we may safely conclude that had the number of Government servants in 1921 been the same as in 1911 the total population would have shown a considerable increase.

The decrease in Government servants is mainly amongst the rank and file, the actual workers amongst whom have fallen by 46 per cent., whereas the numbers of active officers and non-commissioned officers have shown an increase; there were fewer troops in the station in 1921 than in 1911 though the office establishments had increased.

The trading community shows a surprisingly large increase, 42 per cent. in all and 80 per cent. amongst actual workers; it is impossible to believe that the trade of the station has increased at this rate and the increase must be mainly amongst petty shop-keepers.

The even larger increase amongst coolies has not much significance, the numbers of these are constantly fluctuating according to the needs of the moment. The decline in the numbers of domestic servants is in no way proportional to the decline in Government servants and "others" who employ them, but this fact is not surprising as the class of Government servants in which the decrease has occurred is not one employing many domestic servants; the number of officers has increased and it is amongst them that the majority of domestic servants look for employment.

The number of people living on private incomes has dropped considerably since 1911 but still shows the same feature of a large predominance of females, due, it is understood, to the fact that several resident ladies own house property in the station.

30. The definition of a house for census purposes will be found in the instructions issued to the enumerating staff

Locality.	ŀ	Number of hous	
•		1911.	1921.
Potrehn	·	98	180
ebra.		184	283 228
akrota Mar Bazar	 	190 . 802	28.3
Manicipality		774	923
Cantonment	••• [·	788	010
GRAND TOTAL		1,563	1,586

and reproduced as Appendix I to this report; two parts of one building occupied by separate families and shut off from one another formed separate "houses" under this definition. The number of occupied houses recorded at the two summer consuses is given in the margin; there appears to have been a general increase throughout the municipal area, but the peculiarities of enumerators in applying the definition of a house are so great that it would be rash to attempt to draw any general conclusions from the figures.

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SUMMER CENSUS, DALHOUSIE. JUNE SOTH 1921.

			1
TABLE IRELIGION,	SEX AND AGE WITH	Corresponding	FIGURES IN 1911.

		Au	E RELIGIO) 35.		HINDUS.	,	V I	DIC DHAI	в м.	[SITH,		N	[USALMAN			Christian			PARSI	
Age periods.		Persons.	Mido.	Femuler.	Pertons.	Malee.	Pomales.	Persons.	Maler.	Females.	Persons.	Males.	Pemales.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons,	Males.	Pomalue.
All sgre, 1921 All ages, 1911	• • •	6,821 7,593	4 853 5.826	1,968 1,706	2,674 3,210	1,96 9 2,456	705 754	47	82 [°]	15 	145 180	98 109	47 21	1,895 1,795	1,421 1,899 166	474 896 143	2,058 2,445 422	1,928 1,855 216	725 : 590 206	7 8 1	5 4,/	3
09, 1921 09, 1911 1014, 1921		1,186 944	629 802 241	537 442 168	884 877 189	217 197 122	167 180 67	18 7	6	7 1	87 11 10	28 7 5	14 4 5	809 178 112	98 75	00 37	888	205 88	178 58	•••		1447 2.100
10—14 1911 15—19, 1921		404 896 654	490	130 184	202 293	152 22 6	50 73	5		⁻ 1	10 16 8	7 10 6	8 . 6 3	115 194 166	79 150 188	86 44 33	60 141 82	29 100 65	81 41 17	1 	1. 	***
15-19, 1911 20 and over, 1921 20 and over, 1911	1	652 4,597 5,708	431 8,498 4,095	121 1,104 1,088	295 1,808 2,386	226 1,404 1,881	69 899 455	 53	16	6 	82 1C1	60 89	9 22 12	1,280 1,841	1,080	250 247	1,404 1,920	979 1,556	425 864	6	4	2
Delail for 1991.		-,					1	'			-	ł					. 		:			
Under 1 1 1 1	+ ; ; ; ;	111 87 123 106 117	68 68 68 71	58 45 56 41 46	27 80, 45 87 89	16 18 98 22 19	11 12 22 15 11	1 2 1	1 	· 1 1	8 5 1 2 2	2 2 1 1 2	1 8 1 	25 17 25 26 87	7 8 18 17 24	16 9 12 9 18	55 85 49 40 47	27 14 28 24 36	18 21 21 16 21 21 21	···· · ••• ··· ·		1770 118 740 870 870
5-9 1014 1519 4024 1529		628 404 654 1,201 928	882 241 450 992 661	291 168 164 909 262	\$15 189 298 372 871	119 122 126 274 287	96 67 72 98 84	9 7 5 8 7	4 - 4 - 3 - 8	5 1 1 	24 10 16 16 12	15 5 10 12 7	9 5 4 5	179 112 194 198 287	97 75 150 158 231	82 87 44 45 56	196 86 141 611 246	97 83 100 549 138	99 58 41 62 118		···· ···· ··· ·1	-1+
n' 184	 	762 544 855 263 280	545 403 265 218 174	917 141 87 60 56	821 203 169 109 120	251 158 182 95 95	70 85 87 14 26	2 5 1 8	2 5 ""2 ""	 1 1	9 . 18 5 15 5	8 5 10 5	1 5 •••	200 209 115 92 65	164 159 95 79 56	86 50 20 18 9	228 114 65 49 89	118 63 86 82 18	110 51 39 17 31	2 1		···· ···
3064 1569	994 944 944	97 118 89 60	77 90 24 41	20 28 15 19	85 54 21 28	28 40 14 20	7 14 7 8	1	1 	 	- 1 - 4 - 9	 8 	1 1 	84 58 6 21	28 43 4 18	6 10 2 8	24 7 10 11	19 4 4 8	5 8 13 8	2 •••	1	1

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Nors 1.--The Vedic Dharm were included amongst Hindus in 1911. # 2.--Two Buddhists and two Jains were enumerated in 1911, and are included in the aclumns for "All religions"; none were enumerated in 1921. # 5.--The figure 4 in the first column means those who had completed four years of age but had not completed five years; similarly with all other figures in this solumn.

31

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. .			TOTAL.		e Europea	LUE AND ALLI	ED BACBS.		NGLO-INDIA	Nd.	IND	TANS AND ABI	ATICS.
	District, State or Country where born.	Persons.	Males.	Females.	Persons.	Malos.	Females,	Persons.	Males.	eus à Females.	Persons.	')is Males.	Females.
	Total population,	6,821	4,858	1,968	f 1,661	1,066	595	76	19 89 1- 1- 1	1 87	5,084	3,748	1,386
1;	Total A Districts and States with- in the Punjab.	4,152	8,019	2,199	138	68	70	55		<u> </u>	3,959	2,927	- 1,032
	Total A-1,-Districts within the Panjab.	8,121	2,218	905	120	. 60	60	5+		30	2,947	3 ,182	815
	Hissar Rohtak Gurgaon Karnal Ambala Simla	5 7 21 103 85	9 5 7 10 77 18	. 2 11 25 17	 27 6	 24 1			••• ••• 1 9	988 * 6 4 8 * * * * * * * * * *	5 7 5 20 73 27	*3 *7 *2 *9 \$1 14	13 11 13 13
•	Kangra Hoshiarpur Jullandur Ladhisna Ferozopore	298 935~ 129 20 57	287 287 97 16 47	56 48 82 4 10	*** 1 ***	 8 2	 			· · · · · · · · · · · · · · · · · · ·	295 332 178 20 52	237 284 97 18 45	56 48 81 4 7
ì	Lahors Amritaar Gurdaspur Sialkot Gujranwala Sheikhupura	489 168 1,051 1,54 60 1	284 95 720 128 49 1	205 68 831 26 11	59 4 8 3 1	19 4 6 9 1	46 	40 40 4	14 .3 	98 	891 156 1,089 151 69	i 258 88 713 196 48 1	1 188 168 828 26 11

18 19 20 21 23 23	Gujrat Shahpur Jhelum Rawalpindi Attock MianWali	26 11 33 66 3 1	23 34 41 1 1	4 3 9 25 2	••• ••• •••	•••• ••• •••	•••• ••• ••• •••	· · · · · · · · · · · · · · · · · · ·	1993 974 1 1	•••• •••• ••• •••	26 11 83 62 3 1	22 8 24 37 1 1	4 9 75 - 2
24 25 26 27 28 29	Montgomery Lyellpur Jhang Multan Muzaffargarh Dera Ghazi Khan	2 4 8 36 1 8	2 3 39 1 4	1 1 7 	••••		 	 	· 400 , 101 011 010 010 010	10 1 1 1 1 1	2 4 3 34 1 8	7 3 28 1 4	1 1 6
• ,	Total A-2 - States within the Punjab.	1,/ 31	803	228	18	8	10			1	1,012	795	\$17
50 51 32 38 34	Bashahr Kapurthala Chan.ba Patiala Babawalpuk	20 7 913 90 1	20 2 712 68 1	5 201 23	2 13		 2 8 	···· ···· ···· 1			20 7 911 73 1	20 2 712 60 1	5 199 13
• e	Total B Provinces and States in India.	1,157	834	323	69	33	36	19,	15	4	1,069	786	283
	Total B-1British Provinces	538	394	144	62	31	31	13	10	· 3	463	353	110
35 36 37 88 39	Baluchistan Bengal bombsy Burma Central Provinces	27 115 21 27	16 98 11 14	11 17 10 2 13	6 23 8 2 1	5 13 5	, 1 10 3 2		8 	 	21 84 13 26	11 77 6 	10 7 7
40 41	Delhi Madras	21 17	17 10	4	2		1		"1	··· 3	19 12	16 8	3
42 43	North-West Frontier	45 263	33 195	13 68	2 17	2	14	1	1	····	· 43 245		12 54
•	Total B-2States and Agencies	819	440	179		2	-5	6.	5	. 1	606	433	173

SUMMER CENSUS, DALHOUSIE, 2018 JUNE 1921.

TABLE II-A .- NATIONALITY AND BIRTH-PLACE-concluded.

			Total.		RUBOPE	ANS AND ALLI	: BD BACSS.	Å.	KGLO-INDIA	38.	INDI	THE THE BUT	TIC8.
Serial No.	District, State or Country where Forn.	Persons.	Mules.	Females.	Fersons.	Males,	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.
45 46 47 48	Central Indian Agency Gwalior Hydersbad Kashmir Bajputana Agencies	1 6 1 597 4	1 4 9 423 4	2 2 175	 1 6 		 5 	 4 2 4		1	1 6 589 4	1 4 5- 419 4	2 1 17J
	Total CCountries in Asia	57	35	22	1		.1	· · · ·		***	56	85	21
49 80 51	Nipal	28 18 1	8) 4 1	8 14 				····	958 - 989 - 999	 	38 17 1	80 4 1	8 13
	Total DCoantries in Europe	1,438	957	481	1,438	957	491						
52 53 54	England Wales Ireland	1,371 16 22	929 8 12	442 8 10	1,371 16 22	929 - 8 12	442 8 10			· ••• '	F 4 4 4 - 1 4 4 - 1	 	0 - 5 0 - 5 0 - 5
55 66 57-	Belgium	16 6 7	- 8 	8 6 7	16 6 7	8 	8 6 7	···· 	••• •••	400 · · ·	**** . ***	**** **** ***	
58	Total EAfrica	4	2	2	2	. 2	· · · · · · · · · · · · · · · · · · ·	3		8		***	·
59	Total FAmerica	7	5	2	7	5	2				•••	••••••	···
60	Total GAustralia	6	1	6	. 6	Ŀ.	5				•••		

NOTE .--- Under Indians and Asiatics the 56 persons shown in Total C. were Non-Indian Asiatics and the remaining 5,028 were Indians.

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SUMMER CENSUS, DALHOUSIE, 30TH JUNE 1921.

· •

	·	TOTAL.	•		LITERATE.		· · · ·	ILLITEBATE,		Life	BATE IN ENG	LISH,
NATIONALITY,	Persons.	Males,	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.
				·								-
Total population	6,821	4,853	1,968	2,092	1.746	340	4,729	3, 167	1,622	1,445	1,216	229
European and allied races	1,661	1,066	595	1,098	924	174	433	142	421	, 1,083	919	164
Anglo-Indians	76	39	37	40	13…	27	36	26 ·	10	38	12	26
ndiaz a :	5,028	3,713	1,315	944	800	144	4,084	3,913	1,171	322	283	39
Asiatics	56		21	10		1	40	26	20	2		•74

TABLE II-B. - NATIONALITY AND LITERACY.

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TABLE III-OCCUPATION.

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-							Goversie	IT, STATE AN	D MUNICIPAL S	BRYANTS.			<u> </u>		* *	
-	· •	Toral.			Officers.		No Si	n-Commission Ibordinates at	ed Officers, nd Cierke.	Bo	lditro, Con MRI	stables. Me pecified.	nials and		Traduci.	
1:	l'er.on .	Males.	f cmal es.	Persons.	Malca.	f emale.	Persons.	Kalon.	F can alca.		Рспова.	Males.	Pcmales.	Pericus.	Males.	Female.
1951													.			-
Total population , Actual workers Dependents	6,921 4,6>1 2,140	4,853 4,119 784	1,968 583 1,406	253 86 177	182 86 45	131 131	208 161	281 170 • 81	93		1,431 1,044 387	1,104 1,000 104	327 44 283	688 404 284	403 852 111	225 53 178
1911 Total population Actual workers	7,592 5,540	5.826 5.213	1,76 ⁴ 32 8	250 23	103 23	147	417	, 90 63	827 8	21	8,110 1,934	1,963	146	486	914 216	170 8
	2,053	614	1,488	287	80	147	845	\$7	819		176	32	145	260	9 3	162
Down Janet				227 Traysport			848		819		176		144	<u> </u>	· · · · ·	162
Them as Junch			1,488						TRETIC SERVANT		176		144	<u> </u>	93 Отняня,	
Domina Junita		614 Coolies oj	1,488			147				s.	176		144	<u> </u>	Oteses,	
Demonstrates 1	2,053	614 Coolies oj	1,486 I all sorts.	TRAMBFORT	Mule	147 and cart driv	ers.	Don	CRETIC SERVART		176 Livine c	33 	144) Отнжня,	; ,
Dependents	2,053	61▲ Coolies oj	1,486 I all sorts.	TRAMBFORT	Mule	147 and cart driv	ers.	Don	CRETIC SERVART	s.	LIVING C	33 	144 IXCOMЯ.) Отнжня,	; ;

CHAPTER IV .- RESULTS OF THE CENSUS IN MURREE.

81.

·Census.		· · I	OPULATION	r.
- Cedige,		Municipa- lity.	Canton- ment.	Total.
Winte.	<u> </u>			
17-2-1881		1,821	668	2,499
23-2-1891		1,4:9	809	1,748
1-8-1:01	***	1,517	837	1,844
10-8-1911		1,861	841	1,705
19-3-3931 Sum net.		2,897	895	8,293
33-6-1911		8,756	8.143	16,991
80-5-1921		1		15,824

The results of the census been tabulated in four statements

which appear at the end of this chapter. The total population enumerated consisted of 15,824 persons and this number is compared with figures recorded at previous censuses in the inset table.

As in Dalhousie, the population is very largely military and does not follow any regular laws of growth but fluctuates in accordance with military necessities. It is practically uselers to attempt to trace general tendencies in

report must consist solely of an explanation of the figures recorded; further censuses must be awaited before changes in the population can be distinguished as fortuitous or as due to regular growth.

Perhaps the most striking fact in the statement shown above is the very large increase in the winter population in the last decade; but this is rendered less significant when it is noted that the cantonment population happened to be far larger in 1921 than in any other year, and that the municipal population has always shown a tendency to vary in direct proportion to that of cantonments.

32. Only twice has a census been held in this station under hot weather conditions, and the figures on record are Seasonal variation in the population.

not sufficient to enable us to form any general conclusions as to the extent of the annual migration; but we see that in 1921 the summer population was about five times that of the winter and that in 1911 it was almost ten times; we have already seen that the 1921 winter population was unduly large owing to the presence of far more people connected with the army than is usual in the cold weather, and we may safely say that the station is of practically no importance in the winter and is then only populated by the few people necessary for its upkeep and by a few permanent residents connected with the surrounding country.

It is therefore useless to discuss the composition of the unimportant winter population, whilst as the summer population depends oni military exigencies little good can be derived from an elaborate comparison of the figures recorded at the two summer censuses.

Classification of the population by race or nationality only con-33. sisted of the rough division into European and Nationality and Birth-place.

allied races (Australians, Americans and so on being included in this term), Anglo-Indians, Indians and Asiatics. Only five non-Indian Asiatics were enumerated and these were Lorn in the United Provinces and were not immigrants to India; it is unnecessary to treat these Asiatics separately from Indians in the succeeding notes.

The figures for the three muin groups at the two summer censuses are given below :--. . .

R 266	POPULS	TION.	NUMBER	por mille,
	1911	1921	19;1	1931
European and allied races	5,027	5,780	297	865
Auglo-Ladiana 🛄 👘	158	- 290	<u>,</u> 9	- 14
Indians and Asiatics	11,749 ·	9,821	694	631

It is at once evident that at present the whole station is entirely dependent for its existence on its European visitors and that the Irdian population is practically only subsidiary. The following tables show the localities from which the largest numbers of all classes are drawn according to their recorded birth-place :---

TOTAL ROPULATION.	Eu	BOPBAN I Ra	CRS.	Awelo	indians.	INDIANS AND Asiatics,		
and a second		1911	1931	1911	1931	1911	1931	
Total m		5 ,027	5,780	158	220	11,749	9,694	
Labore District		49	151	13	7 3 •	190	171	
Rawalpiudi District	🦾	192	1-5	23	-44	3,6 18,	8,435	
Rest of the Punjab		283	79	43	84	2,442	1,923	
Punjab Province		471	402	79	120	6,280	5 ,53 J	
North-West Frontier Fraviace		\$1	\$3	8	3	441	454	
United Provinces]	98	833	37	48	1,220	J ,060	
Kashmir State		8 .	·	. 1 [.]	· •••	3,413	2,577	
Rest of India		881	210	<u>\$8</u>	49	318	203	
India	•	1,004	978	169	220	11,672	9,824	
British Isles		8,921	4,733		-	1		
Rest of the World		102	60		765 S	76	100	

Number per mille.		& Allied Aces.	Anglo-	India we.	INDIAN & ASIATICS		
	1911.	1921.	1911.	1921.	1911	1921.	
Inhore District	10	26	82	191	19	· 17	
Rawalpindi District	35	30	145	200	811	850	
Rest of the Punjab	46	13	272	154	208	196	
Panj de Province	96	69	500	545	535	563	
NW. F. Province	10	6	19	14	85	46	
United Provinces	19	- 69 -	234	218	104	168	
Kashmir State	1		5		290	282	
Rest of India	76	36	24 L	223	27	21	
India	200	160	1,000	3,000	994	1,000	
British Isles	750	819	-	·			
Rest of the world	10	19			6		

In 1911 one-fifth whilst in 1921 only one-sixth of the Europeans had been born in India. This decline may be attributed to two causes, the more important being that the Great War had changed the composition of the army with the result that fewer members of it in India had a hereditary connection with it, the other being the gradually increasing reluctance of Europeans in service in India to seek employment for their children in the same country.

The Anglo-Indian community was drawn from much the same parts of India in 1921 as in 1911; rather more than one-half were born in the Punjab, the two most widely represented districts being Rawalpindi, in which Murree itself lies, and Lahore which contains a larger population of AngloIndians than any other district in the Province. Outside the province the most widely represented provinces were Agra and Oudh, Bombay and Madras. The Indians also show very much the same distribution by birth-place in the two census years. Naturally a very large proportion (35 per cent.) were born in the district in which Murres is situated; the next most widely represented tract being the Kashmir State which is very close to Murree and which supplies a large number of workmen and small traders to the place.

Referring to Table II-A for the distribution of the Punjabi element, it will be seen that all districts of the Rawalpindi Division supply large numbers and that outside this division the most widely represented districts are Sialkot Lahore, Ambals, and Jullundur, all of which contain large cantonments; it may be concluded that apart from Indians drawn from neighbouring tracts the Indian population consists largely of men such as followers who depend indirectly on the army for occupation and form a migratory population moving in the wake of the troops.

31. At the request of certain representatives of the Arya Samaj, Religion.—Table I. members of this community were enumerated separately and are shown as belonging to the

Vedic Dharm religion in Table I, but it is quite certain that many members did not avail themselves of this opportunity and recorded themselves as Hindus, thus rendering the separate figures useless.

The number of persons belonging to each religion, with the number of

_	Forul	ATION,	NUMBEB per mille.			
Religion.	1917.	1931.	1911.	1921		
Hindu	3,872	3,401	229	215		
Sikh	. 616	535	80	81		
	. 27	19	3 .	1		
Mumman		6,241	407	331		
Christian	. 6,509	6,62.	\$25	419		
Parsi	. 16	9	1	1		

each per mille, for both the summer censuses is shown in the margin. Both actually and numerically Christians form the most important part of the population; whilst next in importance are the Musalmans who are very largely represented amongst transport drivers, regimental followers and domestic servants. The Hindus supply the trading element of the community and also comprise a large number of coolies and casual labourers from Kashmir.

The only noticeable change in the religious composition of the community in the two census years is that Christians have increased whilst Musalmans have decreased out of all proportion to the decrease in total population. This change is due entirely to changes amongst the summer immigrants, for deducting the winter residents of each religion from the numbers recorded in the summer we get the following figures for summer visitors :--

		SC MAR	isito¤¢,	·	
	Re]:g!on.		1911.	1921.
Hindu				8,526	2,900
Sikh				4 83	278
Jain		. e		27	12
Muralman	L	•••	· ···]	6,941	8,850
Christian	148	· ·		6,179	5,991
Parsi			·	16	7
					[

Military requirements, and in particular the large replacement of mule-drawn vehicles by mechanical transport, may account for some part of the decline amongst Musalmans; but more light will be thrown on this point in paragraph 38, which deals with occupation.

We have already noted that the number of Europeans and Anglo-Indians, who are nearly all Christians, amounts to exactly 6,090 persons, so that there must be at least 624 Indian Christians amongst the population enumerated, which is practically double the number in 1911 when there were only 314.

35. The number of persons in each thousand of each main religion in every five-year age group is shown in the margin.

	Ì		1	1		1
Age-group	p.	Hindu.	Sikh.	Musslman.	Christian.	Normal.
40 4		P2	88	53	78	188
59		9)	73	53	70	149
°C 14		88	67	60	79	117
5-19		99	135	104	85	82
0-24		124	168	140	847	78
1529		135	123	178	127	82
0 3 4		115	107	147	94	76
15		69	59	83	56	53
10 - 44		66	52	69	2:5	58
15 — 4 9		31	84	- 81	15	87
0 - 54		89	47	41	9	40
55 - 59		9	13	4	4	1 19
<u>ኡነ—84</u>		18	33.	16	6	33
35		2	4	3	6 2	10
70 and over	***	15	5	8	8	24

The last column in this table shows the distribution by age of the total population of the Punjab as recorded in March 1921 and serves as a guide to the normal age distribution, from which the figures for Murree differ very considerably. In all religions the number of children and of old people is very far below the average for the Province, and the number of persons between the ages of 20 and 40 is in great excess; in other words the population of the station is mainly one of workers of the wage; earning ages. This fact is less marked amongst the Hindus than amongst the others, which indicates that a certain number

of the Hindu residents have quasi-permanent homes in the station, as would be expected from the fact that Murree lies in a neighbourhood where the indigenous population is almost entirely Hindu.

It may be be noticed that the Sikh immigrants tend to come to the station at an earlier age than the Hindus and Musalmans, and this is doubtless due to the fact that a large proportion of the Sikhs are carpenters and artisans whose children start work at an early age.

The peculiar composition of the Christian population with its great excess of persons between the ages of 20 and 35, is entirely due to the presence of British soldiers, a fact which is seen still more clearly on consulting the figures for sex in Table I, for between these ages there are only 677 women as against 3,083 men.

35 In the Punjab as a whole there are 828 females to every 1,000 males, in Murree at the summer census there were only 241. The proportion amongst Europeans was 406, amongst Anglo-Indians 934 and amongst Indians 297. The

figure for Europeans who include so many unmarried British soldiers is not a surprising one; the few Anglo Indians who visit this hill-station are almost all accompanied by their wives and familie, and it is natural to find a high proportion of females amongst them; the Indian population is mainly one of immigrants in search of employment and largely one of military followers, and would be expected to show a very low proportion of females, but even so the very small number of these is remarkable.

The number of females to a thousand males of each religion is shown in the margin and compared with corresponding figures for the March census for the station and for the Punjab as a whole.

a. 11. 1	NUMBER C	NUMBER OF FRMALES PER 1,000 MALES.							
E. ligion.	Murree, June.	Marree, March,	Panjad, March,						
Ricda	4.16	359	5:9						
Piku	j 8 31	179	765						
Musiman	922	145	844						
Eliziation	[8 ⊎9	1,285	788						
Total	841	8,5	823						

In every religion the number of females is far below the average for the province; the most peculiar point howover is that, except amongst the Christians, the proportion of females actually declines in the winter. This at once shows that the winter population is even more abnormal in its composition than that of the summer; the winter population in fact is not composed of residents who remain in the station kent up by their duties and who her

throughout the year but of immigrants kept up by their duties, and who, being in the main residents of the plains, do not care to keep their women-folk in the inclement climate even if they have had them with them in the summer. The figures for Christians are peculiar, of course the large number of unmarried soldiers accounts for the summer predominance of males; that females predominate in the winter is due to the fact that the winter population is largely composed of school-children amongst whom there are more girls than boys.

37. The term literate, for census purposes, refers only to those persons who can read and write an ordinary simple letter; out of a total population of 15,824 the number recorded as literato was 6,980 or 41 per cent. The number per mile of each nationality who were classed as literate in any language, and as literate in English is shown in the inset table.

	NUMBER PER MILLE LIBRATE IN									
Nationality.	Any la	•guage.	Eng	lish,						
	Walo.	Female.	Mal'1.	Female						
Total populati n	450	416	878	379						
Europeans,	938	648	932	889						
Anglo-Indiana	741	926	723	917						
Indiana 👘 📖	183	71	78	12						
Asiatics	667		·							

Only 529 Europeans and 37 Anglo-Indians were recorded as illiterate.

and as there were 975 Christian children of under ten years of age, of whom 514 were less than five years old, it appears that there was practically no illiteracy amongst these races. It is curious to note that 18 males and 14 females amongst the European population were shown as literate though not literate in English; an examination of the birth-places of the Europeans shows that it is unlikely that these figures are correct and they probably arise from schedules by the persons concerned

orrors made in filling up the household schedules by the persons concerned.

It is only in regard to Indians that the figures for literacy have any great interest; the standard amongst them is extremely high compared with that for the Punjab as a whole, or even with that of the largest towns taken separately; this is to be expected amongst males in a station so largely composed of military and official elements; the female standard of literacy is even further above the normal than that of the males, but this is due to the fact that very few females of the lower ranks of Indian. society are brought to the station.

38. Ten thousand two hundred and thirty-five persons or 65 per cent. Occupation.—Table III. of the total population are recorded as actual workers, and of these 9,843 or 98 per cent. are males; there are only 55 dependents to every 100 workers of both sexes. These few facts alone illustrate what a totally artificial population is being dealt with in this report.

ACTUAL WORKERS. Number of dependents to 100 workers. Occupation. Number per Number. mille of the to'al. Officers 820 81 200 Non-Commissioned Officers, Subordin des and 796 78 101 Cierke Boldiers, Constables, Moninia 2.950 288 86 .,, *** 798 77 73 Traders ***

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Total

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Transport coolies

Others

Trausport Drivers

Domestic Servauts

Living on private incomes

The number of actual workers in each occupation, both actual and *per mille* of the total, and the number of dependents to every one hundred workers is shown in the following table :--

Three hundred and ninety-seven per mille of the actual workers are in Government or municipal service and 19 per mille are people possessing private incomes of their own; apart from a few visitors who come to the station on leave, and a considerable number of women and children who are dependents on men working in the plains, the station exists practically entirely to meet the needs of the army and a few civil officials; persons following other occupations are ultimately dependent on this nucleus of officials and persons with private income. It is therefore interesting to note the numbers of actual workers in other occupations to every thousand persons who derive their income from Government or from private means; these numbers are as follows:—

The table illustrates very clearly the decline in the standard of living

ACTUAL WOBKERS IN BYBBY 1,000 WORK GOVEBNERT PRIVAT	BS AND DEPRN	DENTS IN
Occupation.	1911.	1921.
Traders Transport Co lies Transport Drivers Domestic Nervants Others	· 12i 81 7 4.0 438	115 74 3 800 382

which has occurred amongst the official and capitalist classes, for a fixed number of 1,000 persons directly dependent on official pay or on their own capital there were only 871 persons working in their service or to supply their needs as against 1,137 persons ten years previous'y. The decline in domestic servants is particularly remarkable.

When dealing with religion in paragraph 54 it was noted that the numbers of every religion except the Christian had declinel, and a particularly noticeable decline was shown amongst Mu-almans; here we see the same fact in another form, the numbers engaged in all subsidiary occupations have declined, particularly the number of domestic servants, whilst the number of persons receiving their income from sources outside the station has risen.

39. The definition of a house for census purposes will be found in the Occupied houses. instructions issued before the enumeration which are reproduced as Appendix I to this report. The numbers of occupied houses recorded in the summer censuses of 1911 and

1921 were 3,168 and 2,853, respectively; the average number of persons to 100 occupied houses was 535 in 1911 and 555 in 1922.

In spite of a decline in the population, the number of persons to each occupied house has risen; this shows that there can be no pressure on the accommodation available, and perhaps shows a tendency towards communal life in the interests of economy.

SUMMER CENSUS, MURREE, 20TH JUNE 1921.

		. Alč	BBLIGIO	·s. \		H _{INDU.}		VED	IC DHA	BM.	<u>.</u>	SIE H.		м	UBALYA		<u> </u>	IBISTIÁ		t	JAIN.		 	D	;
Age periods.			'	.					,		1	i 							1			<u> </u>		PABSI.	<u>.</u> 1
·····		Persons.	Males.	Fema ca.	Person1,	Males.	Femsles,	Ренкопа,	Mal 4.	Fr males.	Persons.	Yales.	Females,	Persens.	Males.	Feualos.	Persona,	Males.	Pemal-s.	Per sons	Males.	Females.	l'ersona.	Males.	Females.
A'l ages, 1921 All ages 1511		15,824 16,934	11,799 12,999	4,025 3,985	8 396 3,872	2 349 2,757	1.047 1,085	- 5	8	2	585 616	405 477	150 139	5,248 6,892	4 291 5,375	952 1,2 7			1,890 1,481	12 87	9 19	8. 8	9 16	я. 12	: 1 : 4
u — 9, 1921 0 — 9, 1911	6. 60.	2, 254 2,396	1,211 1,258	1,073 1,138	648 7 <i>2</i> 7	824 850	, 324 337	ł	· 1	, Paĝ	86 68	56 45	30 13	570 740	821 894	249 846	975 862	505 421	470 441	3 5	`8 5	,	- 1 8	1	-
0 -14, 1921 0-14, 1911		1.214 1,072	788 709	476 863	299 1ບ1	183 84	115 67	 	••• /		86 67	24 53	12 14	356 4/6	267 865	ғ9 111	52" 152	283 98	269 154	2	1 2	1	••••	<i></i>	
15-19, 1221 1519, 1911	•••	1,514 1,853	1,187 1,021	827 832	837 360	237 2€0	- 100 100				67 67	51 65	16 12	545 684	439 5≿5	86 99	565 286	440 117	125 119			••• 2*	ï		· •••
20 and over, 1921 20 and over, 1911 Ditail for 1921		10,812 12,113	8,6-3 10,0,1	2,149 2,102	2.1 ¹ 8 2,510	1 605 1,946	508 564	4 	2	2 	845 424	274 821	72 100	8,772 4,992	3 244 4,8.1	529 651	4,582 4,159	8,526 8,372	1 08A 767	7 13-	5 5 9	2 6	8 12	- 7 8	• • •I ●
Under 1 1 2 4	300 300 300 300 300 300	16 8 168 207 252 233	157 88 108 188 124	128 60 99 114 105	79 15 65 76 75	42 9 81 45 40	87 6 84 81 85	1	1	····	10 5 9 18 10	5 4 6 5	5 1 5 6	69 18 4 76 69	43 5 22 41 38	25 8 25 85 81	13 129 83 87 59	f6 64 47 44 42	70 65 86 43 87	1	1	••• ••• ••• •••	•••	 1 	ras 555 555
59 5014 5519 12 - 24 6129	884 484 984 984 , 441 844	1 0.014	6C1 7>8 1,187 8,108 1,754	538 476 327 460 520	838 298 837 429 459	157 183 237 819 827	181 115 100 110 132	····		· 	89 86 67 90 66	29 24 51 64 53	10 12 1# 26 13	295 353 545 736 909	172 267 459 602 783	128 N F6 184 126	461 522 565 2,301 838	242 263 410 2,114 619	219 250 125 157 249	1 2 4	1 1 2		1 : ; ; ;	··· ··· 2	
3384 3589 4044 4549 \$054		- 780 896	1,409 838 605 291 835	482 267 172 105 * 84	890 235 224 116 129	806 191 171 84 95	84 44 58 82 34	1	1		57 81 23 18 25	48 29 22 14 19	11 2 6 4 6	772 461 860 161 212	676 893 815 140 159	98 63 45• 21 23	621 873 164 101 62	-880 216 98 53 81	241 157 . 69 48 . 81	2	2	••••	 8 1 	2	1
5559 6061 5569 70 ar.d over	···· ••• •••	200 82	67 158 23 77	22 43 9 26	80 62 4 *35	28 54 2 25	2 8 2 7	 1		 1 	7 19 2 8	6 17 2 2	1 2 1	23 82 18 48	20 71 18 87	8 11 6	29 87 12 23	19 16 5 10	18 21 6 12	000 108 			••• ••• •••	••• ••• •••	474 474 474 474

TABLE I.-Religion, SEX AND AGE WITH CORRESPONDING FIGURES FOR 1911.

1

Nore 1.—The Vedic Dharm were included amongst Hindus in 1911. Nore 2.— Two Buildhints, one male and one female, were enumerated in 1911, and are included in the columns for "all religions," none were enumerated in 1921. Nore 3.— The figure 4 in the first column means these who had completed four years of age but had not completed five years ; similarly with all other figures in this column.

SUMMER CENSUS, MURREE, 30TH JUNE 1921.

TABLE II-A .--- NATIONALITY AND BIBTH-PLACE.

1	, ,		Т таб.		·EUBOPE	ANS AND ALLIE	D BACES.	. Ax	glo-Indiá	N8,	ולא I	ANS AND ASIA	LTICS.
Corini No.	'District, State or Country where born.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Fomales
	Total Population	35.004	11 844							·	•		
		15,834	11,799	4,025	5,780	4,112	1,668 .	220	· 112	108	9,824	7,575	2,219
	Total ADistricts and States within the Punjab.	6 15 2	4,156	1,896	4/2	21	191	120	63	54	5,530	3,679	1,651
	Total A 1 - Districts within the Punjab.	6,035	4,142	1,893	402	2!1	191	140	66	54	5,513	3,865	1,648
1 2 3 4 -5 6	Hisser Bohtak Gurgaon Karnal Amrala Sinala	·7 18 18 17 173 64	5 16 10 16 139 - 40	2 2 8 1 34 24	 4 33	· ··· ··· ··· ···		 1 15	 1 8		7 19 18 17 168 16	5 76 10 16 134 10	2 2 8 1 34 6
7 8 9 10 11	Kangra en en Hosbiarpur en Jullundur Ludhiana po Ferczepore	16 74 151 40 71	15 64 127 15 50	1 20 24 25 21	 8 10		 4	 0 1		 6 2	18 74 -143 34 57	- 15 54 119 15 42	1 21 24 19 15
12 13 14 15 16 17	Lahore Amritsar Gurdaspur Sialkot Gujrenwala Sheikhupura	-364 91 -59 418 99	213 58 34 819 71	151 83 5 77 28	151 8 	63 8 	88 ***	43 22 	23 2 	19 4 	171 89 39 408 99	127 56 34 831 71	44 33 5 77 28
18 19 20 21 22 23 24 25 26 27 28 29	Gujrat Shabpur Jbelvin Rawalpindi Attock A Miar wali Montgomery Lyalijur Jhang Multan Muzafiargarh Dera Ghazi Khan	152 176 233 3,652 76 18 1 4 1 39 7	123 123 172 2,402 68 13 3 4 6 31 5	29 53 61 1,: 50 17 5 1 11 8 2		 88 8	4 81	•••• ••• ••• ••• ••• ••• ••• ••• ••• •	···· 24 ···· 6	···· 20	153 176 225 3,434 75 18 4 4 17 25 7	 123 123 168 2,290 58 13 '3 4 6 17 5	29 53 57 1,143 17 6 1 1 11 8 2
	Total A-2States within the Punj-	17	14	3	•••••				• •	····			

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30	Bilaspur	1 1	1	1 .		1		1	1	=		F ¥ }		
- N			1	9			•••	[[·		8	1	- 5	
82	Kepurthala	1 11	1 10	1	769	1	***			•••	1 11	1 10	·*. 1	
28 24	Patiala Bahawalpur	1 1					***		· ***	440 611	ï	ĩ		
	Total B Provinces and States in	4,970	8,980	990	576	238	338	100	40	54	4,294	3,696	598	:
	India. Total B-1British Provinces	2,359	1,708	651	576	238	338	100	48	54	1,683	1,424	259	
86	Ajmer-Merwars	8	. 3	e==		•*•	•41	". 3		•••	8	8	• • • •	•
\$6	Assam ·· ··	10	9 6			···· ·	` bus	4	8	•••	12			
- 37 88	Baluchistan Bengal	07	39	53	65	24	 41	7	7	414	25	8	17	
89	Bombay	1 21	· 45	36	41	18	23	19	11	. 8	21 -	16	· 5	
40	Burms		20	14	7	7	14,0				27	18	14	
41	Central Provinces and Berar	34	26	8			8+	j 2	•••	2	. 82	26	6	
42	Delhi	56 105	92 	24 42	81 66	12 39	19 27	1	10	1	24 25	20 14	4	
43	Madras North-West Frontier Province	490	388	103	83	12	21	3	.2	ī	454	374	80	
45	United Provinces	1,441	1,084	357	833	126	207	48	14	34	1,060	944	116,	
	Total B-2 States and Agencies	2 ,611	2,272	\$39			440				2,611	2,272	839	90
46	Gwaliar	9	8	1			***		*		9	8	1	•
- 47	Hyderabad	1 25	20	5	ł			<i>.</i>	•••		25	20 2,244	5	
48	Kashmir	2,077	2,214	833		141	•••		***	•	2, 57 T	2,2 3 0	813	.*
	Total CCountries in Asia	4++	***	***			•••							-
	Total DCountries in Europe	4,786	8,627	1,109	4,736	3,627	1,109							-
			•]	- -			- The second descent second		جفنيكتين خليته				-	
49	England and Walco	8,869	2,862	1,007	8,869	2,862 724	1,007		•••		•••		1	
50	Scotland	1 149	724	102	724	41	102	····	•••	***				
51	Ireland		- 			, ·		····					····	-
53	Total EAfrica		2	···	2	2				<u>*</u>	·	· · · · · · · · · · · · · · · · · · ·		-
	Total FCountries in America	30	19	11	80	19	.11			***		····		_
53	Canada	- 100	8 11	1 "iı	8 22	<u>8</u> . 11				•••	•			
34	America, unspecified	94	-	19	<u> </u>	15	· · · · · · · · · · · · · · · · · · ·			•••	····		••••	-
55	Total G.—Australia	84] 15	1.14	89		19							

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Norm.—Only 5 Asiatics other than Indians were enumerated, 3 were males and 2 females, all were born in the United Provinces.

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SUMMER CENSUS, MURREE, 30th JUNE 1921.

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TABLE II-B .- NATIONALITY AND LITERACY.

Total Population 15,824 11,799 4,025 6,980 5,307	Females.	Persons.	Males 5,493	Females.	Persons	htales. 4,464	Females.
Total Population 15,824 11,799 4,025 6,980 5,307	1,673	8,844	· ·	2,352		4 ,464	1,526
	1,673	8,844	· ·	2,352	5,990	4 ,464	•
	1			[ľ	
Enropeans and allied races 5,780 4,112 1,668 5,251 3,837	1,414	529	275	254	5,233	3,6 33	• 1,400
inglo-Indians 220 112 108 183 83	100	37	29	8	180	SL	9 1
ndians 9,819 7,572 2,247 1,544 1,385	159	8,275	6 ,187	2,088	677	559	27
Laiatics		3 	1	2	•••	•••	• • •

SUMMER CENSUS, MURREE, SOTH JUNE 1921. TABLE III-OCCUPATION.

	•		·	GOVERNMEET, STATE AND MUNICIPAL SEBVARTS.											
•	TOTAL			Officers.			Don-Commissioned Officers, Ssbordinates and Cierks.			Boldiers, Constables, Meniale and unspecified.			TRADUES.		
	Persona.	Males.	Females.	Persons.	Males,	Pemales.	Persons.	Males.	Forales.	Persons.	Males.	Fomales.	Persons.	Males,	Females.
Total pepalation	15,824	11,799	4,015	. 961	477	484	1,603	1,150	458	4,014	8,280	786			
Astual workers Dependents'	10,285 5,569	9,849 1,956	393	820 641	299 178	21 463	798	798 857	3 450	2,950 1,064	2,950 880		1,862 786 576	1,681 784 247	881 2 839

			FRANSPORT.												
	Coolise of all eoris.			Mule and Carl drivere.		Domestio Servante.			LIVING ON PRIVATE INCOME.			Ozkuši,			
	Parsons,	Males.	Females,	Persons,	<u>Males,</u>	Females.	Persons.	Males,	Fomales.	Persons,	Males,	Pomales.	Persons,	Males.	Females,
											1				
Total population	582	511 _.	21	84	85	49	2,748	9,168	575	258	214	- 40	4,262	3,988	1,829
Actual workers	504	503	2	22	22	40 E	2,050	1,987	118	190	184	Ġ	3,617	3,879	245
Dependente	38	9	19	63	18	49	698	281	462	78	80	48	1,645	5 61	1,084

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APPENDIX I.

INSTRUCTIONS FOR HILL STATION CENSUS, SUMMBR 19211

Preliminary arrangements.

1. Preliminary arrangements.—The area to be included in the Summer Census should be divided into charges, circles and blocks in accordance with the instructions laid down in the Funjab Census Code, Chapters I and II, and the General Town Register (see page 10 of the Punjab Census Code) filled up in manuscript form. A block should contain not more than 50 occupied houses. A circle should include 12 to 15 blocks and a charge should comprise 20 to 25 circles. The charges fixed at the General Census would probably do, but if they are not suitable, they should be altered. With reference to the much larger population to be dealt with, the number of blocks and circles will have to be more numerous. With the help of the census maps prepared last summer this work should be completed at once, and a new register of census divisions, i. c., The Charge Register, should be prepared in the form given on page 15 of the Punjab Census Code. For cantonments the form printed on page 3 of Appendix III should be used.

House numbering.—The house numbering made at the General Census should be utilised except where mistakes appear to have been made, and these should be corrected. The definition of house in towns and cities is given on page 1 of the Punjab Census Code, but certain explanations are needed. A bungalow is to be treated as one house (where two flats are rented separately each flat should be treated as a house) and each line of servants' quarters attached thereto (not every servant's room) should be assigned a separate number. The number will run from the bungalow to the lines of servants' quarters and then to the next bungalow. It is wrong to number bungalows in one series and servants' houses in another. In houses (other than bungalows) occupied by Indians, each structure with one entrance usually known as a house should be treated as one unit, even though there may be more families than one living . in it and each of them may have a separate hearth, unless there is a partition permanent or temporary separating two parts of the house, or unless, as is common in hill stations, the two flats of a house are rented separately and have separate entrances. Where a two-storied house has a common courtyard and separate entrances are .not provided to each of the flats the house must be treated as one. Hotels and serais should be treated as blocks, each room being considered a house. The hous in umbering should, where necessary, be corrected at once. Sub-numbers (101a, 101b, etc., should be used where that would obviate a general 're-numbering of houses, but

where the alterations 'are numerous re-numbering will obviate confusion. 3. Appointment of Census Officers.—As soon as the census divisions have been revised the census officers should be appointed. An Assistant Commissioner should be made responsible for the census work of the whole hill station under the general control of the Deputy Commissioner. He should be assisted by the Secretary, Municipal Committee, for the municipal area, by the Tahsildar or some other officer, for the rural area, if any, included in the hill station, and by a Military Officer for the eantonments including purely military limits. The Officer Commanding the Station should be requested to tell off for census work an officer who would be likely to, bake personal interest in R. The Assistant Commissioner should to into all details, one day the work in all its branches and give the necessary instructions.

4. The Charge Superintendents and Supervisors must be officials. The accurtey of the records depends on the efficiency of Supervisors, but experience has "shown that without effective supervision by the Charge Superintendents, the Supervisors are apt to make mistakes and grow slack and careless. Non-official Charge Superintendents have generally no time for the work or cannot be persuaded to give wholehearted attention to it. It is therefore best not to appoint a non-official as Charge Superintendent unless the Deputy Commissioner knows him personally and is sure that he will devote the necessary time and attention to to contain work.

and institutions at the hill stations during the summer will provide a large number of literates. Care should be taken to appoint only those men as Enumerators who are likely to be at the hill station from last to 30th June. Tempoary visitors to hill stations who may or may not be there on the Final Census night should not be mominated.

European or Anglo-Indian Enumerators should be appointed to blocks in habited chiefly by Europeans or Anglo-Indians. They should be given one indian Assistant each to prepare the record relating to the servants' quarters, &c. The European Enumerators will be responsible for checking the entries made in the house d schedules. The schedules filled up by his Assistant in Vernacular should be hol (in his book by the European Enumerator,

6. House List.—The form of House List prescribed for the General Census in March last should be used for recording the results of revised house-numbering. Thehouse-numbering of the military limits and cantonments, which is very simple, should not be put off till the last moment as this causes serious inconvenience in the arrange-ments for Preiminary Enumeration.

Note.-Column 4 of the House List and Block List is intended to show the number of families within each house and it should not run consecutively from one house to another.

7. The preliminary arrangements should be completed with the least possible delay. The dates for the different stages are given below :--(1,1)

(1) Preparation of Charge Register	s and house	-numbering		7 13 15
up to	Lg 0-14∙ +	- 5th	June	THE P
(2) Preliminary Enumeration	• •	- 10	th to 25th	June
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- (3) Final Enumeration ... 30th June night 8
 P.M. to midnight.
 (4) Collection of Provisional Totals ... Ist July.

8. The Charge Superintendents and Supervisors should, before the commence? ment of the Preliminary Enumeration, go carefully over their respective charges and circles, and with the help of maps compare the boundaries of their charges and circles with those of the adjoining ones in order to make sure that no house or habitation of any kind is left out, and that the charges and circles are strictly co-terminous. This. is a very important step and should not be neglected.

The Preliminary Record.

). The Enumeration Book will consist of-(1) B Cover,

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and the second

(2) a Block list,

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(4) Household Schedules, (if any). The form of Block List will be the same as that used at the General Census

of March 1921. The other forms will be similar to these mentioned in the Punjab * Census Code of 1921, Part I, but will have fewer columns. Definitions of these forms fare given in the Code. The cover will have only one leaf instead of two.

10. Distribution' of forms. A sufficient supply of each form will be sent to. hill stations as soon as possible. When the house-numbering has been revised and House Lists' have been prepared, the necessary forms will be distributed to each Enumerator through the Supervisor and Charge Superintendent. Reserves will be kept by Charge Superintendents and Supervisors in the manner laid down in para. 69 of the Punjab Census Code.

11. Training of Census Staff -- Most of the persons to be employed as Enumerς έ ators, Supervisors and Charge Superintchdents must have had something to do with the General Census, and will therefore rot require a long training. The schedule is moreover, a very simple one and a few hours spent by the Census Officer in explaining matters to his Charge Superintedents and making each of them fill up a schedule in his presence will enable them to instruct their Supervisors similarly the same day. The Supervisors can then collect their Enumerators and give them the necessary instructions. The whole process should not take more than two or three days. The interval of four days between House numbering and Preliminary Enumeration is

intended for training of the staff much a light to the staff of the st forms and instructions he should, copy into his Block Dists all the intrits "in the House

List that relate to houses in his block. The Supervisor should see that the entries are correctly cofied are accordance with the main and and and and and the state of the state of the state of the should then commence his first round visiting every house in his block in the order of the house numbers and fill up the entries in this schedules in accordance with the instructions printed on the cover. He should make a note on the Block List against houses for which Household Schedules will be required Except in the case of Enumerators who have had sufficient experience at the recent General Census, it will be advisable for each Enumerator to prepare his rough proliminary record on blank paper and have it checked and corrected (by) his Supervisor before copying it out on the printed forms. It must, however, be remembered that the checking and copying of the preliminary records should not be postponed to the last day, as it causes much confusion at the end. The following passage from paragraph 72 of the Punjab Census Code should receive special attention re-

"The Supervisors will thus be responsible for the accuracy of the preliminary record of all his Enumerators. Where the Enumerators are weak, it will save time and trouble if the Supervisor will himself prepare the preliminary recordkeeping the Enumerator with him. He can have a few entries made by the Enumerator in his presence by way of practical training. Only clever. Enumerators who thoroughly understand the rules, should be left to prepare the record by themselves. But even in such cases the Supervisors should thoroughly check all the entries and satisfy themselves that they are correct."

On the morning of the Finel Census (30th June), each Enumerator should go round his block and make special enquiries as to the new arrivals and newly born infants, completing his record where necessary. This will minimise the writing work of the Enumerators on the Census night.

14. Household Schedules.—At the recent General Census the filling up and collection of Household Schedules caused a great deal of trouble. Special attention must therefore be paid to them. The use of Household Schedules must be restricted as far as possible. In large European and Anglo-Indian settlements or institutions such as British Regiments and European Schools, the record will be prepared on English General Schedules by European Enumerators. In large residential establishments such as Viceregal Lodge, Barnes Court and Snowdon, which will of course be treated as one or more blocks, one of the Officers on the Staff should be appointed Supervisor and asked to arrange for the census of the establishment by Enumerators working under him, on General Schedules. He should be asked to fill up the entries personally in respect of the principal occupants of the house, instead of distributing so many Household Schedules.

In the case of ordinary bungalows, Household Schedules will have to be distributed. Every Enumerator should leave two Household schedules with the principal occupant of each bungalow three days hefore the Final Cenaus, obtaining the signature of the person to whom the schedules are delivered on his Block List against the entry relating to that house. The Supervisor should, check the distribu tion from the Elock Lists two days before the final cenumeration, and satisfy himself that Household Schedules have been left at every bungalow in his circle.

The head of each family to whom Household Schedules are given, is expected to write out the entries on the morning of the 30th to enable the Enumerator to check them. The European Enumerator should go round and check all the Household Schedule during the day (30th June). The head of the family should correct the entries, if necessary, on the night of the 20th, sign them [and] keep them [ready for delivery on the early morning of the lat July:

gentlemen who wish to write out entries relative to their houses, and ask them to do so.

15. Testing of the Preliminary Records.—Following the principles laid down in parsgraph 73 of the Punjab Census. Code, Supervisors, Charge Superintendents and all other off cers available for the work should exercise the closest supervision on the preparation of the preliminary records from 10th to 25th June, and the arrange ments for the Final Crisus should be thoroughly overhauled during: the following five days.

Preside stream and and after Final Enumerations sugares at a

16. As roted in para, 75 of the Punjab Cepsus, Code the Cepsus is the process of checking and correcting the records of the Preliminary Faumeration by striking

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a a anala i i di e in the second out the entries relating to the persons who have died or gone away and, entering the necessary particulars for the newly born children and new comers so that it shall correspond with the state of facts actually existing on the Census night. The Final Enumeration will commence at about 8, P.M. on the evening of 30th June 1921 and should be completed, if possible, by midnight. Proclamation hould be issued some time before hand asking people to stay awake at home with a light burning until the Enumerator hasvisited them. Every person found within the limits of the hill.4 station on the Final Census night after 8 P.M. must be enumerated; whether he is a permanent or temporary resident thereof, or has just arrived by train or by road from outside, or intends to leave by train or hy road after 8 P.M. on 30th June 1921. Most people will have returned home by 9 P.M.; but the traffic does not stop till late atnight; so the names of all persons absent from home, but said to be in the station should be allowed to stand. Enumerators must make particular enquiries about new-comers at all houses.

in addition to the Enumerators placed in charge of the blocks; each Supervisor should have 2 or 3 extra men capable of serving as Enumerators at his beck and call on the 30th June. So that he may be able to meet such emergeucies as the illness of one or two Enumerators. Arrangements should also be made to provide each Enumerator with a light when he goes his round; and owners of dogs should be asked to keep their dogs tied up on the Census night. The Municipalities and Cantonment Committees will make the necessary arrangements for providing lights.

While the Final Enumeration is in progress, Supervisors should visit as many of their Enumerators as possible, to see that the work is going one it is factorily. They should pay special attention to the blocks where new entries are likely to be numerous. Charge Superintendents should visit each circle and satisfy themselves that the Supervisors and Enumerators are on the move.

17. Special arrangements. — The roads leading to the hill-stations are few It will be necessary to post men on each of these roads on the 30th June to take down the addresses of new-comers. The list thus prepared during the day should be utilised in checking the final enumeration of blocks where the newly arrived people were expected to put up. As regards travellers arriving after 8 r.M.; it will be best

Use of passes. Use of passes. Enumerator in charge of the road post block and to give each traveller an enumeration pass, to prevent his being enumerated twice over. European and Indian gentlement arriving after that hour should be handed Household Schedules and asked to fill them up and leave them there, in which case each of them should be given an enumeration pass, or if any one happens to be in a hurry, then he should be asked to deliver 'the schedule duly filled up to the Enumerator of the block in which he intends putting up. Passes in booklets (Urdu and English) will be supplied. The number of passes issued by each road post Enumerator will appear from the counterfoils, and Supervisors should see on the morning of 1st July that it agrees with the number of entries on the Enumerators' schedules.

18. On the morning of the 1st July 1921 the Enumerators of each circle should, The Enumeration Abstract Schedules that may have been issued to persons residing in their blocks, meet their Supervisor at some place previously selected by Lin. The Supervisor should then - '

(1) compare the number of books produced with the number of blocks in the , circle, and see that he gets a book for every block ;

(2) see that the Household Schedules shown by the Block List to have been issued have been duly collected and sewn into the right book, and that all loose schedules are accounted for;

- (3) read every entry made at the Final Enumeration and correct any obvious errors or pmissions; and
- (4) have the number of houses and males and females independently added up on separate pieces of paper by the Enumerator of the block and another Enumerator and if the totals thus ascertained agree, the may be accepted as correct and entered in the Enumerator's abstract on the second page of the cover. If they differ, the Supervisor must check the figures himself,

. . . 19. The Circle Summary .--- When all Enumerator's Abetracts have been com pleted and found to be correct, the Supervisor should select two of his best Enumeraators and with their assistance prepare the Circle Summary in the following form, of

HILE STATION		. •	CHAR	GB 3	CIRCLE	
Name of ward or	Serial No. of Block		Number of	i sa k	Persons.	······································
other sub-division.			occupied houses.	Total 🀐	Males.	Females.
1		2	3	4	5	<u> </u>
••••••••••••••••••••••••••••••••••••••					•	
Oirole Total		·,		1	•	

He must then arrange all the Enumeration books of his circle in the serial order. of blocks, tie them up neatly, placing on the top his Circle Register (copy of Charge Register) corrected up to the 30th June, and personally deliver the packet to his · Charge Superintendent at the place previously fixed by him. The Charge Superin-tendent must satisfy himself that a book has been given up for every block in the circle, and that the figures shown in each Enumerator's Abstract have been correctly posted in the Circle Summary.

20. The Charge Summary .- The Charge Superintendent must compare each Circle Summary with the Charge Register and with the Enumerators' Abstract, in order to make sure that no block has been accidentally omitted, and that the Enumerators figures have been correctly posted. He must have the of total each Circle Summary checked independently by two Supervisors, in the manner prescribed for the Enumerator's Abstract. He will then post the totals of the Circle Summaries in his Charge Summary, add them up with the help of his most intelligent Supervisors on the system of double check already referred to, attach to the Charge Summary all Circle Summaries for the charge, arranged in serial order, and deliver the entire set of , summaries to the Census Officer with the least possible delay. ٩, 5. T

After handing over the summaries, the Charge Superintendent will look through the entries made in the schedules at the Final Enumeration and satisfy himself that there are no serious errors or omissions. Should any such come to notice, he will order the Supervisor concerned to have them rectified. This must be done within two days at the outside. When everything appears to be in order, the Charge Superintendent will arrange the Enumeration books by circles, give, the Supervisors their receipts and deliver the books as quickly as possible to the Census Officer.

Norg.—The Charge Summary will be in the same form as the Circle Summary, omitting column 1 and the word 'Circle in the general heading and substituting the word 'Girples for 'Block'sin, the heading of column 20. As a precaution against omissions the circle number must be entered beforehand in column 1 of the Charge Summary,

21. The Provisional Totals.—On receiving the Charge Summaries, the Census Officer should at once have them compared with the Charge Registers and Circle.-Summaries to see that the latter have been correctly posted and that no circle has been omitted. The addition of each summary must be carefully checked. The figures for each charge should then be posted in a summary for the hill station, care being taken that the figures entered are those showing the grand total for each charge and not merely that on one page of the Charge Summary. 15 1

The totals should be made up by two clerks working independently. When they have been examined and passed as correct, the result should be reported by telegraph, in words, to Census Punjab Simla E " thus :--

figures telegraphed. If the above instructions are carefully followed there should be no room for error.

Special arrangements must be made beforehand to obtain and intimate the Provisional [Totals by the 2nd July to the Provincial Consus Superintendent at Simla. 1 10 A. S. A. S.

22. Submission of Schedules.—After the submission of the Provisional Totals, when the schedules have been carefully checked and corrected, the Census Officer should send them carefully packed together with Circle Lists and Circle Summaries to the Census Superintendent at Lahore by Railway parcel. Arrangements for slipcopying, abstraction and tabulation will be made at Lahore. It is therefore very important that the entries in the schedules should be very carefully overhauled before the schedule are despatched.

Progress Reports—A report should be sent to the Census Superintendent, Punjab by the Census Officer of each hillstation on—

5th June, showing whether all preliminary arrangements have been completed,

15th June, showing whether the Preliminary Enumeration has been commenced in all blocks,

25th June, showing whether the Preliminary Enumeration has been completed in all blocks, and

30th June, before 10 A.M., a telegraph report saying whether all arrangements. for final enumeration including distribution of Household Schedules are perfect:

Mufid-i-'Am Press, Lahore.

APPENDIX II.—SUMMER CENSUS FORMS.

(A) GENERAL SCHEDULE.

SIZE $20 \times 8\frac{1}{3}$

SUMMER CENSUS OF HILL STATIONS, 1921. ; No. of block Name of Hill Station-; No of chargewrite Anglo-Indian, Iudian Province OCCUPATION. and I case of dependents, the occupation of those on whom they are dependъ occupation read (district, Literate or illiterate Name female. cannot ish. Birth-place (c or country). person Asiatic European, Principal worker Religion. Male or ៦ ឆ្ន 5 9 **∆ge**. 5 ם Can ó ŝ a 11 7 10 12 5 6 8 9 2 8

(B) HOUSEHOLD SCHEDULE FOR EUROPEANS. ANGLO-INDIANS AND RESPECTABLE INDIANS.

SIZE 20×8;".

SUMMER CENSUS OF HILL STATIONS_____1921.

Name of Hill Station _____; No. of charge _____; No. of Oircle ______; No. of Oircle ______; No. of Oircle ______; No. of Circle _____; No. of Circle ____; No.

No. of house.	No. of person.	' Name.	Religion.	Male or female.	Age. 7	European, An glo-Indian, Indian or Asiatic.	ot	In case of dependents, the between the ocean pation of those on be whom they are depended.	Birth-place (district, province, or country.)	Literate or illiterate.	Can or cannot read and write English.
1	2	3	4	5	.6	7	8	9	10	• 11	12
		······································		——					× 3		4

INSTRUCTIONS TO RESIDENTS.

RULES FOR FILLING UP, THE SCHEDULE.

You must use black ink only and write very clearly.

Column 1 (House Number). - Enter the number of the house. (This column will be filled in by the enumerator before handing the schedule over to the house-holder.)

Column 2.—This column should be left blank ; the number will be filled in by the Enurerator after the Household Schedule has been collected.

Column 3 (Name).—Enter first the chief resident member of the family, whether male or female, then the other members of the family and their resident servants, if any. If there be any objection made to giving the name of a female, write the word 'female' (adding her relationship to some member of the family) and fill up the rest of the columns for her as usual. If objection is taken to even mentioning the relationship of a female, merely say 'female.' If an infant has not yet been named, enter the word 'infant.'

Column 4 (Religion).—Enter here the religion which each person returns, ss Hindu, Mussalman, Sikh, Jain, Christian, Parsi, Arya Samaj, Dev Samaj, etc. No sects are needed.

Column 5 (male or female).—Enter whether male or female, even though you have written the word 'female' in column 3 already. For male write the letter M' and for female 'F.' APPENDIX II.

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Column 6 (Age).—Enter the number of years each person has completed. For infants less than one year old, enter the word 'infant.'

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Column 7 (Nationality.—Enter the nationality. Say whether a person is European, Anglo-Indian, Indian or Asiatic. No other distinctions are needed. Races allied to Europeans, such as American, should be returned as Europeans, and Asiatics other than Indians should be entered as Asiatics. The following abbreviations should be used 'E '—European, 'A-I '—Anglo-Indian, 'I '—Indian, 'A '—Asiatic.

Column 8 (principal occupation of actual workers).—Enter the principal means of livelihood of all persons who actually do work or carry on business, whether personally or by means of servants, or who live on *house-rent*, pension, etc., enter the exact occupation and avoid vague terms such as 'service,' 'writing ' or ' labour.'

Women and children who work at any occupation which helps to augment, the family income must be entered in column 8 under that occupation and not in column 9. Column 8 will be blank for dependents. No subsidiary occupation is to be recorded.

Column 9 (means of subsistence of dependants).—For children and women and old or infirm persons who do not work either personally or by means of servants, enter the *principal* occupation of the person who supports them. This column will be blank for actual workers.

Column 10 (birth-place).—Enter the district or State in which each person was born, and if the person was not born in the Punjab, add the name of the province to the district of birth. If the person was born out of India, enter the country as Nepal, Afghanistan, Ceylon. The names of villages, tahsils, etc., are not to be given.

Column 11 (literate or illiterate).—Enter against all persons who can both read and write any language, *i. e.*, are literate, the letter 'L'. Against persons who cannot read and write any language make a cross in this column. Those who can only speak a language or can only read are not to be treated as literate. A person should be able to read a letter and write a letter in order to be classed as 'Literate.'

Column 12 (*English*).—Enter the word 'Yes against all persons shown as literate who can both read and write English. The column will be blank for those who cannot.

General.—Two blank forms of this schedule will be delivered to you 3 days before the Final Census (30th June 1921). You are requested to fill up one of them, in accordance with the instructions given on the reverse, on the morning of the 30th June and to allow the Enumerator of your block to check the entries, when he comes round some time during the day. On the night of the 30th June between 8 and 12 o'clock, you are required to go through the schedule written up by you and revise it in order to make it correspond with the facts then existing, and to sign it, so that it should be available for delivery to the Enumerator when he calls for it early on the morning of 1st July. As great inconvenience is caused afterwards by entries made carelessly, you are requested to pay special attention to the instructions printed on reverse. The Enumerator of your block has orders to assist you on the 30th June in making the entries, if you consider his assistance necessary. Arrangements should be made whereby the schedule should be made over without delay, when the enumerator goes his round collecting schedules on the morning of 1st July.

SPECIMEN SCHEDULE, 1921.

HOUSEHOLD SCHEDULE FOR SUMMER CENSUS OF HILL STATIONS. Name of Hill Station, Simila; No. of Charge 1; No. of Circle 7; No. of Block 12.

		Name Name 2 3	Religion.	Age. Age. Anglo-I Anglo-I or India Princ i p		ipal upa- of ker.	In case of de- pende n t s, the occupa- tion of those on whom they are dependent.	Birth-place (dis- trict, province, or country).	Literate or illitor	E Can or cannot read and write English
2	7	A. F M. F J. F J. N F. S N. B P. R H. D	Christian Christian Christian Christian Budhist Jewish Hindu Ohristian	M 38 F 30 M 4 F 40 M 25 M 25 M 25 M 28 M 28 M 4	▲	Army Surgeon Watch-maker Shoe-maker P. W. Contract- or. Tailor's Assis- tant.	Banker	England England Lahore Calcutta (Bengal). England China Turkey in 'Asia. Karachi, (Bombay.) Madras Oity (Madras).	Li Li X Li Li Li X Li Li	Yes. Yes. Yes. Yes.

FORMS

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Hill Station, Bub-Division Canit., Ward, (Moballe, etc.)	· · · · ·	use in Abstract	د ک رہے کا وال				
Charge No. Circle No. Block No.	Received.	Initial	Date.	Enumerator.	· · ·	14.0	
	umeration Pro	cedure.	1	Date.	Signature sible (of response Officer	
Receipt of Book by Enumerator, Preliminary Enumeration common complete	L JR enced. etcd. and revised b	N Supervisor	nintendent.				
Final Enumeration commenced. 		•	J			· · ·	

INSTRUCTIONS TO ENUMERATORS.

I.-RULES FOR FILLING UP THE SOHEDULES.

You must use black ink only and write very clearly.

Column 1. (*House number*):--Enter the number of the house. If it is empty, write "empty" after the number, and leave that line blank. If you find a house without a number you will report to the Supervisor for orders.

Column 2 (Serial number).—This column is not to be filled up until after the final enumeration. You will then enter a serial number for all persons enumerated.

Column 3 (Name).—Enter first the chief resident member of the family, whether male or female, then the other members of the family and their resident servants, if any. If there be any objection made to giving the name of a female, write the word 'female' (adding her relationship to some member of the family) and fill up the rest of the columns for her as usual. If an objection is raised to even mentioning the relationship of a female, merely say "female." If an infant has not yet been named, enter the word 'infant.' If any female is unwilling to give her own or her husband's name you must ask some one else for the information. When you have entered all the persons in a house, you will leave one space blank before making the entries for the next house.

Column 4 (Religion).—Enter here the religion which each person returns, ás Hindu, Mussalman, Sikh, Jain, Christian, Parsi, Aryz Samzj, Dev Samzj, etc. No sects are needed.

Column 5 (Male or female).—Enter whether male of female, even though you have written the word 'female ' in column 3 already, 'For male write the letter 'M' and for female 'F'. Eunuchs and hermaphrodites should be returned as males.

Column 6 (Age).—Enter the number of years each person has completed. For infants less than one year old, enter the word 'infants.'

Column 7 (Nationality).—Say whether a person is European, Anglo-Indian, Indian or Asiatic. No other distinctions are needed. Races allied to Europeans, such as Americans, should be returned as Europeans, and Asiatics other than Indians should be entered as Asiatics. The following abbreviations should be used :—'E' Europeans, 'A-I'-Anglo-Indian, 'I'-Indian, 'A'-Asiatic.

Column 8 (Principal occupation of actual workers).—Enter the principal means of livelihood of all persons who actually do work or carry on business, whether personally or by means of servants or who live on house-rent, pension, etc. Enter the exact occupation and avoid vague terms such as 'service', 'writing' or 'labour.' For example, in the case of labourers say whether carrying luggage, carrying timber, carrying stone, working in an icé-factory, cotton-mills, stone quarry, earthwork, building coolie, etc.

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APPENDIX II,]

In the case of agriculture, distinguish between persons who receive rent and those who pay rent, i. e., between *Malik* and *Muzareh*. If a person makes the articles he sells, he should be entered as 'maker and seller.' of them. Women and children who work at any occupation which helps to augment the family income must be entered in column 8 vnder that occupation and not in column 9. Column 8 will be blank. for dependents. No subsidiary occupation is to be recorded.

Column 9 (Means of subsistence of dependents)—For children and women and old or infim reisons who as not work either personally or by means of servants, enter the principal occupation of the person who supports them. This column will be blank for actual workers.

Column 10 (Birth-place).—Enter the district or State in which each person was born, and it the person was not born in the Punjab, add the name of the province to the district of birth. If the person was born out of India, enter the country as Nepal, Afghanistan, Ceston. 'Lte usness of villages, tabsils, etc., are not to be given.

Column 11 (Literate and illiterate).—Enter against all persons who can both read and write any language, *i. e.*, are literate, the letter 'L'. Against persons who cannot read and write any language make a cross in this column. Those who can only speak a language or can only read are not to be treated as literates. A person should be able to read, a letter and write a letter in order to be classed as literate.

Column 12 (English).—Enter the word 'Yes' against all persons shown as literate who san both read and write English. The column will be blank for those who cannot.

II.-PROCEDURE.

A.—The first round (preliminary Enumeration).

1. Beginning from the 10th June 1921, you will visit every house in your block to which a separate number has been affixed, in the order in which the houses are entered in your Block List, and fill up the columns in the schedule for all persons who ordinarily live in or take their meals from the house. Even if they are temporarily absent such persons should be entered, if they will be back by the 30th June. Visitors should not be entered if they will have left before that date.

2. You must carefully study the instructions given above for filling in the columns of the schedule and also the specimen schedule on the cover of this book which contains a number of entries illustrating the rules. You should consult your Supervisor whenever you are are in doubt as to the proper entry.

3. If directed to do so by your Supervisor you will make a rough draft on plain paper, and you will not copy it in your book until it has been passed by him.

4. If the entry for any person in any of the columns of the schedule be the same as that for the person entered on the line above, you must repeat the entry. You must not write the word "ditto" or make dots.

5. You must have completed all the entries in your block by the 25th of June 1911 and fair copied them.

6. During the next four days you should be on the look out for new arrivals in your block, and on the morning of the 30th June you should bring your Preliminary Record up to date. Three cays before the Final Enumeration you should leave two schedules at each bungalow in your block occupied by Europeans, or Anglo-Indians, and on the morning of the 30th June you should go round these bungalows to assist the principal occupant of each bungalow in filling up one copy of the schedule.

B.—The second round (Final Enumeration).

7. On the evening of the 30th June, at the time of lighting lamps you will take this book as already filled in and again visit every house in your block in order. Before you start on your round, you must see that you are yourself enumerated in the house where you are stopping.

8. You must summon the chief member of each family and read over to him one by one the names of the members of his household entered in the schedule asking him as you read each name, whether the person is present in the house or not. You must also ask him particularly whether any fresh persons have come or any child has been horn. You must strike out the entries for persons who are not present, and fill up the form for any person now in the house who was not there when the first visit was made, such as guests, infants, newly born, and others. You are to corsider as present all persons living in or taking their meals from the house even though any of them may be dining out or are out on duty or business, but within the station.

APPENDIX II.].

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9. The fresh entries mentioned in the last rule must be made on the blank pages at the end of your book. In each case you will enter the number of the house to which the fresh entries relate, writing under it the word ' continued.'

10. You must make no alteration whatever in any entry against the name of any person unless you have to strike out the entries altogether, because he or she is no longer present. When you strike out a person, you must draw a line competely" through all the entries following thagt person's name, and not merely through column 3.

111 Whilst going on the second round, you must visit every house marked "empty" in your book, to see whether any person is then living there.

12. You must also go to the *dharmsalas*, serais, encampments and landing places, where travellers rest for the night, and enter all particulars in the schedules for the way-farers, travellers and others you may find there, and strike out the entries already made against persons who are not then present.

13. If any house-holder in your block has been given a separate schedule, you must collect it on the morning of the 1st July, and after seeing that columns have been duly filled in according to the rules, you must stitch it into your book, next to the last schedule filled by you.

14. You will then (on the morning of the 1st July) go without any delay to the place appointed by your Supervisor, and after your book has been inspected by him you will enter in the abstract, printed on the inside of the cover, the number of houses and persons, male and female, in your block.

15. According to the Census Act, every person is legally bound to furnish your with such information as is necessary for filling up the schedule, but you are forbidden to ask for any information not required for the purposes of the Census, as, for instance, the amount of any person's income. Any Enumerator extorting money on any pretext connected with the census, renders himself liable to punishment under the Census Act or the Penal Code.

SPECIMEN SCHEDULE, 1921,

GENERAL SCHEDULE FOR SUMMER CENSUS OF HILL STATIONS.

Name of Hill Station Simla; No. of charge 1; No. of Circle 7; No. of Block 12

	-		444		 1	In	Ocgopa					
No. of house.	No. of person.	Name.	Religion.	Male or female.	Åge.	Europcan, Anglo-Indian, In dian or Asiatic.	Principal occupation of worker.	In case of dependents, the occupation of those on whom they are dependent.	Birth place (district, pro vince or country).	Literate of illiterate.	Can or cannot read au write English.	REMARES.
1	2	3	4	5	6	7	8	9	10	11	12	18
21	101	Muhammad Bakhsh.	Mussaiman	M	50	1,`	Weaver	••	Ambala	L.		
	102	Bakht Beri	Mussalman	F	40.	. 1.		Weaver	Karnal	×	••	
22	103	Jan Muhammad	Mussalman	M I	25	I. **	Peon Cant Megte's Court	••	Rawalpind	L.	••	
23	104	Gulab Chand	Hindu 🔒	M	60	1,	Sepoy, pen- sioner.	· · · · · ·	Cawnpore, U. P.	, x '		
	105 105	Kishan Chaud	Hindu	M	10	I.		Sepoy,pen-	Delhi	×		 ,
24	106	J. Johnston	Christian	. М	40	* AI .	Clerk in P. W.D.		Bombay city, (Bombay).	L.	Yes	l
	107	V- Johnston	Christian	F	38	AI.	1960 ann 1675. ¥	P. W. D. Clerk.	Simla	1 B.	Yes	11
	108	T. Johnston	Ohristian	M	б	ÅJ.	••	P. W. D. Clerk,	Simia	×		
25	109	Abdul Gafur	Mussalman	м	40	. Т	Khansa m a	••	Jailundur	L.		
	110		Mussalman	F	35	I,		Khansama	Juliundur	×	-	
26	111	Kirpa Singh	Sikh	м	45	1.	Clerk, Bany. Commr.'s	••	Lahore	L	Yes.	

[FORMS.

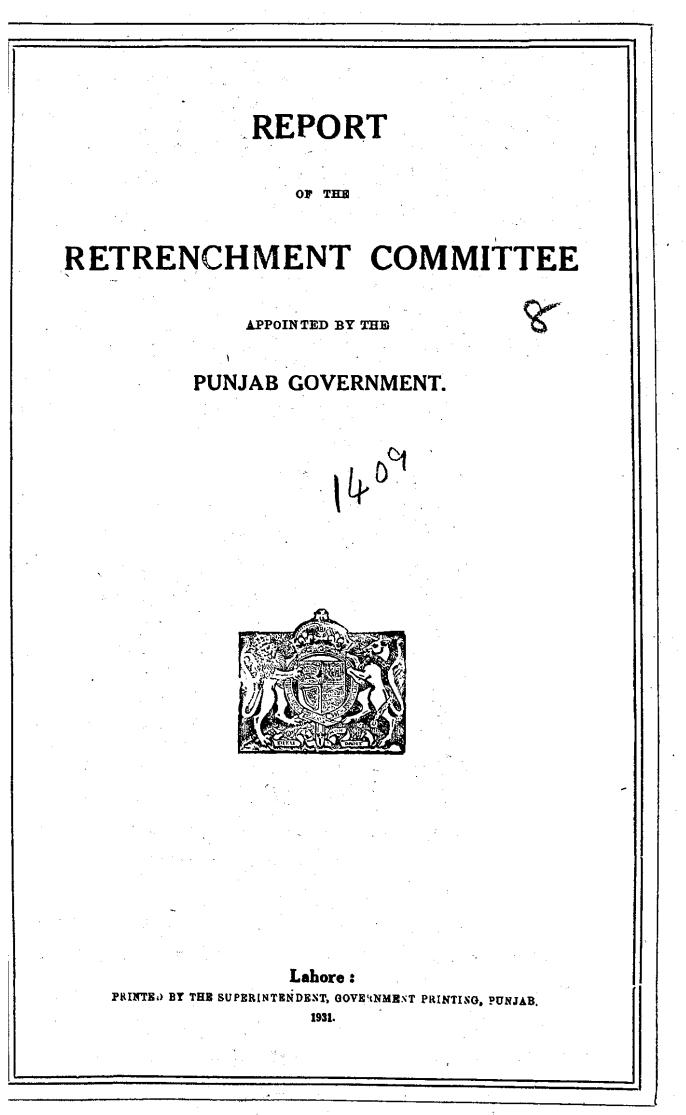
6

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	Station	n			NoCircle No
· · ·			PERSONS.	4	(a) Enumerator of Block No.
Block number.	ber. of occupi-	Males.	Feinales.	Readded by (Signed.) (b) Enumerator of Block No	
		<u> </u>			(Signed.)
,]]		-		Enumerator.
					Cortified to have been tested and the total found correct and compiled into Circle Summary.
			1 .		(Signed)
			\$	{ · }	Supervisor:

Mufid-i-'Am Press, Labore.

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Price : Rs. 3-0-0 or 4s. 6d.

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Report of the Retrenchment Committee:

CHAPTER I.

Introductory.

1. In pursuance of Resolution No. 6 passed by the Legislative Council on the 27th February 1931, the Punjab Government appointed a Committee consisting of the following members :—

Mr. C. A. H. TOWNSEND, C.I.E., I.C.S., M.L.C. (Chairman),

Mr. F. H. PUCKLE, C.I.E., I.C.S., M.L.C.,

Mr. C. M. G. OGILVIE, C.B.E., I.C.S., M.L.C.,

Mr. H. F. ASHTON, I.S.E., M.L.C.,

PIR AKBAR ALI, B.A., LL.B., M.L.C.,

Khan Bahadur Sardar HABIB ULLAH, Bar.-at Law, M.L.C.,

Khan Bahadur Malik MUHAMMAD AMIN KHAN, O.B.E., M.L.C.,

Rai Bahadur Lala Mohan Lal, B.A., LL.B., M.L.C.,

Mr. MUKAND LAL PURI, Advocate, M.L.C.,

Mr. Owen Roberts, M.L.C.,

Sardar Sahib Sardar UJJAL SINGH, M.A., M.L.C.,

with the following terms of reference :---

"To make recommendations to the local Government for effecting forthwith all possible reductions in the expenditure* of the local Government, having regard especially to the present financial position and outlook. In so far as questions of policy are involved in the expenditure under discussion, these will be left for the exclusive consideration of the Government, but it will be open to the Committee to review the expenditure and to indicate the economies which might be effected if particular policies were either adopted, abandoned or modified."

*Nors.—The expenditure on the Uhl River Hydro-Electric Project having recently been exhaustively examined by an expert Committee, will not come within the scope of the enquiry.

The Committee held a preliminary meeting in Lahore in May to settle its procedure and thereafter held 45 meetings in Simla and four meetings in Lahore in October.

2. At the end of July Mr. Townsend proceeded on leave and was succeeded as Chairman by Mr. Puckle and as a member by Mr. J. D. Anderson, I.C.S., M.L.C. In August Khan Bahadur Sardar Habib Ullah and Sardar Sahib Sardar Ujjal Singh departed for Europe and were replaced by Shaikh Faiz Muhammad, B.A.. LL.B., M.L.C., and Sardar Arjan Singh, B.A., LL.B., M.L.C. Mr. Ashton also left the Committee owing to ill-health and was succeeded by Mr. A. Murphy, O.B.E., I.S.E. Finally, when we had practically finished our discussions, Mr. Ogilvie left for England but remained a member of the Committee.

We examined 25 witnesses. In June we invited suggestions from the public through an announcement in the press. The response was not encouraging, and we did not find it necessary to call as witnesses any of the few associations or persons who replied. Apart from the witnesses we examined, we are indebted to Rao Bahadur Chaudhri Chhotu Ram, M.L.C., for a series of articles on retrenchment. We regret that owing to his ill-health we were unable to examine him personally. We acknowledge appreciatively the full and unreserved co-operation which we have received from Heads of Departments in response to our demands for information. The memoranda furnished by the Police, Irrigation and Industries Departments were particularly full. Our acknowledgments and thanks are due to the staff of the Finance Department and particularly to Lala Chuni Lal, Stenographer to the Financial Secretary, for much help.

3. During the course of our enquiry we were informed that, under the orders of His Majesty's Secretary of State for India, the official members of our Committee were debarred from joining in recommendations affecting the services

of which the Secretary of State retains control. The prohibition did not extend to recommendations affecting particular posts, but only to matters affecting the All-India Services as a whole. The body of the Report does not therefore contain an expression of our views as a Committee on these matters. The recommendations of our non-official members are, however, embodied in an Addendum to the Report which, we trust, will receive the same attention as our main Report.

4. The figures quoted in the Report are believed to be accurate, but we do not vouch for them. We have used the years 1913-14 and 1919-20 freely as a basis of comparison. Figures quoted are those of the budget estimates for these years. Calculations as to the effect of our various recommendations are only approximate and may have to be revised quite appreciably.

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CHAPTER II.

The financial position of the Punjab.

5. There is no particular virtue in retrenchment per se except when it means the cutting down of expenditure which is obviously wasteful and unproductive. Our object is not merely to cut down expenditure; it is to produce a condition of the public finances in which ordinary expenditure can be met over a series of years by ordinary income. For this purpose the first necessity is to get a clear grasp of the financial history of the Province in the past, and to endeavour to form some idea of what financial prospects the future holds for us.

6. If we go back to the 'eighties' of the last century we find the Punjab spoken of in contemporary writings as "the Pauper Province." The first signs of a modest prosperity dawned when about the end of the last century the success of the Lower Chenab Colony was evident. A further success in the Lower Jhelum Colony consolidated the position and in 1913-14 we find the province with an income (excluding income-tax, customs and State tributes) of 7,87* lakhs. During the War years progress was slow but sure and the effect of the Lower Bari Doab Colony began to make itself felt. Revision of the old settlements which had been based on the prices of thirty years before also improved the position. In 1919-20 the income was 10,18 lakhs.* 1920 saw the end of the old system of divided heads of revenue and the new financial settlement with the Government of India under the Reforms. This, coupled with the obligation to pay a contribution of Rs. 1,89 lakhs to the Central Government, caused a temporary crisis in the finances of the local Government. Agricultural prices were, however, soaring, trade was flourishing and the general prosperity of the province was higher than ever before. Strict economy on the part of Government and considerable increases in taxation restored our finances and enabled full advantage to be taken of the general prosperity. Receipts in 1925-26 reached 11,38 lakhs, a figure which they had never reached before and are not likely soon to reach again. The remission of the contribution to the Central Government was in sight and the province entered on a period of expansion in all directions. Provincial expenditure rose for the first time to over 11 crores in 1928-29 and last year reached nearly $11\frac{1}{2}$ crores, an increase of 129 per cent. over the 1913-14 figure.

7. The slump in the prices of agricultural produce has brought the period of expansion to a close and we are faced with the problem of meeting our enormously increased commitments with an income reduced by about 20 per cent., at any rate for the next few years. It is interesting to compare the general position with the position as it was in 1913-14. We will regard the Punjab as a business which in 1918-14 was run with the Government of India as sleeping partner. The debt (or capital) of the business was about 20½ crores, all representing productive outlay. Its income was 7,87 lakhs of which our partner took 3,41 lakhs. The expenditure was 6,36 lakhs of which we bore 4,90. The dividend earned was 1,51 lakhs, 7 per cent. on the capital. The business was profitable, but our partner took the profits. In 1920 he retired from business and we were left in sole control. The position up to the close of last year was as follows :—

	Capital, mostly representing productiv Receipts (average of last 5 years)	ve outlay .	••	821 crores.
	receipts (average of last 5 years)	• •	• •	10,54 lakhs.
	Expenditure (average of last 5 years)	••	••	10,75 "
٠	Dividend	• • • •	••	Nil.

2.

In addition, it is to be remembered that while at the end of 1913-14 there was a closing balance of 1,46 lakhs, the closing balance in 1931-32 is *minus* 37 lakhs. Our recurring commitments also have largely increased; for instance, the liability on account of pension charges has risen by 207 per cent. and on account of repairs to State property by 117 per cent. It is obvious therefore that for the last five years at least we have been living beyond our income and

^{*}The figure represents the total income of the province as it would have been under the present system. The net provincial share under the system of divided heads was 4,46 and 5,01 lakhs only.

that, whether the crash in prices had come or not, we should have had to cut down our expenditure. This indeed was clearly exhibited by the forecast of receipts and expenditure for the next five years prepared in the autumn of 1930, which showed that, without allowing for any expansion, there was a gap of about 25 lakhs between receipts and outgoings.

Income and expenditure stand in the budget for 1931-32 at 11,18 and 10,83 lakhs, respectively. We believe that actual income this year is not expected to exceed Rs. 9,67 lakhs and may fall lower. The task of bridging this gap of 1,16 lakhs we must mainly leave to Government, for our proposals, if adopted, cannot have much effect during the current year. We are satisfied that energetic action is being taken and believe that with the help of an immediate cut in pay the budget for the current year may yet be balanced. We have de-voted ourselves to securing a balanced budget next year and in following years. We wish to lay stress on the necessity for doing more than merely balancing the budget. Apart from the fact that there is a deficit of 37 lakhs to be wiped out, we consider it essential that the Punjab should build up a substantial revenue balance. The fluctuations of income, which the accounts of the last ten years show, prove how unstable from year to year is the basis of the finances of a province which depends as to two-thirds of its income on the ability of the zamindar to pay up his land revenue and water rates. The receipts from Land Revenue vary from 3,21 to 2,58 lakhs and Irrigation from 4,57 to 3,74 lakhs. It is impossible to foresee these fluctuations. For instance, in March 1928 a dust-storm in two days cost the provincial exchequer about 40 lakhs owing to the damage it did to the wheat crop. On the whole over the years from 1921-22 to 1929-30 the actual receipts from Land Revenue and Irrigation were less than 1 per cent. below the budget estimates, but the variations in particular years were very considerable. For instance, in 1925-26 the actual receipts under Land Revenue were 27¹/₄ lakhs above the estimate; in 1928-29 they were 30¹/₄ lakhs below. In 1923-24 Irrigation receipts were 33 lakhs above the estimate; in 1928-29 they were 34 lakhs below. Now Land Revenue and Irrigation receipts between them provide from 62 per cent. to 67 per cent. of the income of the province. The mainstay of provincial income is, for any particular year, liable to variations of 10 per cent. either way, and actual receipts may be as much as 40 or 50 lakhs, or about 5 per cent., below the estimate. At the moment there are no accumulated revenue balances to draw on to meet such a situation. Until such reserves exist, the work of every department is at the mercy of each year's The departments oscillate between expansion and retrenchment to variations. the great detriment of any considered scheme of progress. It is therefore essential to build up a revenue balance. It is impossible to tell in what order the good and bad years will come, but a balance of 75 lakhs would produce a reasonably safe position. This balance cannot be produced at once, but an attempt should "be made to start building it up without delay.

9. We must make some attempt to forecast our income over the next few years. The principal heads are V-Land Revenue and XIII-Irrigation which are estimated in the budget to produce a gross income of 9,48 lakhs. We doubt whether it is safe to reckon on more than about 7,50 lakhs in future. We have arrived at this estimate by taking the figures for 1913-14, 6,06 lakhs, and adding 25 per cent. for extension of irrigation since then. From this gross total of 7,50 lakhs (which represents 78 per cent. of the current estimate) Irrigation Working Expenses have to be deducted. These are put at 2,14 lakhs in the budget, and we will assume that the department can effect the savings of 40 lakhs which we shall later recommend, bringing the total down to 1,74 lakhs. The net income from Heads V and XIII will be 5,76 lakhs. The next largest income-earning head is VII—Stamps, the budget figure for which is 1,15 lakhs, followed by VI—Excise, 1,08 lakhs. These heads are both likely to be affected by the general decline in purchasing power. Excise returns are already falling; Stamps have not yet begun to show signs of the strain. We take 1,10 lakhs for Stamps and 90 for Excise. Income from VIII—Forests $(25\frac{1}{2})$ lakes) is suffering from the heavy fall in the price of timber. We take 20 lakes as future income. Receipts from various other sources are put down in the budget at 1,85¹ lakhs. Twelve lakhs of this is a windfall which reduces the total for our purposes to 1,23¹. We see no particular reason why these receipts should fall much. The new motor vehicles rules should increase the returns under this

head and we believe some slight increase in fees in various institutions is contemplated. We take the round figure of 1,23 lakhs. Our estimate of income is therefore—

						Lakhs.
Land Rev	7enue a	nd Irrigation	••	••	••	5,76
Stamps	••	••	• •	•••	••	1,10
Excise	••	••	••	••	••	90 .
Forests	••.	• •	× ••	• •	• •	20
Other inc	ome	• •	• •	••	••	1,23
				Total		9,19

We cannot make any allowances for anything which the labours of the Sources of Revenue Committee may produce. We prefer to keep the proceeds of new taxation as a reserve to guard against any further fall in income from existing sources. Neither do we propose to include Extraordinary Receipts as revenue. We are in full agreement with the policy which has applied these receipts, which are non-recurring, to meeting capital expenditure. In a temporary emergency we admit that they may be used to balance the budget, as they will have to be used in the current year. But we do not wish to give our approval to this as a general practice.

10. We have yet to deal with the adverse balance of 37 lakhs. This we consider should be a first charge against the receipts of next year. Deducting this from 9,19 lakhs we are left with 8,82 lakhs to meet expenditure next year. We shall be content if next year we can balance expenditure and receipts at about that figure. After 1932-33 the work of building up a revenue balance should commence. This is the problem before the province. We wish to emphasize that obviously it must be met mainly by an attack on recurring expenditure. After obligatory expenditure, such as interest, pension charges and famine relief, amounting to 1,82 lakhs, have been deducted from the total, estimated expenditure of 10,83 lakhs in 1931-32, we have only 9,01 lakhs on which to ply the axe. Out of this sum we have to effect economies amounting to at least two crores. In appendix A will be found a list of our recommendations the financial effect of which we have been able approximately to estimate. Recommendations the financial effect of which we cannot estimateare in appendix B.

5

CHAPTER IIÌ.

General Recommendations.

11. At the beginning of the century we find a territory including the Punjab, the Punjab States, Delhi Province and the North-West Frontier Province administered by a Lieutenant-Governor, with 26 other officers at the headquarters of Government, and six Commissioners. During the next ten years Delhi and the North-West Frontier Province were separated from the Punjab, which continued to be administered by a Lieutenant-Governor and five Commissioners. The administration now consists of a Governor, a Cabinet of five Members and five Commissioners, while 49 other officers are shown as at the headquarters of Government. In addition there is the Legislative Council which plays an increasingly important part. The result of this increase in the size of the controlling machinery has undoubtedly added enormously to the complexity of administration. The number of employees of the State of all grades is to-day nearly 70,000, an increase since 1913-14 of, we believe, about 20,000, while the pay bill of officers and establishment (excluding menials) has risen from 1,85 lakhs to 4,89 lakhs. It will surprise many people to learn that the number of All-India Services officers serving in the Punjab has fallen from 531 in 1914 to 518 to-day.

12. We were particularly struck by the large rise in clerical establishment and by some of the figures which were given us to show the increase in the number of receipts and dispatches in particular offices. We cannot help thinking that much of this correspondence is unnecessary. It is, we believe, possible in almost any office to make out a case for an increase in staff purely on the figures of receipts and dispatches. Clerks may very often make work and one increase can be made to lead to another. But we feel that there is something wrong in the system and we should like to see the appointment of a Clerical Staff Committee which should first consider whether the work in offices cannot be simplified, for instance, by a change in system and by abolishing some of the many returns, etc., and then go on to examine whether an actual reduction in staff is not possible.

13. This brings us to the question of hours of work and holidays. The ordinary office hours are 10 to 4 and, although we know that in some offices, e.g., the Civil Secretariat, the hours are in practice longer, we think that in general they are somewhat shorter. They compare unfavourably with the hours in business offices. The point has a bearing on the number of judges and magistrates, as well as on the number of clerks. Court hours are in theory 10 to 4. In practice few courts begin work before 10-45 for the very good reason that the staff and the officer arrive at the same time. As some preliminary work by the clerks is necessary before the court can begin on its real day's work, that work can never begin at 10. We recommend that 9-30 should be the regular time for the attendance of clerks in all Government Offices. That should enable the real work of the day to be moving along by 10. We have no objection to a short interval in the middle of the day. It may easily make for more efficient work. We think courts and offices should ordinarily close at 4-30 instead of 4. Courts, however, should be prepared to sit up to 5-80 P.M., if there are witnesses waiting to be heard in a case that has been begun.

14. The number of holidays enjoyed by public servants in the Punjab can surely not be equalled in any other country. The Civil List shows the following holidays :---

Public holidays (including Sundays)	••	• •	79
Additional High Court and Civil Court holidays	••	••	21
Local holidays, per district, say	••	••	5
			105
Add for six " Last Saturdays " during the winter :	months	and the	
fact that in practice other Saturdays are usua	lly half	holidays	29
Total		••	134
•			····

Out of 365 days in the year the ordinary Government servant is only working on 231 days. A Government servant in England works on about 280 days. If we take the High Court the position is still worse, since it takes a vacation of over two months. Making allowance for ordinary holidays which fall in vacation time, the Court does not sit on more than half the days of the year. We are glad to hear that the question of altering the vacation rules is^{*} under the consideration of the Hon'ble Judges.

15. We recommend that the number of holidays be substantially reduced. We see no reason why a religious festival of one community should be a holiday for every one else. Government servants, who have to attend ceremonies which their religion enjoins, should be allowed leave of absence for part of the day or even the whole day, but not for more than one day at each major festival. We suggest the following general holidays :---

Sundays	••		••	52
Half-holidays every Saturday	••	• •	• •	26
Christmas holidays	••	••	••	7
King's Birthday	••		••	1
June 30th, Bank holiday	••		••	1

We propose keeping the Christmas holidays because, although they centre round a purely Christian festival, they have become the accepted time for meetings of all kinds of associations, political and social, and we believe their abolition would be universally deplored. If it is considered absolutely essential to declare certain other religious festivals to be public holidays, then we recommend the following :—

Good Friday.	Shab-i-Barat.
Holi.	Id-ul-Fitr.
Baisakhi.	Id-ul-Zuha.
Dusehra.	Muharram, and
Diwali.	Guru Nanak's birthday, ten days in all.

This will make the total number of holidays 97 instead of 134. This proposal coupled with that about hours of work will result in the Government servant working for 268 days of 7 hours instead of for 231 days of 6 hours, 1,876 hours a year instead of 1,386. This increase of about 35 per cent. in the hours of work should result in a gradual but eventually considerable decrease in staff.

16. The provision for travelling allowance in 1919-20 was 15 lakhs (omitting the Irrigation Branch and Buildings and Roads Branch figures which are not given in the budget). The corresponding expenditure in the 1931-32 budget is 34 lakhs. The increase by 124 per cent. can hardly be justified by the increase in the number of touring officers or by the fact that rates of travelling allowance generally are higher than they were in 1919-20. Except for journeys by motor car or motor cycle which, as recently lowered to 4 annas and $1\frac{1}{2}$ annas per mile, we do not consider to be excessive, we recommend that rates should be brought down to the 1919-20 level. This proposal is justified by the general fall in the price of ordinary supplies and in the cost of keeping horses. The total expenditure on travelling this year is 51 lakhs, a sufficiently large sum to justify us in demanding drastic reductions.

17. The total provision in the current budget for "Supplies and Serces" is over 67½ lakhs and for "Contingencies" over 53½ lakhs. In dealing with particular departments we shall again have to mention this large expenditure. It seems to us probable that expenditure under these heads is apt to escape close control. We hope that the cuts in departmental budgets, which we recommend later, will go some way towards securing this.

18. The State in the Punjab spends a very considerable sum in providing the people of the Province with educational facilities and medical attendance at much less than cost price and often for nothing. We have no objection to the State undertaking these services for people who genuinely cannot afford to pay for them. But at the same time we must point out that this service is paid for by the general body of tax-payers. We see not the slightest justification for the State paying for the medical treatment of persons who can well afford to pay themselves or for the education of their children. Well-to-do citizens in the Punjab are getting their children educated for far less than persons of their income would have to pay in other countries. The question of payment for State services is not strictly within our terms of reference, but, when we are faced with the possible necessity of recommending the closing . down of institutions which benefit the poor, we cannot avoid pointing out that the obvious alternative is to ask the well-to-do, and there are many, to pay for what the State provides.

The annual move of Government to Simla has always presented an 19. easy target for criticism. We find that the total expenditure on the move has generally been exaggerated. We have gone into the figures and find that the cost is not less than Rs. 1,15,000 and not more than Rs. 1,25,000. The arguments in favour of the move are simple. Much more and much better sustained office work of the kind which is done in the Secretariat can be done in the climate of Simla than in the climate of Lahore. If Government remained in the plains, it would be necessary to give Secretariat staff casual leave for two periods of 10 days each. Leaving aside clerical establishment there are 47 officers Allowing 8 days for the move up and down when the who go to Simla. offices close, the grant of 20 days' casual leave to each of them will involve a loss of about 560 working days, which is equivalent to about 2 years' work of one Secretary to Government. The Secretariat offices attached to the Council building are not adapted for hot weather use and it would be necessary to make extensive and very expensive alterations. There would be also certain charges, such as charges for electricity, to set against the saving by the abandonment of the move. We doubt in fact whether the abandonment of the move would result in any considerable saving and it would certainly be detrimental to work. On the other hand, we think that certain economies are possible. Formerly Simla officers were styled "required " or "permitted " officers according as they were under an obligation to accompany Government to Simla or were permitted to move to Simla if they so desired. The latest amendments to Appendix J to the Travelling Allowance Rules have resulted in making practically all officers at the headquarters of Government "required" officers. We recommend that the list be reviewed and that only officers whose presence in Simla is absolutely necessary should be required to move with Government. We have no objection to Heads of Departments being permitted to recess in the hills at their own expense for a period which should not exceed 21 months. Certain economies seem possible if junior clerks are usually taken to Simla instead of senior clerks. We recommend that the rates of Simla allowance allowed to non-gazetted officials be reviewed. Prima facie they seem high.

20. There is another point of general importance to which we desire to draw attention. The budget every year shows large disbursements in the shape of grants either direct to local bodies or to private organizations or to bodies such as the Rural Sanitary Board which are semi-governmental. The amount provided in the budget for 1931-32 for grants to local bodies is 1,09½ lakhs, to private organizations 25½ lakhs and to semi-governmental bodies 11½ lakhs, 1,40½ lakhs in all. Those of us who are members of the Public Accounts Committee know how inadequate is the control which Government has hitherto been able to exercise over the expenditure of these grants. We have seen that grants to local bodies sometimes remain unspent for years or are devoted to objects other than those for which they are given. We regard with considerable apprehension the relaxation of Government's control over the expenditure of such a large amount of public money and consider that the system requires review. Under Education (paragraph 97), we shall again mention this point. In 1914 the total of all grants was only 22 lakhs.

Recommendations on particular Departments.

21. This expenditure head provides for certain expenditure on preserv-Land Revenue (Major Head 5). ation of grazing reserves and re-afforestation (including chos areas), for the management of the Government estates at Dhundi and Bruceabad, for the Director of Land Records and his establishment, for the whole subordinate staff of Kanungos and Patwaris and their necessary charges, for the expenditure on Settlement, Survey and Colonization and for various miscellaneous charges. The distribution of the total of Rs. 40,12,420 in the budget is as follows :---

	•		rs.
(1) Grazing Reserves and Re-afforestation	on	••	49,000
(2) Management of Government Estates	5	• •	26,000
(3) Settlement, Survey and Colonization	1	••	8,91,000
(4) Director of Land Records	••		78,000
(5) District Land Revenue Staff	••	••	89,56,000
(6) Miscellaneouș	• •	••	66,000

As regards item (1), we are content to leave it to the Financial Commissioners to make such reductions as are administratively possible in this expenditure, especially in view of the fact that a Committee has been appointed to examine the whole question of chos. Under item (2) we recommend that the Naib-Tahsildar at Dhundi' (where there is also a Tahsildar) should be replaced by a less expensive officer and we bring to the notice of Government the opinion expressed by one of our members that the receipts from these estates are capable of increase. Under item (3) we understand that reductions amounting to about Rs. 32,000 have already been made. There will be a saving of nearly Rs. 15,000 under Settlement operations, and we recommend a further reduction of 10 per cent. under Colonization operations equal to about Rs. 36,000.

22. Item (4) provides for the Director of Land Records, his Personal Assistant and his office staff. The evidence we received was to the effect that the retention of the post of Director was necessary. We are not convinced that, at any rate for a few years, the post cannot be left in abeyance and the work handed over to the Financial Commissioner, Revenue, helped by a suitable assistant of the rank of Extra Assistant Commissioner. This proposal would save the pay and allowances of the Director and, we should expect, at least 10 per cent. of the establishment, a total of about Rs. 26,000. We recommend accordingly.

23. More than 80 per cent. of the expenditure under item (5) is on the subordinate district revenue staff, 171 District and Office Kanungos, 500 Field Kanungos, 30 Special Kanungos and 9,415 Patwaris. Since 1914 the number of Patwaris has increased by 743 which is probably accounted for by the extension of irrigation in the colonies and the consequent reduction in the size of circles and by the appointment of a certain number of Assistant Patwaris. The cost, owing mainly to the increase in the pay of Patwaris, has risen from 121 lakhs to nearly 25 lakhs. We have considered how this may be reduced and the question resolves itself into one of the increase in the size of circles. Some of us think that, even leaving the work as it is at present, some increase is possible. Others are doubtful. The last Retrenchment Committee recommended that the period for the revision of jamabandis should be extended from four to eight years, but Government found itself unable to agree. We gather that expert opinion is still opposed to any change. Without venturing to contradict that opinion we are bound to remember the innate conservatism of experts. An increase of the period to eight years, or perhaps preferably to six years, should not, in the opinion of most of us, materially affect the value of our land records, while, on the other hand, it should make possible an increase in the size of circles and a decrease in the number of Patwaris. Even a small decrease of from 5 to 10 per cent. would result in large savings. We recommend that the question should be thoroughly re-examined. Assistant Patwaris, we consider, should disappear and we gather that official opinion is with us here. This will save Rs. 72,000.

24. Field Kanungos have increased in number from 460 in 1914 to 500 to-day. The reasons are the same as for the increase in Patwaris. Many of us were in the beginning inclined to question the necessity of retaining this link between the superior revenue inspectorate and the Patwari. In the end we are unanimous that it must remain. We believe, however, that Kanungos' circle might be very considerably enlarged and we recommend a reduction in numbers of 331 per cent. Closer supervision by Tahsildars and Naib-Tahsildars will help to make this possible, a point to which we shall return later. We are divided about the necessity of retaining the Special Kanungo. A majority of us is in favour of keeping him. We have already made an ad interim recommendation that the provision of stationary allowances for Patwaris is a concession of no real value to the recipients and is a gesture which the Province can ill afford. We repeat this recommendation, the effect of which is a saving of about Rs. 26,000. Under the other items in the minor heads "Allowances and Hono-raria," "Supplies and Services" and "Contingencies" we think it should be possible to save 20 per cent. or about Rs. 10,000. As far as we can see there is no room for savings under item (6)-Miscellaneous Charges.

25. The budget provision of Rs. 12,59,700 under this head is made up as follows :---

				Rs.
(1) Superintendence	••	**	••	25,000
(2) Excise Bureau	••	••	••	15,000
(3) District Establishment	••	••	••	4,72,000
(4) Distillery Establishment	••	**	•	48,000
(5) Cost of Excise Opium	••	**	• •	6,85,000
(6) Miscellaneous	•••	••	¥ ••	19,000

The department earns a large income estimated in the current year's budget at Rs. 1,16,44,000. The following statement shows the comparative figures for the years 1913-14, 1919-20 and 1931-32 (the cost of excise opium is omitted) :---

A.,			 		1
			1913-14.	1919-20.	1981-82.
Expenditure		• •	 1,92	2,96	
Income	• •	• •	 69,50	1,10,57	1,08,49
Percentage of (expenditu	ire on income	 2.76	2.68	5.8

(In thousands of rupees).

The percentage in the first two years is practically the same. The rise in 1931-32 is accounted for partly by the fall in receipts due to the economic depression and partly by a rise in cost to which the general rise in pay since 1919-20 and an increase in establishment both contribute.

26. The increase in establishment has been mainly in Sub-Inspectors employed in districts. There were 63 in 1919-20, while in the budget for 1931-32 provision is made for 80 permanent and 35 temporary. The total cost is Rs. 1,59,000 against Rs. 44,000 and the cost per Sub-Inspector has risen from Rs. 700 to Rs. 1,382 per annum, a rise of no less than 97 per cent. Receipts from excise in 1919-20 were 110½ lakhs and the estimate for 1931-32 is 108½. Excise receipts have never been above about 1,25 lakhs. The main, in fact the only, justification for the existence of the district excise staff is that they increase excise revenue by preventing illicit. distillation, smuggling and other breaches of the excise laws. We do not think that breaches of the excise laws are any more prevalent to-day than they were ten years ago. The conclusion must be that 63 Sub-Inspectors in 1920 were doing as much work as 115 are doing to-day and that the province gets hardly any benefit from these 52 extra officials. In addition to being more numerous and costing more per head, these officials consume considerably more in travelling allowances, the cost of which has risen from Rs. 35,000 to about Rs. 90,000. We recommend that, if the present system of coping with excise crime is to continue, 50 Sub-Inspectors be reduced. As the annual cost of a Sub-Inspector in salary and travelling allowance is about Rs. 2,000 the saving will be about Rs. 1,00,000.

27. The provision for rewards in the budget is Rs. 78,000, Rs. 60,000 for non-officials and Rs. 18,000 for officials. In 1920 the provision was Rs. 25,000 and in 1914 Rs. 11,000. We gather that the maximum reward admissible for information leading to the detection of a working still has been reduced from Rs. 200 to Rs. 100 and we suppose that other rewards have been reduced *pro-rata*. It must be remembered that the value of money to the class of persons who usually earn these rewards is even higher at the moment than it was in 1914. We accordingly recommend drastic reduction in the provision for rewards to Rs. 15,000 in all. This will produce a saving of Rs. 63,000.

29. If the present system of dealing with excise crime is to continue, we can see no further possibilities of saving except under some minor heads such as "Travelling Allowance". But we desire to make a recommendation that the question of changing the system should be very seriously examined. We suggest that the control of excise crime can well be handed over to the Police. We have been told that in this event the Police would consider this work mainly as a side-line and would neglect it. In any case they have no time to deal with it. We are not impressed by this argument. We have sufficient confidence in the officers in charge of the Police to believe that, if the prevention and detection of excise crime were made part of the regular duties of the rural Police, they would see to it that the Thanedar did not neglect this side of his duty. To the argument that the Police have no time to spare we reply that the thana staff is moving about the countryside continually and is in close touch with the people. At present excise crime goes on unchecked under the noses of the Police for the very natural reason that they have no interest in checking it. Only when there is an important raid toward and the prospect of rewards looms large does the ordinary Thanedar bestir himself. If the change were made, it is true that it would be neces-sary to retain some purely excise staff to cope with the somewhat technical offences which are frequently committed by licensees of liquor shops, especially in the larger towns. But this staff need only be small, perhaps an Inspector and one Sub-Inspector in the more important districts and a Sub-Inspector elsewhere. The provision for district excise staff, less rewards, is Rs. 3,86,000. If we allow one lakh for special excise staff a saving of Rs. 2,86,000 seems possible. We strongly recommend that this possibility be examined.

29. The expenditure under this head, which amounts to Rs. 1,94,500, is made up of the cost of stamps supplied from the Cost of stamps and a supplied from

the Central Stamp Stores and commission paid to stamp vendors, with the addition of a small amount of Rs. 15,150 on account of two stamp auditors. We gather that, since these auditors have been engaged, they have saved Government the value of their salaries many times over. We welcome this step which is in accordance with our view, expressed elsewhere, that closer audit of Government receipts is required. We can suggest no savings under this major head, and must be content to pass on for consideration a suggestion made by some of us that the sale of stamps at some of the larger post offices might, if feasible, result in convenience as well as in a small economy.

30. The forests of the Punjab are a valuable property which is looked after by the Forest Department. The budget is divided into revenue expenditure and capital expenditure. Under the first head there is provision for Rs. 22,40,300 for the ordinary working and protection of the property and under the second head for Rs. 5,06,000 for its capital development. The estimate of revenue in the budget is Rs. 25,68,000. The forests therefore are a paying property, for the expenditure on capital account naturally must be ignored in estimating the profit and loss. It would, however, be a mistake to regard this department purely as a business concern, the success or failure of which must be judged by the visible dividend it earns. A considerable part of the work of the department is purely protective, e.g., the Simla Forest Division. Destruction of forest growth in the lower hills increases the likelihood of sudden floods in the rivers and it is at least arguable that the disastrous floods of 1928 and 1929,

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which caused lakhs of damage in the province, were made more serious by the denudation of the forests in Kashmir State. Even if the expenditure on the Forest Department produced no visible return, it would still be earning a large invisible dividend.

31. By admitting all this we do not absolve ourselves from the duty of criticising the expenditure of the department. A few years ago an arrangement was made by which the department agreed to aim at a ratio of 7 to 10 between expenditure and receipts. The following figures are interesting :----

	1918-14.	1919-20.	1922-23.	1926-27.	1931-32,
Expenses	10,25	26,14	49,84	27,80	28,29
	12,90	36,35	84,45	39,08	25,68
	8 : 10	7 : 10	14 : 10	7 : 10	9 : 10

(In thousand of rupees).

The expenses are lower to-day than they have been for many years and, but for the recent heavy fall in the prices of all forest produce, the department could have kept to the correct ratio. There seems no prospect of any immediate improvement in prices, so we are thrown back on a reduction in expenses.

32. The department's expenditure can be roughly divided between expenditure on maintenance and works (including departmental extraction of timber, etc.) and expenditure on establishment. The following are the figures for the years 1913-14, 1919-20 and 1931-32 :--

(In thousands	s of rupees).	•
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			1913-14.	1919-20,	1981-82.
Maintenance and works	8 •	• • • •	5,28	19,91	10,41
Establishment		• •	4,97	6,23	9,88

It should be mentioned that sometime between 1914 and 1919 the department took up the system of extracting timber itself instead of through contractors. The increase in the establishment figures between 1914 and 1919 probably represents some extra staff for timber extraction. Between 1919 and 1931 there has been a large actual increase in staff as well as an increase in cost owing to increased salaries. The budget for 1919-20 shows that the staff then consisted of two Conservators, ten Deputy Conservators, one Assistant Conservator and ten Extra Assistant Conservators, 23 gazetted officers in all. The Chief Conservator of Forests informs us that his gazetted staff now consists of 62 officers, of whom six are on leave and five on deputation. He admits very frankly that this is greatly in excess of his needs. He puts his needs as follows :---

Chief Conservator of Forests	s	••	••	1
Conservators	• •	••	••	4
Other I.F.S. officers	• •	••	••	16
Provincial Forest Officers	• •	••	••	21

42 plus

Cne Forest Engineer (of whom 6 will be on leave and 6 on deputation).

This involves the reduction of staff by 11 Indian Forest Officers and 9 Provincial Forest Officers and we recommend that immediate steps be taken to secure this reduction. One post of Chief Conservator of Forests, one post of Conservator of Forests and a senior officer, who should not rank as a Conservator, in charge of the Working Plans and Utilization Circle, should be sufficient superior staff for this department. The probable saving would seem to be about one lakh. The subordinate establishment is just about the same as it was in 1914 except for the increase in clencal and menial staff which inevitably accompanies an increase in officers. The decrease in the number of officers should result in a corresponding decrease in this establishment and in other charges which we tenatively put at Rs. 50,000. 33. We gather that the Chief Conservator of Forests has (since the budget was framed) effected savings amounting to Rs. 1,32,000 on maintenance and conservancy charges. We presume that these economies can continue, and that their effect over a full year will be not less than Rs. 1,75,000.

S4. We are doubtful whether it really pays the department to extract timber itself instead of through contractors. We have heard conflicting opinions on this point. The Chief Conservator of Forests has told us that the discontinuance of departmental extraction would not enable him to reduce his staff much and this statement is in a measure borne out by the fact that between 1914 and 1920, in which period departmental extraction began on a large scale, there was only a small increase of staff. On the other hand, we are driven to ask why, if it was not on account of these activities, staff increased so largely between 1920 and 1931. Our general conclusion is that, if departmental extraction ceased, it should be possible to manage the estate with approximately the same superior staff as was sufficient from 1914 to 1920. We recommend that this possibility be seriously examined.

85. The provision under this head, amounting to Rs. 98,500, is mainly for the pay of departmental Sub-Registrars and Registration (Major Head 9). commission paid to Sub-Registrars. The total cost of departmental and honorary Sub-Registrars has increased from Rs. 73,000 in 1914 to Rs. 93,000 to-day. We are not aware of the reasons for this, but, if it is due to an increase in the amount of commission, we recommend that the question be examined with a view to the reduction of the rates to the 1914 level. a proceeding justified by the present value of money. The only other way of reducing expenditure under this head is to reduce the number of departmental and honorary Sub-Registrars. We recommend that in any place (except district headquarters) where the number of documents registered is less than three or · four a day or, say, 700 a year, the work of Sub-Registrar should be performed by the Tahsildar and Naib-Tahsildar. It is essential, however, that the office should be open for registration at fixed and regular hours. In some larger towns, such as Lahore and Amritsar, the situation may call for different treatment.

36. The expenditure of the Irrigation Branch of the Public Works Irrigation (Major Head XIII, 14, 15 and 55). Bend 55.

The matter is further complicated for the layman by a system of *pro-rata* distribution of certain charges over the various heads and by the fact that Working Expenses are shown on the receipt side of the budget as a deduct entry. We have been unable to see the virtue of the exhibition of Working Expenses in this way and consider that it is inclined to obscure the real budgetary position.

97. Put simply, the Irrigation Branch is a concern the capital assets of which are represented by the canals of the province. Its outgoings are its Working Expenses (XIII), sundry other expenditure (15) and the interest on its capital (14). Its receipts are the income from water rates and certain miscellaneous sources. Its visible dividend is its receipts less its outgoings. There is a huge invisible dividend, which it is well to keep in mind, in the increased prosperity and security which accrue to the province from its canals. The following statement illustrates the position :—

			-	1913-14.	1919-80.	1991-82.
Value of capi	tal assets			16,78	22,44	88,00
Expenditure		••	• •	1,49	1,81	8,57
Income	••	••	• • '	8,25	4,28	6,57
Profits	••	••		1,76	2,47	3,00
Percentage of	l profits on c	apital	•••	10.5	11	9.1

(In lakhs of rupees).

At first sight there seems nothing much to criticize in these figures. The profits of any enterprise will vary from year to year. Closer inspection, however. reveals that, while the percentage increase in expenditure (21 per cent.) was less than the increase in capital value and receipts (33 per cent. and 32 per cent.) during the period 1913—1919, during the last ten years, while the capital has increased 47 per cent. and receipts 52 per cent., expenditure has gone up by 97 per cent. If expenditure had kept pace with receipts, the nett income from canals would have been about 3,85 lakhs instead of 3,00 and the percentage of profit 11.66 instead of 9.1. General increases in rates of pay, a rise, which appears to be about $\frac{1}{2}$ per cent., in the flat rate of interest on the total capital and increased expenditure on schemes such as pumping and other expensive works in waterlogged tracts account to some extent for the comparative increase in expenditure but are not, we think, sufficient reasons for a rise of nearly 100 per cent. as against an increase in capital value of less than 50 per cent.

38. The following table gives since 1919-20 the acreage irrigated on open canals, *i.e.*, excluding the Sutlej Valley Canals, the total cost of establishment and maintenance and the cost of each per acre irrigated :---

				Mainte-	RATE PER GATED	ACRE IRBI- OF-	
2	Zerf,	Total srea irrigatul.	Establish- ment charges,	nance and repair (excluding planta- tions).	Establish- ment charges.	Repairs.	Remarks.
	1	2	3	4	5	6	7
		Acres.	Rs.	Rs.	Rs.	Rs.	•
1919-20	••	9,834,685	66,40,767	46,61,950	0.68	0+\$7	
1920-21		9,568,868	78,88,755	48,77,819	0.82	0.51	· · ·
1921-22		10.461.179	86,84,422	62,69,441	0.83	0.60	
1922-23		10,727,973	86,95,957	61,47,846	0.81	0.57	
923-24		10,207,060	75,86,406	55,58,152	0.74	0.54	
1924-25	••	10,100,612	80,40,847	58,62,358	0-80	0.28	-
1925-26	••	10,430,803	79,95,664	61,06,083	0.77	0-59	
1926-27	••	10,177,930	88,92,160	62,58,468	*0 •87	0.61	
1927-28	••	9,619,541	87,54,911	62,87,984	0.91	0.62	
928-29	• •	10,513,246	92,02,444	69,88,454	0.88	0.66	
1929-30		10,492,255	98,62,337	91,75,436	0.94	0.82	Excluding Rs, 19,12,342 special flood damage of that year, the rate comes to Rs, 0.69.

*From the year 1926-27 Pensionary Charges were included with Establishment as a direct Charge accounting for the increase in this and succeeding years.

It will be noticed at once that the cost of establishment per acre has, since 1919, increased from .68 of a rupee to .94, a rise of 38 per cent. The cost of maintenance has risen from .47 of a rupee to .69 (excluding the special flood repairs in 1929-80), an increase of 47 per cent. Under establishment the sudden rise in 1920-21 to .82 may be accounted for by the new rates of pay which took effect in that year. However in 1923-24 the figure fell to '74. The addition of pension charges in 1926-27 was responsible for a further rise. The period has also seen the creation of several new posts such as Disposals Officer and Superintending Engineer, Water-logging. Regarding maintenance we have been given no explanation of the rapid rise from .47 in 1919-20 to .60 in 1921-22. The tendency to rise which the figures since 1926-27 exhibit is said to be due to extensive and expensive anti-water-logging measures, including both non-recurring expenditure on the excavation of drains and recurring expenditure on pumping installations. Prima facie an increase in acreage irrigated might be expected to produce an increase in the total expenditure but a decrease in the cost per acre. For establishment we see no reason why the figure of .74 attained in 1923-24, with an addition of 12 for pension charges (the actual cost of the budget provision for 1931-32 on an irrigated acreage of 10,500,000), or '86 in all, should be exceeded and we should expect, in view of what has been said in the last sentence, that it could be reduced. For maintenance we see no reason to go above the 1919-20 figure, namely, 47 plus an allowance of say 05 for anti-water-logging measures

or $\cdot 52$ in all. The cost of labour, etc., should not be higher than in 1919-20 and here again we should expect to see a gradual reduction in view of the considerable increase in the total area irrigated. Applying these figures to an acreage figure of $10\frac{1}{2}$ million acres we get totals for establishment and maintenance on open canals of $90\frac{1}{2}$ lakhs and $54\frac{1}{2}$ lakhs against the provision in the current budget of $95\frac{2}{4}$ lakhs and 83 lakhs. This represents a saving in Working Expenses on open canals of 94 lakhs. We strongly recommend that Government should insist on obtaining approximately this saving.

39. We were supplied with the following figures for the Sutlej Valley Project, British Canals :---

			Freebyer	- Mainte-	RATE PER ACRE IRRIGATED OF-		
Year.			Establish- ment charges.	Mainte- nance and repairs.	Estab- lishment charges.	Repairs.	
1		2	8	4	5	6	
		Acres.	Rs.	Rs.	Rs.	Rs.	
1926-27	••	888,019	8,47,821	5,96,887	1.03	1.77	
1927-28	• •	761,896	4,86,528	8,85,935	0.64	1.10	
1928-29	• •	1,019,849	10,02,894	13,42,860	0.98	1.82	
1929-80	••	1,195,367	12,63,012	25,49,952	1.06	2.13	

N.B.-Irrigation and Revenue Accounts of Sutley Valley Project Canals were opened with effect from 1926-27.

The large increase under maintenance and repairs in 1929-30 is due to the inclusion of special repairs of damage caused by floods. We are obviously not on very secure ground in criticizing expenditure on canals under construction where irrigation is spreading day by day. Staff on construction work must obviously be larger than is required merely for maintenance. There is also a gradual increase in revenue staff as irrigation developes. At the same time we are puzzled by the figures in column 5. We would have expected to see a higher figure in 1926-27 and a gradual decrease as irrigation spread. Instead we find a sudden drop in 1927-28 followed by an increase in both 1928-29 and 1929-30, the latest figure being above the figure for 1926-27. We realize that new channels are for a variety of reasons more costly to maintain than old and we can understand the reason for the high figure of 1.77 for maintenance in 1926-27. We can also understand the sudden drop to 1.10 in 1927-28 in view of the large increase in the area irrigated, but the rise to 1.32 in 1928-29 is not so easy to follow in view of the further large increase in irrigation. The area irrigated in 1930-31 was in round figures 11 million acres and if we take this area as an estimate for 1931-32 and apply it to the figures in the current budget for establishment and maintenance (15.69 lakhs and 19.70 lakhs), we get a cost per acre of 1.05 and 1.31. With an increase in area of 50 per cent. over 1928-29, when the figures per acre were '98 and 1'32, we consider that some reduction should be possible and we suggest 95 for establishment (which is about 10 per cent. above the figure we have taken for open canals) and 1 for maintenance. These figures would give a total expenditure of 14.25 lakhs for establishment and 15 lakhs for maintenance, representing a saving of 6.14 lakhs. These amounts should be capable of gradual reduction as the conditions on the canals approach more nearly to those on open canals. In view of the serious effect on the finances of the Sutley Valley Project of the slump in prices this question of reducing Working Expenses is of the

greatest urgency. In particular we recommend for consideration the question whether such a highly paid officer as a Chief Engineer is still required for the Project.

40. We turn now to more detailed examination of irrigation establishment charges on open canals. It may be admitted at once that the increase in the number of Superintending and Executive Engineers has been no more than the increase in the area irrigated (25 per cent.) could be held to justify. There were 56 permanent posts of Superintending and Divisional Engineers in 1914 and there are, excluding the Sutlej Valley Project, 64 to-day. This admission need not however prevent us from examining whether in fact some reduction in staff is not possible.

41. The following table gives figures for permanent posts, commanded and irrigated areas and length of channels in each canal system :----

· · · · · · · · · · · · · · · · · · ·			E	SBM/	IN EN	r pos	575		head-	area.	1929-30.	liles).	8
Name of canals.	Chief Engineers.	Superintending En- gineers.	Divisional Officers.	Sub-Divisional Officers.	Deputy Collectors.	Zilladars.	Naib-Zilladara.	Overseers (includ- nig U. S. (R) and L. S. (R)).	r of canal	mmanded	Area irrigated, 192	Length of channels (miles).	Length of drains (miles).
1	. 2	3	4	5	6	7	8	9	10	11	12	13	14
Western Jumna Canal Sirhind Canal Upper Bari Doab Canal Dorajat Lower Bari Doab Canal Lower Chenab Canal Upper Chenab Canal Lower Jhelum Canal Upper Jhelum Canal	<pre> } { {</pre>	1 1 1 2 1 1 1	444347443	12 12 9 11 20 9 8	4 3 3 3 8 3 8 3 1	21 28 24 5 26 50 20 22 12	 20* 	44 53 37 43 44 84 40 40 32	1 1 1 1 1 1 1 1 1	2,625,403 2,450,577 1,646,298 2,271,732 1,774,068 3,437,824 1,537,658 1,468,640 587,786	905,886 1,325,000 1,431,867 1,064,766 1,272,696 2,638,234 626,185 899,170 328,451	2,158 1,964 1,873 2,000 1,376 2,972 1,434 1,424 766	191 106 234 228 159 130 1
Total	2	10	37	99	29	208	20	417	9	17,800,786	10,492,255	15,967	1,049

*These are on the temporary establishment:

The average irrigated area controlled by a Superintending Engineer 42. is about one million acres. The Superintending Engineers, Western Jumna, Upper Chenab and Lower and Upper Jhelum have less than the average to look after. The last three also have less than the average length of channels to supervise. We recommend that the question of combining in one charge the Upper Jhelum and the Upper Chenab be seriously examined. The Lower Chenab at one time was a single charge. Admittedly it was a very heavy one. But on the other hand it is one of the most firmly established of all our canals and we recommend that the possibility of reverting to the old state of things be examined. On these two recommendations we are all agreed. A majority of us would go further to question the necessity for any Superintending Engineer at all on the Western Jumna, Upper and Lower Jhelum and Upper Chenab. A minority amongst us holds strongly that the post of Superintending Engineer is everywhere superfluous. They believe that his work could be done by the senior Executive Engineer on the canal. They reinforce their argument by certain proposals as to Chief Engineers and Deputy Chief Engineers to which we shall refer later, but as the majority of us think that the Superintending Engineer is an indispensable link in the administrative chain and are only prepared to admit that some reduction in numbers is possible, we need not enlarge on this point.

43. The average charge of an Executive Engineer is 300,000 acres of irrigation and 430 miles of channels. On this calculation Executive Engineers on the Western Jumna, Upper Chenab and Upper and Lower Jhelum have an area very much below the average to look after. On the Upper Jhelum the Executive Engineers have only 110,000 acres and less than half the average length of channels. On the Lower Bari Doab, Upper Chenab and Lower Jhelum the length of channels is also below the average. We recommend a reduction of one Executive Engineer on the Western Jumna, Upper Chenab and Upper and Lower Jhelum. There is a case for including the Lower Bari Doab in this recommendation, but the distances there are great and the canal is not yet perhaps fully established.

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44. The Sub-Divisional Officer is responsible on an average for 100,000 acres of irrigation and 160 miles of channel. This does not seem an excessively heavy charge in ordinary circumstances. We draw attention to the charges of Sub-Divisional Officers on the Upper Jhelum which are *primá facie* very light. We recommend that the question of increasing the size of the charge of Sub-Divisional Officers on all canals should be examined with a view to a reduction in numbers.

45. The ordinary Overseer has about 40 miles of channel to look after. He is in charge of more on the Western Jumna, Upper Bari Doab and Derajat Canals and of less, and sometimes of very much less, on the other canals. An increase in the size of their charges to 50 miles and the application of this standard to all canals would reduce the number of Overseers required to about 320. There may be places where 50 miles is demonstrably too heavy a charge, but even allowing for this the possible saving is large and we recommend that immediate steps be taken to effect a reduction. We desire to bring to notice the very large number of temporary subordinates (278) and recommend that an attempt at reduction should be made.

46. As long as the present system continues under which the department is responsible for the assessment of water rates we do not recommend any change in the chain of revenue officials, Deputy Collectors, Zilladars and Patwaris. There is one Deputy Collector in each division other than a headworks division and this allowance does not seem excessive. A Zilladar on the average looks after 50,000 acres. As a Canal Patwari looks after about 5,000 acres, there are ten Patwaris ordinarily under one Zilladar. We note that according to the Financial Commissioners' Standing Order No. 19, paragraph 21, a revenue Kanungo is ordinarily in charge of 20 Patwaris. The average cultivated area undera Patwari is 3,800 acres (Standing Order No. 15, paragraph 4), so nominally a Kanungo is responsible ordinarily for 66,000 acres. A Kanungo has a good many extraneous duties which a Zilladar has not and *primâ facie* there are grounds for recommending that the size of the Zilladar's charge should be increased. This would result in a reduction in numbers and consequent saving.

47. The present system by which revenue is assessed by a special canal staff and collected by the ordinary civil revenue authorities is by no means ideally perfect. It must lead to duplication of establishment and consequent extra expense. Moreover, it is notorious that Collectors regard the realization of the full land revenue demand as their first duty. Collection of canal dues is relegated to second place and we strongly suspect that this results in loss of revenue. The subject is highly controversial. Battle was joined, not without bitterness, in the Colonies Committee in 1907 and the result was indecisive. In 1912 the Ellerslie Committee recommended that the Irrigation Department should continue to be the assessing agency. The last decade has seen the experimental transfer of assessment to the civil revenue agency on the Western Junna Canal. Admittedly the experiment was not successful but as it was apparently tried mainly with the idea of relieving the cultivator of the payment of "faslana," and was not a thorough separation of functions from top to bottom. we cannot accept the failure as conclusive. At the same time as long as canal revenue is on a fluctuating basis there seems no alternative to the present system.

48. The special revenue staff of the department costs about 31 lakhs, 12 lakhs of which represents the percentage on collections paid to lambardars. Under any system this payment would remain, though we take the opportunity to ask for an examination of the question whether the total, which is *primâ facie* large, cannot be reduced. The possible saving by the transfer to the Collector and his staff of the duty of assessing canal dues is about 19 lakhs. In addition the relief of the superior canal engineering staff from this duty should in time make it possible to reduce their numbers. The solution of the problem lies, we are told, in the direction of a contract system for the sale of water.* This is not what is usually known as the volumetric system. Roughly the idea is to have a water rate settlement with each village on the same lines as the existing land revenue settlement. The settlement would be based on actual irrigation over a series of years and the amount of water known to be ordinarily available. The amount payable would be a lump sum which would be divided

^{*}The contract system appears to have met with some success in Bihar, yids "Report on a visit to the Sone canals in Bihars " by W. C. Chopra, I.S.E.

over holdings by the village itself. There would be no remissions during the currency of the settlement except when the area irrigated fell by more than a certain percentage owing definitely to the failure of the water supply. There would of course be no question of enhancement of the assessment during the period of settlement. The main departmental objection to the scheme is, we are told, that it would divorce the engineer from all connection with the actual irrigation of the fields. We are not convinced by this argument. It may have been valid years ago when the theory of irrigation was little understood and working was based on empirical knowledge. But to-day the work which a cusec of water will do in particular circumstances is known. Moreover over many of our canal systems irrigation arrangements have attained comparative fixity of character. In any case there is nothing in the proposal which prevents the engineer from inspecting any village he likes and obtaining from the revenue records all the information he may desire. There is bound to be opposition to this radical change, but natural departmental conservatism should not be allowed to stand in the way of a thorough trial of the system. We urge that attempts should be made at once to introduce the system on a considerable scale on at least two well-established canals and that the work should be handed over to specially selected officers known to have open minds on the problem. A considerable amount of propaganda will be necessary to convince the zemindar, who is at least as conservative as any department, that the system will be for his ultimate benefit. To mention only one point it should relieve the zemindar entirely from "faslana" exactions.

49. The department expends 13 lakhs or more yearly on maintaining its dispensaries. Some of these are also open to the public and the department receives a subvention from the medical budget. We quite see the necessity for departmental dispensaries when construction is going on in a tract practically uninhabited and also in places at a long distance from other civil dispensaries. But we have been informed of places where civil and canal dispensaries exist within a mile or two of each other. We recommend that canal dispensaries, whether maintained solely for canal employees or open to the public, should be closed down wherever they are within reasonable distance of Government or local fund dispensaries and that arrangements should be made by which the nearest Sub-Assistant Surgeon can visit canal employees the nature of whose duties makes it impossible for them to be long absent from their posts.

50. The department has for a very long time had two Chief Engineers. The Chief Engineer for the Sutlej Valley Project is a recent addition to which we have referred elsewhere. A minority of us wishes to abolish Superintending Engineers and to run the department with one Chief Engineer and two or three Deputy Chief Engineers. The majority wishes to retain Superintending Engineers in decreased strength but with a considerable increase in their financial and administrative powers. This measure of devolution would, we believe, lighten the work at the centre and enable one post of Chief Engineer to disappear. It should also lead to a reduction in the number of Under-Secretaries, which primâ facie seems excessive. The recommendation both of the minority and of the majority involves the decrease in the number of Chief Engineers by one.

51. In making our recommendations for a considerable reduction in the strength and cost of the Irrigation Department we have not lost sight of its enormous importance to the Punjab. In any reasonable classification the department would stand first among the so-called beneficent departments. No Punjabi is likely to forget the truth embodied in the motto of the province, "crescat efluviis". At the same time there is no reason why we should hesitate to propose any economy which is consistent with a continued efficiency. We believe that the economies which we have proposed are of this nature.*

52. Under the major head "General Administration" provision is made for expenditure amounting to Rs. 1,15,27,980. This provides for the cost of the Governor, the Cabinet (both Members of Council and Ministers), the Legislature and the Civil Secretariat. It also includes the provision for the Financial Commissioners, Commissioners of Divisions, Deputy Commissioners

^{*}One member, Mr. Murphy, desires to express no views about our recommondations on the Irrigation Department.

and all the necessary establishment and charges for carrying on the ordinary day to day civil administration of the province as distinct from the special activities which are controlled by particular departments. It provides in a word for the motive power of the administration.

53. The following statement gives the cost of this side of Government's activities in 1931-32 and in 1919-20. This is a convenient year to take for purposes of comparison as it was the last year of the old pre-reform system :---

	1981-82.	1919-20.
a) The Governor and his household, &c.	8,07	2,95
b) The Cabinet	3,32 1.77	Nil. 8
c) The Legislature	1,77 9,21	4,82
e) Financial Commissioners	8,88	2,85
f) Commissioners	3,97	3, 07
g) District Administration	84,15	48,32
h) Department of Criminal Tribes	8,64	Nil.
Total	1,12,46	60,99

(In thousands of rupees.)

Of the increase in cost of 51¹/₂ lakhs the creation of a Cabinet, a reformed Legislature and the Department of Criminal Tribes account for 84 lakhs. Of the remainder the Civil Secretariat and District Administration take 401 Jakhs. The increase in the cost of the Civil Secretariat is directly due to the increased complexity of the system of administration. It is impossible to insert a Cabinet of five Members and an active Legislature into an autocratic system of Government without adding immensely to the volume of secretarial work. The number of officers in the Secretariat has only increased from nine to twelve (Sec-Transferred Departments, Financial Adviser and Deputy Secretary, tary, Finance), of whom one is temporary. Establishment charges, however, have risen by 140 per cent. and, though there have been large increases in salaries, most of this increase must be due to increase in numbers. We are afraid it is necessary to accept this additional cost of the Secretariat as part of the price which we have to pay for a reformed system of Government. Some economies should, however, be possible. Two posts of Under-Secretary and Assistant Secretary have been abolished or held in abeyance since the budget was framed. Expenditure on charges other than pay of officers and establishment have risen since 1919-20 from Rs. 67,000 to Rs. 1,62,000, an increase which requires con-siderable justification. We were struck by the army of *chaprasis* who hang about Ellershe doing apparently very little. We understand a certain number are attached to each officer. We agree that an officer requires one *chaprasi* for his personal use outside regular office hours, to carry files, take messages, etc. But after one chaprasi has been allotted to each officer, we think that some system of a central messengers-room, such as is found in Government offices in England, would enable a considerable reduction to be made in an establishment of no less than 90 servants (excluding menials). We believe that a reduction of 10 per cent. in the total cost of the Secretariat (apart from any reduction in salaries) should be possible and we recommend that it should be made.

54. We have no comments to make on the expenditure for "Head of the Province and Executive Council" (22-A), "Legal Remembrancer, etc." (22-C (b)) and "Local Audit Fund Establishment" (22-C (d)).

55. The cost of the Legislative Council is Rs. 1,77,000. We considered the question of the salary of the President, but find ourselves in such complete disagreement as to the position which the post should hold vis- \ddot{a} -vis Cabinet

appointments and as to the salary that should attach to it that we are unable to make any recommendation. We are agreed (with one dissentient vote) that the position of the Deputy President should be honorary. A majority of us favour the retention of both the Secretary and the Assistant Secretary. There are several matters which, we think, are proper to be examined by the Legislature itself. There is, firstly, the cost of questions asked by members. We have seen it calculated that each question asked in the Central Legislature costs Rs. 100 to answer. Perhaps Rs. 50 may be taken to be the cost of each question in the Provincial Legislature. We doubt if often the public value of the information required justifies this expenditure. We were told on all sides that Council questions have added much to the work of departments and are in part responsible for the large increase in clerical establishment during the last ten years. We are naturally unwilling to curtail a right which is with good reason valued and held to be in the public interest. But we should like to see the question examined by a Committee of the House. We recommend to Government that the President be moved to set up a Committee of the House to examine, inter alia, this question. Other matters which we would refer to this Committee are whether the cost of supplying order papers and miscellaneous literature cannot be reduced, if necessary by some amendment of Standing Orders; whether savings cannot be effected by the supply of Urdu papers only to such members as cannot read English ; the question of the strength of the office staff and its economical employment when the Council is not sitting; whether the reporting of debates and the printing and publishing of reports cannot be handed over to private agency; whether the travelling and daily allowances of members should not be reduced.

56. The two Financial Commissioners in the Punjab correspond to the Boards of Revenue existing in the regulation provinces. In the United Provinces there are two members of the Board of Revenue and an Excise Commissioner; in Madras there are three. Previously in the Punjab there was only one Financial Commissioner, but there was a Settlement Commissioner who dealt with settlements and relieved the Financial Commissioner of a great deal of his work. In the year 1884 the post of Settlement Commissioner was abolished and a second Financial Commissioner was appointed. In the year 1897 there was a reversion to the earlier policy; but-this arrangement was found to be unsatisfactory and finally in the year 1910 the post of Settlement Commissioner was transformed into that of a second Financial Commissioner and the post of the Excise Commissioner, which had existed since 1888, was abolished.

57. We were given a list of the duties of the Financial Commissioner, Revenue, which ran to 134 items. Some of these admittedly may not take more than five minutes of his time in a year, but as the administrative head of the departments of Land Revenue and Excise and the expert adviser to Government on these subjects he is an officer of the greatest importance. We cannot conceive of the abolition of the post being possible unless it were merged in a Board of Revenue which should combine the present duties of the Financial Commissioner, Revenue, with a general responsibility for all the income of Government. To pursue this suggestion is hardly within our province as a Retrenchment Committee. We mention it, however, deliberately because we think that audit of Government receipts requires much more attention than it ever receives.

58. Important though the duties of the Financial Commissioner, Development, are we do not think that it is necessary for them to be discharged by such a highly placed and highly paid official. As far as his connection with such departments as Agriculture, Veterinary and Co-operative Societies is concerned, he seems to us to be the fifth wheel in the coach. His other duties such as the administration of colonies, courts of wards, land acquisition, etc., could, we think, go direct to the member of the Cabinet concerned through the appropriate Secretary. We recommend the abolition of this post. Whether this will involve the creation of another post of Secretary to Government we are not prepared to say. Even if it does, there will be considerable economy. There should also be some consequent reduction in the strength of the office of the Financial Commissioners

59. We now turn to the general administration of the province outside the Civil Secretariat and the semi-Secretariat of the Financial Commissioners. At the head of this there are five Commissioners of Divisions. This number has not varied since the province assumed its present form. Below them are the Deputy Commissioners in charge of districts. There has been no change in the number of districts since the separation of Sheikhupura from Lahore and Gujranwala at the beginning of the last decade. Under the Deputy Commissioners are the various classes of provincial, subordinate and clerical officers of the districts. The total abolition of Commissioners has been a popular demand for many years. The last Retrenchment Committee by 7 votes to 4 recommended a reduction from five to three. We have, we think, heard all the arguments for and against total abolition, total retention and reduction. In the present circumstances, when so many districts are held by junior I.C.S. officers or by P. C. S. officers who in spite of their seniority have in the nature of things little experience of administrative responsibility, the arguments against total abolition seem to us weighty. We are, however, by no means convinced that a reduction in numbers is impossible. We realize that the supervision of the affairs of local bodies means much extra work for Commissioners and should. if it were done thoroughly, mean much more. The actual amount of time spent on such work has been variously estimated by different witnesses. Many of us hope that means will be found to relieve Commissioners of these duties. We also realize that a reduction in numbers may involve some change in the revenue law in the direction of the restriction of the right of appeal from the orders of the Collector in certain classes of cases, in order to relieve Commissioners from some of their appellate revenue work. We see no objection to this. Some of us would like to see the revenue appellate work of Commissioners transferred to district judges, but the majority, while agreeing that this is a step which sooner or later will inevitably be taken, is of the opinion that the province is not yet ripe for it. After very careful consideration we recommend a reduction in the number of Commissioners of Divisions to three. We consider that the post of Personal Assistant to the Commissioner, Lahore, should be abolished.

60. In 1919-20 there were 28 Deputy Commissioners, 28 Assistant Commissioners and 130 Extra Assistant Commissioners whose pay was charged to General Administration; to-day there are 29 Deputy Commissioners, 42 As-sistant Commissioners and 236 Extra Assistant Commissioners. The rise from 194 to 307 represents an increase of 58 per cent. Gross pay and allowances have risen from 15 lakhs to 23} lakhs, an increase of 55 per cent. It is a matter for slight surprise that the cost is, relatively to the numbers employed, less than in 1919-20. This is duo partly to the fact that there has been a relative increase in the number of Provincial Service officers acting as Deputy Commissioners and partly to the fact that an incremental scale of pay is not always more expensive over the whole cadre of a service than a graded scale. As regards Deputy Commissioners we can see some possibility of economy in the amalgamation of smaller or less important districts. We recommend that this possibility be examined, at any rate as a temporary expedient. We realise that local opinion will generally be opposed to any change. Assistant Commissioners and Extra Assistant Commissioners do very much the same kind of work. Their combined numbers have increased from 166 to 278. The number of Extra Assistant Commissioners has increased by no less than 98. It may be admitted that the population of the Punjab has since 1921 increased by about 14 per cent. and that many more cases now come into the courts. The advent of the motor car is alone responsible for much extra judicial work. We also agree that certain amendments in the Code of Criminal Procedure have resulted in delay in the disposal of cases. We were informed that in 1926 the strength of the Provincial Civil Service cadre was increased by 15 posts in order to provide in certain districts officers who should exercise purely executive func-tions. These appointments were made with a view to implementing the expressed desire of the Legislature that steps should be taken to separate the judicial agency from the executive. Without expressing any opinion on the question of the separation of the judicial from the executive, we consider that the steps actually taken by Government have not advanced the province any ap-preciable distance towards the separation of functions. The extra expense, however has been considerable and we recommend that the experiment, on

the lines adopted, should cease forthwith. Other additions to the cadre have been 21 posts to form a training reserve and 6 posts added to the leave reserve. This still leaves an increase of 56 posts, equal to 40 per cent., to be accounted for since 1919-20. The explanation that these were temporary posts later converted into permanent hardly seem to us any explanation. Making all allowances for the increase in population and in criminal work, we consider that the increase has been excessive. The strength in 1919-20 plus 25 per cent. for increase of work plus 27 posts for training reserve and extra leave reserve or 200 posts in all, should be sufficient. When the recommendations for an increase in the hours of work, reduction in the number of holidays and change in the leave rules are brought into force, we believe that further reduction will be found possible.

61. We have already made certain suggestions as to hours of work and holidays which should help to make a reduction in the number of Magistrates possible and we shall have something to say later on about leave rules. We make with the same object certain other recommendations with a view to reducing the amount of work which Magistrates have to do :---

- (a) The recent amendments to sections 256 and 526 of the Criminal Procedure Code have undoubtedly added to the length and cost of cases and have been of little advantage to accused persons, for whose benefit they were introduced. We recommend that these amendments be reviewed. In the case of section 256, we suggest that the words "forthwith or, if the Magistrate for reasons to be recorded in writing so thinks fit, at the commencement of the next hearing of the case" be substituted for the words introduced by section 71 of Act XVIII of 1923. In the case of section 526 we consider that a Magistrate should not be bound to stay proceedings until an injunction to stay proceedings has been received from a court to which he is subordinate.
- (b) Proceedings in the courts of Committing Magistrates are unduly prolonged. We recommend simplification as far as possible, and consider that committal proceedings should close as soon as the Magistrate finds that a primâ facie case is made out. There seems no necessity for the recording in the committal stage of the evidence of innumerable and often purely formal witnesses.
- (c) We were impressed both by the number of cases instituted on complaint which end in acquittal or discharge and also by the amount of time wasted in the trial, under the procedure laid down in Chapter XXI of the Criminal Procedure Code, of comparatively trivial offences. We recommend a greatly extended use of trial by summary process by experienced first class Magistrates and would like to see all offences which involve only a minor degree of criminality, under whatever section of the Indian Penal Code they fall, made triable summarily. A corollary to this recommendation is the disappearance of second and third class magisterial powers except for training purposes. We are anxious that Tahsildars and Naib-Tahsildars should cease to try cases both because we do not consider them generally to be competent magistrates and because, in view of our recommendation for the reduction in the number of field kanungos (para. 24), we desire that they should have more time to devote to their revenue duties.

62. The number of clerks employed in districts is not given in the budget for 1919-20, but the total cost of clerical establishment, both permanent and temporary, was about 9 lakes. In 1931-32 this cost has risen to $18\frac{1}{2}$ lakes over 100 per cent. The figures for the number of clerks in 1913-14, which are available, show that in that year there were about 2,200. The present figure is about 2,800, an increase of 27 per cent. Under the head "22-E (a)— District Office Establishment" 'Contingencies bave risen from Rs. 2,86,000 to Rs. 6,31,000. "Travelling Allowances" are Rs. 3,80,000 against Rs. 1,60,000. This is an increase which seems justified neither by the increase in the number of officers and servants nor by the increase in rates. It requires serious attention. Similar large increases can be found anywhere under "22-E—District Administration," for instance, under 'Copying Agency Establishment ' charges, and we feel we are justified in asking for an all round reduction of 15 per cent under the head as the whole, excluding the effect of any cut in salaries 'but including the effect of any reduction in establishment. We except from this recommendation the Department of Criminal Tribes, where, from what we have heard, the Deputy Commissioner can be relied upon to effect all possible savings.

63. We have left to the end the question of the Cabinet. After consideration we recommend that the salary of Ministers be in future Rs. 3,000. It is fair to add that this is a compromise between many different opinions as to the appropriate sum. We are not uninfluenced by the fact that in England the salary of Cabinet Ministers seems to bear no relation to the salary of permanent officials and the salary of all Cabinet Ministers is not the same. Some of us are in favour of a corresponding reduction in the salary of Executive Councillors and some of us again would like to see a reduction in the number of Ministers.

64. In conclusion we wish to bring to notice a suggestion which was made to us. We discussed it but have no recommendation to make. Briefly put, it amounts to doing away with the present system of five divisions and 29 districts and substituting about ten large districts with comparatively senior officers at the head of each. These districts would be divided into sub-districts each with an officer of a rank intermediate between the present Sub-Divisional Officer and Deputy Commissioner in charge. This scheme has points of resemblance to the system which, we believe, obtains in Madras. There seem to be possibilities of considerable, if not very large, economies in it and we are inclined to think it would fit in better than the existing system with what we suppose will be the future machinery of Government in the province.

65. This head includes the provision for the High Court, the Law Officers Administration of Justice (Major Head 24). of the Crown, the courts of District, Sessions, Subordinate and Small Cause Judges and certain expenditure such as diet and travelling expenses of witnesses of the criminal courts. It is divided as follows in the budget of 1931-32:--

					Rs.
(1) High Court	•• ,	••	••	••	10,40,000
(2) Law Officers	••	••	••	••	4,81,000
(3) Other Courts	••	••	••	••	81,99,000
(4) Criminal Courts	••	• •	••	• •	7,12,000

It is to be observed that the income from judicial stamps is 75 lakhs. It cannot, however, be said with certainty, as it is often said, that "Administration of Justice" brings a profit to the State, since before a balance is struck there must be added to the cost under major head 24 a proportion of the expenditure under District Administration (Head 22) representing the cost of subordinate criminal courts.

66. We have not been able for various reasons to have the advantage of hearing a competent witness from the High Court on this budget. The figures which follow may, therefore, be susceptible of explanations of which we know nothing. The composition of the High Court has been as follows in various years since 1913-14 (excluding Judges of the Gurdwara Tribunals) :---

	1913-14.	1919-20.	1921- <u>22</u> .	1922-2 3 to 1926-27.	1927-28 to 1931-32.
Judges Additional Judges Part-time Judges for inspection	7 ·	8 1	} 9	10	11
of Courts	•••		1	1	1

The rise in the population of the province, the general increase in wealth, the expansion of trade and the growth of the legal profession during the last fifteen years are all factors which tend to increase litigation. We are not therefore surprised to find that between 1920 and 1931 the number of cases disposed of in the High Court rose from 7,289 to 8,608,—an increase of 18 per cent. The number of Judges has, however, increased by 22 per cent. and arrears are 3,827 against 3,281. The reason for this is not immediately evident. The cost of. establishment has risen from Rs. 1,32,000 in 1919-20 to Rs. 3,81,000 in 1931-32, an increase of 190 per cent. which requires more justification than we have been given. It is a much larger percentage of increase than we have found in either the Civil Secretariat or in the District Administration. We believe that a reduction of 10 per cent. could be obtained in the cost of the High Court, leaving aside the effect of any cut in salaries and reduction in the number of Judges, and this is our recommendation.

67. If there is to be any reduction in the number of High Court Judges, there must be either an increase in the amount of work each does or a decrease in the volume of litigation coming before the courts. As to the first point, we have already recommended a general decrease in the number of holidays and a small increase in the daily hours of work. As to the second we desire to put forward for consideration the suggestion that the appellate powers of District Judges in civil suits might be enhanced. The present limit is Rs. 5,000. Of the 1,682 first appeals pending in the High Court 799 are of value below Rs. 10,000 and 206 are below Rs. 15,000. We recommend that the question of so increasing the powers of District Judges as to enable them to hear appeals of value up to Rs. 15,000 should be seriously considered.

68. The following figures show the total cost and number of various classes of other judicial officers in the years 1913-14, 1919-20 and 1931-32 :---

•	1918-14.	1919-20.	1931-82.
District and Sessions Judges	22	21	*27
Subordinate Judges	-129	122	- 160
Judges of Small Cause Courts	2	8	4
Cost including establishment (in thousands of rupees)	, 17,93	18,93 -	81,99

*Includes 3 Additional District and Sessions Judges.

The number of judges has increased since 1919-20 by 31 per cent. and the total cost (including all charges) by 70 per cent. Charges other than salaries of judges have increased by 82 per cent. Making all allowances for the rise in salaries and the increase in staff consequent on the increase in the number of judges, we consider this a high percentage. A reduction of, say, 5 per cent. should be possible in the total provision under "24-D and E," and we recommend that this be required. It may be possible by rearrangements to reduce the number of Subordinate Judges as we believe that there are places where they are lightly worked.

69. We turn now to Law Officers (24-B). The provision for Rs. 4,81,000 includes the salaries and charges of Government Advocate and Assistant Legal Remembrancers and of the Public Prosecutors. The figures for 1913-14 were Rs. 2,21,000 and for 1919-20 Rs. 3,16,000. The increase has been entirely under mofussil establishment (24-B (2)), the provision for English Law Officers (24-B (1)) being less than it was in 1913-14 or 1919-20. The Public Prosecutors are now-a-days paid on a graded scale which ranges from Rs. 500 per mensem in the smaller districts to Rs. 1,200 per mensem in large towns like Lahore and Formerly Public Prosecutors received a retainer of, we believe, Amritsar. Rs. 100 per mensem, and in addition were remunerated by fees for the actual work they did. We believe that the old system made for greater efficiency and, as we are informed that a change would probably result in the saving of about Rs. 50,000, we recommend that the question be thoroughly examined.

long as the present system continues we recommend that no further extensions be given. The salaries are capable of reduction. The State does not want, and cannot get at any price it can afford to pay, the best talent at the Bar. What is wanted are ordinary sound and honest practitioners. These can, we believe, be obtained for less than is being paid at present. We also recommend a general reduction in all fees paid by the State. Existing conditions justify this.

70. We examined an alternative scheme by which Public Prosecutors would disappear except in a few large towns and all Government work (except in courts of Sessions) would be handed over to an enlarged police prosecuting agency. The possible savings by the adoption of this scheme might be as much as 11 lakhs. We assume that under this scheme the police prosecutors would be a cadre entirely separate from the ordinary district police and that transfers out of or into the cadre would not be allowed. Even so we realise that objections would be raised to this system which, however much they may be based on sentiment, are genuine and must be considered. We are not prepared at the present time to recommend the adoption of this system.

71. Under the head "24-F—Criminal Courts", there is an item of Rs. 6,94,000 for 'Diet and road money to witnesses '. The cost of witnesses per head has increased enormously since 1919-20 when the sum provided was only Rs. 2,18,000. We recommend that the rates be reduced to 1913-14 level, and that stringent orders be issued that the sanctioned rates are not to be exceeded. We considered whether local witnesses and assessors, who are *ex hypothesi* put to no positive expense, should be paid anything at all for performing what many of us consider to be part of the duties of every decent citizen, and also whether witnesses called for the defence and subsequently not produced should be paid anything, but came to no definite conclusion. Both questions merit examination.

72. The total provision of Rs. 38,81,360 under this head is sub-divided into two parts—Jails and Jail Manufactures. The Jails and Convict Settlements (Major Head 25). Cost was 12 lakhs in 1913-14 and 20½ lakhs in 1919-20. The increase in expenditure is large and we have certain recommendations to make for reduction.

73. We will deal first with specific points. Under "25-A—Superintendence" we doubt the necessity for the post of Deputy Inspector-General. At the same time we do not desire it to be replaced by a post which will be filled by a Personal Assistant of the ordinary stamp. If it is to continue, it should be held by an I. M. S. officer.

74. We considered the system, recently adopted as a result, we believe, of the Jails Enquiry Committee's recommendation, of appointing officers of the Provincial Civil Service (sometimes retired officers) as Superintendents. The system is more expensive than the old system and, at least in the opinion of non-official members whose views in this matter are entitled to special weight, has proved a failure. We recommend reversion to the old system.

In no case should retired officers be appointed to these posts, and all retired officers at present in employment as Jail Superintendents should be relieved forthwith.

75. We were informed that the introduction of the 'pecule' system had not improved discipline or reduced the number of "prison offences." We see no justification for continuing it, and recommend that it should be abolished forthwith. This will save some two lakhs.

76. We recommend the abolition of the appointments of Agricultural Assistants and of religious lecturers, saving about Rs. 15,000. Over Rs. 7,000 is paid as educational staff allowances. We do not know to whom exactly this is paid, but, on the assumption that it is not paid to prisoners, we would like it examined whether prisoners could not be employed on educational work.

77. Dietary and hospital charges (mainly we suppose special food) in jails and lock-ups amount to over Rs. $10\frac{3}{4}$ lakhs in the budget. This item has since been reduced by the department by about $2\frac{1}{4}$ lakhs. This is for eight months only and we should expect a reduction of about $3\frac{1}{2}$ lakhs for a whole year if prices continue at their present level. We were informed of instances where grain for district jails had been purchased at prices much above the market rates. We recommend that as far as possible purchase of food grains should be centrally controlled. If the requirements of district jails can be consolidated, there should be possibilities of considerable savings by giving contracts for the supply of large quantities. We further recommend very strongly that all surplus produce of Government farms, whether agricultural, criminal tribes or reclamation, should be placed at the disposal of the Jail Department and that Superintendents of Jails should be bound to use such produce wherever it can easily be made available.

78. But the only real way of decreasing expenditure on jails is to decrease the number of prisoners. The average jail population was—

In 1900	••	• •		••	15,500
In 1907	••	• •	••	••	11,200
In 1911	••	••	••		17,000
In 1920	••	• •	••	• • •	14,000
In 1929		• •	••		20,000
In 1931	••		••	07	er 21,000

Of the total new admissions to jails in 1929, 45 per cent. had been awarded sentences under six months. We are informed that when it comes to a choice between paying a fine and undergoing a short term of imprisonment most people prefer to go to jail. We have grave doubts of the value of short sentences of imprisonment in petty cases and particularly for first offenders. We think that in such cases fine should be preferred to imprisonment and that the prosecuting agency should definitely ask for a sentence of fine to be imposed unless a sentence of imprisonment is considered necessary as a deterrent. Magistrates are too much inclined to have a stereo-typed scale of fines which is very often quite out of proportion to anything that a prisoner can reasonably be expected to pay. Such a practice merely leads to the filling of jails. Where fine is the only sentence awarded, a reasonable time to pay should always be given before a man is finally committed to jail. Commitment to jail in default of production of security is another fruitful cause of expense to the State. We consider that the amount of bail demanded by magistrates is frequently arbitrary. If a man is entitled to bail at all, he is entitled to bail on such terms as he can reasonably be expected to comply with and we think that this principle should be impressed upon magistrates. The Code of Criminal Procedure gives a certain discretion to magistrates to admit to bail even in technically non-bailable cases. We consider that regard should be had to the circumstances of the case rather than to the technical classification of it as bailable or non-bailable and that where there is no obvious objection to granting bail technical considerations should never be sufficient for commitment to jail.

79. Nearly 1½ lakhs is spent on the conveyance of prisoners to and from jails and lock-ups. We consider that, until the expiry of the period allowed for appeal, prisoners should not usually be removed from the local jail to the jail to which they have been committed. We also think that short term prisoners should, as far as possible, serve their full term of imprisonment in the local jails. These recommendations and those in the foregoing paragraph we make solely with a view to decreasing the jail population and so decreasing public expenditure.

80. We think that some change in the system of awarding remissions would also make for some economy. It has been suggested, for instance, that prisoners should be encouraged to work after ordinary working hours and the periods so spent should count towards remission. We should like to see a more liberal use made of probationary release.

81. The income from Jail Manufactures in the current year is estimated at Rs. 3,79,000 against an expenditure of Rs. 1,54,000. In 1919-20 the figures were—

					Rs.
Receipts	• •	••	••	••	5,80,000
Expenditure	••	••	••	••	8,57,000

We gather that under the present system of accounting overhead charges so raise the prices of many articles of jail manufacture that Government departments find it cheaper to buy in the open market. This seems to us a ridiculous state of affairs. It is essential to carry on manufactures in jails in order to keep the convict population employed and it seems to us absurd that Government departments should be prevented by a system of accounts from taking advantage of cheap jail goods. We recommend that jails should be encouraged to manufacture all articles required by Government departments and should be allowed to sell them at the actual cost price without any addition of overhead charges. We realize the theoretical objection to allowing articles made by convict labour to compete in the open market, but, at the same time, if sale is confined to Government departments, we consider that the objection to a large degree disappears.

82. Provision for the Reclamation Department is made at present in the Jail budget. Reclamation work has recently been transferred to the Deputy Commissioner, Criminal Tribes, and we understand that he has already effected a saving of some 1½ lakhs out of the total budget of Rs. 2,80,000. We desire to offer our compliments to Sardar Bahadur Sardar Hari Singh on this achievement. Any recommendations from us on this department would be superfluous.

83. The total Police budget is Rs. 1,22,82,200. For 1919-20 it was Police (Major Head 26). Rs. 72,33,000. The percentage of increase is 68. It is interesting to examine the figures. There has been no change in the number of officers under 26-A—Superintendence. There were in 1919-20, as now, an Inspector-General, a Personal Assistant and three Deputy Inspectors-General. The budget provision has increased by Rs. 55,000, of which Rs. 53,000 is accounted for by increase in numbers and pay of the clerical establishment. There has been apparently an increase of about 15 clerks which, considering the increase in work and in the size of the force and the fact that budgetting and control of expenditure is now done in the Central and Range offices instead of in the Accountant-General's office, is not excessive. The pro-

84. The provision under 26-B—District Executive Force, is 1,011 lakhs (deducting the cost of the special additional Police) against 561 lakhs in 1919-20. The following table gives the comparative figures of strength and cost of establishment taken from the budgets of 1919-20 and 1931-32 :—

vision for pay of officers is actually less than it was in 1919-20.

	1919-20.		1981-	1931-32.		AGE OF ASE
	Strength.	Cost.	Strength.	Cost.	Strength.	Cost.
Officers- (Superintendents, Assis- tant Superintendents and Deputy Superinten- dents)	87	Rs.` 4,75	102	Rs. 6,83	17	44
Subordinates (Inspectors, Sub-Inspec- tors, Assistant Sub-In- spectors, and Sergeants)	871	8,78	1,196	15,79	87	81
Head Constables	2,424 15,047	26,08	2,779 16,966	50,08	15 } 18	92

The increase in strength does not account for all the increase in cost. There have been considerable rises in rates of pay. For instance, in 1919 the constable got Rs. 11-8-0. He now gets a minimum of Rs. 17 and may rise to Rs. 28. A Sub-Inspector's pay varied from Rs. 50 to Rs. 100. He now starts at Rs. 80 and may rise to Rs. 160. An Inspector's grade has risen from Rs. 150— 250 to Rs. 180—800. The pay of officers has also increased. The portion of the increase in cost which appears to be accounted for by increases of pay is for officers 23 per cent., for subordinates 32 per cent. and for Head Constables and Constables 68 per cent. The pay of the Police ten years ago was admittedly low. The population of the province has increased 14 per cent., the development of the Lower Bari Doab and Nili Bar Colonies has led to a considerable increase in the number of police stations, and there have been, notoriously, other tendencies during the last decade which can be held to justify an increase in numbers. Taking all factors into consideration we conclude that the increase in the pay and the strength of the District Police Force has not been unreasonable.

85. The Police Training School at Phillaur has come into existence since 1919-20. The net cost is only Rs. 80,800 (26-C) and we have no criticisms to make on the strength or pay of the establishment. The expenditure under 26-D—Special Police has risen from Rs. 1,42,000 to Rs. 2,45,000. This is the provision for the Border Military Police and the Baluch Levy in Dera Ghazi Khan and its borders. There has been practically no change in strength and the increased cost is due to better rates of pay for the force. The existence of this force seems necessary and we are informed that it would be more expensive to replace it by regular police and that its cost compares favourably with the cost of similar forces elsewhere on the North-West Frontier. This expenditure is not controlled by the Inspector-General but by the Chief Secretary.

86. The net cost of Railway Police (26-E) has increased from Rs. 5,10,000 to Rs. 7,64,000. The strength of the force is unchanged and the increased cost under Officers and Establishment is due to the introduction of better rates of pay. The contribution received from the North-Western Railway administration is only Rs. 24,000. The Railway is a business concern over which the local Government has no control. We see no reason why it should not be treated like any other business firm, that is to say it should be solely responsible for the safety of its customers while they are on its premises and for the safety of its own property. If it prefers to ask the Punjab Government to do this work for it instead of making its own arrangements, it should pay for it. We therefore endorse the recommendation, which we believe to have been made by the Sources of Revenue Committee, that the Railway administration should be required to make a much larger contribution than it does at present to the cost of the Railway Police.

87. The cost of the Criminal Investigation Department has risen from Rs. 2,80,000 in 1919-20 to Rs. 4,45,000. The strength of the department in 1919-20 and in 1931-32 is as follows (figures are those in the budgets of the two years) :—

					1919-20.	1931-82.
Officers	••	••			9	8
Subordinate o Other ranks	fficers	••	••	••	51 98	42 94
Clerks	• •	* •	••		••	39

We suppose that in 1929-20 clerical work was done by police officers instead of by a separate clerical establishment. There is no need for us to dilate on the various factors which during the last ten years must have added enormously to the volume and responsibility of the work of the Criminal Investigation Department. There is nothing in the figures on which we can accuse the department of extravagance in staffing.

88. We have mentioned various reasons which in our opinion may be held to justify the small increase in the general police establishment during the last decade. We have omitted so far to allude to the advent of the motor car. Out of the ordinary district force the following strength is employed on traffic duties :---

Inspectors	••	••	• •	•.=	5
Sergeants	•••	••	••	••	6
Sub-Inspectors	••	••		••	5
Assistant Sub-Ins	pector	••	••	••	1
Other ranks	• •	••			403

Except in an emergency these officers must be considered as struck of all ordinary police duties.

89. We wish to refer in passing to two other duties of the Punjab Police of which the Police in other parts of the world are generally relieved. These are the provision of guards for judicial lock-ups and the escort of prisoners, treasure and opium. We are informed that the average daily strength employed on these duties is 97 Head Constables and 817 Foot Constables. It is also worth noting that in 1930 the police served 633,391 processes, which means that a large number of men were daily taken off ordinary duties.

90. It will be obvious from the preceding paragraphs that we are not in a position to make any recommendation for the reduction in the permanent sanctioned strength of the Police. We considered the question of three posts which have often been the targets of criticism, the Deputy Inspectors-General, the Inspectors and the Sergeants. As regards Deputy Inspectors-General our conclusion is that in the present state of affairs in the province and as long as the arrangement of districts remains as it is it would be an undesirable step to abolish About the value of the rank of Inspector many of us are doubtful, at any them. rate as far as the district police force is concerned. But at the same time we realize that the abolition of the rank would probably involve a corresponding increase in the number of Deputy Superintendents of Police. This would be no economy though we are inclined to consider it desirable. It is not a recommendation that we can make at the present juncture. Sergeants are always Europeans or Anglo-Indians and are employed in cantonments and on traffic duty. A certain number of such officers will, we consider, always be necessary as long as the Police have to deal with British troops. It is also desirable for obvious reasons in large towns to have European Sergeants on the traffic staff.

91. Before we go on to consider directions in which we believe that a reduction in cost should be possible, we wish to mention with approval a suggestion which we believe has been made by the Sources of Revenue Committee. Briefly it is that some at least of the cost of police employed in municipalities should be recovered from the local bodies concerned. The obligation imposed on villages to maintain their own watch-and-ward establishment is a clear precedent. We desire to endorse this recommendation.

There are some directions in which we consider that savings in the 92. Police budget are possible. Charges under the heads "Travelling Allowances," "Allowances and Honoraria," "Supplies and Services" and "Contingencies" have risen from about 20 lakhs in 1913-14 to 311 lakhs in the current budget. The increase is spread over all heads. It can be partly explained by the increase in rates of travelling allowance, by the introduction of certain local allowances, by the rise in the cost of articles of equipment and uniform and by the increase in the pay of menuals. But an increase of 55 per cent. against an increase in numbers of between 13 per cent. and 14 per cent. requires much justification. We think considerable savings should be possible. There are also ways of effecting economy in the establishment charges of a large force to which the Inspector-General can doubtless resort. The cost of the Lahore Additional Police is in the neighbourhood of Rs. 3,20,000 in this year's budget. This provided for a reduction in strength by one-half from 1st September. We understand that circumstances have prevented Government from making any reduction and we are not inclined to criticize this decision. At the same time we hope it may be possible next year for Government to implement its undertaking to dispense with this force as soon as circumstances permit. Apart from this possible saving of 31 lakhs, we recommend a reduction of 15 per cent. in the Police budget (excluding 26-D—Special Police).

93. The total grant for Education in the budget of 1931-32 is divided as Reducestion (Major Head 31). follows :----

-			Rs.
Reserved (European and Anglo-Indian	Education	n and	
Education in backward tracts)	••	••	7,15,960
Transferred (Other Education)	••	••	1,68,92,240

The following table shows the expenditure on all education compared with the provincial income for certain years since 1919-20 :---

	1919-20.	1926-27.	1927-28.	1928-29.	1929-30.
Provincial Income	60	10,87	10,91	10,49	10,54
Expenditure on Education		1,44	1,52	1,61	1,72
Percentage		13%	14%	15%	16%

(In lahks).

Since 1919-20 the cost of Education has risen by 187 per cent. against a rise of 75 per cent. in the income of the province. Of the actual increase in income Education has absorbed 25 per cent. Taking the figures for 1927, which are the latest we have seen, only Bengal, the United Provinces and Bihar and Orissa spent a larger percentage of their income on Education, while taking the expenditure per head of the population only Bombay was ahead of the Punjab.

94. Of this record we should be proud if we were convinced that the province had received value for its money. We are not so simple as to suppose that illiteracy can be banished in a decade or even in a generation. But our experience leads us to doubt whether the province is making any real progress towards literacy. We doubt, that is to say, whether the product of our primary and lower middle schools is, five years after he has left school, a literate in any proper sense of the term. Progress is not, we venture to think, to be measured by the number of children attending school but by the number of those children who, five years after leaving school, can, and do, read a book or a paper intelligently. Holding, therefore, that the system is faulty, we consider that expenditure on such a system is wasteful. Until the system is overhauled we consider that, in the interests of economy and of future progress, the State should spend less.

95. On the weak basis of our unsatisfactory system of primary education we have superimposed a top-heavy structure of cheap secondary education and an unnecessarily large provision for collegiate education. The result is that almost any boy, however little he may be fitted to benefit by such an education, can proceed at the minimum of expense to his parents to matriculation and finally to a degree. The goal of the matriculate and the graduate is Government service and the Government services have reached the "saturation point" where they can only absorb a small proportion of the aspirants for entry. It is a commonplace truth that the educated son of a zamindar seldom returns to the land. Openings in commerce and industry are few. It is probable that the native handicrafts of the province suffer from the fact that educated young men of the classes hereditarily given to handicraft hesitate to adopt the trade of their ancestors. In these circumstances it is a striking commentary on our educational policy that while the State only spends 88 lakhs on primary education, the concern of millions, it spends as much as 60 lakhs on secondary and collegiate education from which only a fraction of those millions is capable of benefitting. We recommend every thoughtful student of Education in the Punjab to study the "Report on Unemployment in the Punjab-(1928)." We regret that such scant attention seems to have been paid either by the Department of Education or by the Legislature to its recommendations.

96. Our recommendations are based on the following conclusions :---

- (1) That the existing facilities for collegiate and secondary education are excessive. In our view collegiate and higher secondary education should be the privilege of those who are fitted to benefit by it or are in a position to pay for its cost.
- (2) There is much waste of money as well as misdirection of energy in the present system of primary education.

97. Our detailed recommendations regarding "Transferred Education" are as follows :---

- (1) 31-A-University (a) Grants to University.—We recommend that the grant be reduced to 2 lakhs. One of us dissents, but others advocate a larger reduction.
- (b) Government Arts Colleges.—We recommend a reduction of 25 per cent. in the cost of Arts Colleges. We should like to see their expenditure examined by a special committee.
- (c) Grants to non-Government Arts Colleges.—We recommend a reduction of 12½ per cent.
- (d) Government Professional Colleges.--We recommend that these institutions should be closed down as soon as the present classes have finished. There should be no fresh admissions. We suggest that private colleges should be encouraged to open training classes.
- (2) S1-B--Secondary.-We recommend a reduction of 20 per cent. in expenditure under this head. The cut should be evenly distribut ed and be mainly applied to recurring expenditure.
- (3) 31-C--Primary.-We recommend a reduction of 12½ per cent. District Boards and other local bodies should have liberty to offer such salaries as they may think fit. The system of basing the amount of grants on the actual expenditure of the previous years is open to the objection that it is a direct incentive to extravagance. We think the system should be changed and a much closer scrutiny be maintained over the expenditure of grants. In this connection the following extracts from a letter from a district officer are very much to the point :---
 - "Government is very intimately concerned with much of the expenditure of local bodies, especially with the expenditure of District Boards on vernacular education. Times being what they are, I think that all departmental officers of Government concerned with the administration of local funds, but especially District Inspectors of Schools, should be warned that as much care and attention is required of them in dealing with local fund expenditure as with expenditure under provincial heads. I have for years tried to prevail upon the Education Department to train its Inspectors in budget work and the rudiments of administration before letting them loose on the public, but in vain. The Department has always given 'as rich men give who care not for their gifts,' and District Inspectors tend either to overbudget enormously or to go to the other extreme, incur excess expenditure and then blame the Board for its 'niggardly policy.'
 - "A past District Inspector in this district incurred an excess of Rs. 18,000 in 1930-31. If I had done this under a provincial head, I should have been hanged by the neck. I gather that all the department said was that so stingy a District Board must expect excesses. In the current year the same District Inspector has under-budgetted by about Rs. 10,000 and there is going to be considerable difficulty in finding the money."
 - "With diminished grants and a general falling off in prosperity, I am convinced that Government should impose on departmental officers the same responsibility for local funds as for provincial expenditure."
- (4) 81-D—Special. (a) Government Special Schools.—We recommend that these training schools should be closed down, at any rate temporarily. There is no lack of qualified teachers.

98. As regards "Reserved Education" we recommend :---

- The closing down of the Ghoragali Intermediate College (31-R. A (a)). We can see no particular justification for this college which has only recently been opened. The colleges in Lahore are closed during the worst part of the summer and there are special hostel arrangements for European and Anglo-Indian students.
- (2) A reduction of 20 per cent. in the cost of Secondary Education (31-R. B. (a) and (b)).

Under both 'Reserved ' and 'Transferred 'Education we recommend that no further building grants be given until financial conditions improve (31-R. B. (b)) and (31-B(b)).

99. The provision for the whole of the Directing and Supervising staff of the department is made under $31 \cdot E(a)$ and (b). We think that careful administration should produce some saving in the total provision of Rs. 10,40,000 and we recommend a cut of 10 per cent. We are divided on the subject of the Inspecting staff, some of us holding that Deputy Inspectors and Assistant District Inspectors are largely superfluous, and others that what the department really requires is a more efficient, but not more numerous, inspectorate.

We recommend a searching re-organization of the Inspectorate with a view to effect greater economy and to secure greater efficiency.

100. It is in accordance with our views on the question of the pitch of fees that we do not recommend any reduction in the provision for scholarships (31-E(c)).

101. Under 3-E (d)—Miscellaneous, we recommend the abolition of the post of Reporter on Books. We are quite unconvinced of the necessity of the post. Adult education is a luxury in the present circumstances, and we recommend the discontinuance of this grant. We recommend that other grants under this head be reduced by 25 per cent.

102. The total of the savings we propose under "Education" amounts to about 314 lakhs (or 18 per cent.), reducing the budget from 1,76 lakhs to 7,444 lakhs. We anticipate that the total income of the province will for the next few years not much exceed 9 crores, which represents a fall of 18 per cent. below the current budget estimate. The percentage spent on "Education" will be the same as at present, 16 per cent. We have been outspoken in our criticisms of the system of education in the province. We yield to none in our desire to see a literate people, but in our opinion the present system is more extravagant than we can afford and by no means the best that can be found, with the means which we command, to produce citizens worthy of the Punjab.

103. In view of our proposals about these two departments it will be Medical (Reserved and Transferred) (Major Head 32), and Public Health (Major Head 33). and Lahaul and requires no comment. The transferred part makes provision

	· · ·				Rs.
(a)	Superintendence, Civil Surg	geons, &c.	••	••	10,70,000
	Hospitals and Dispensaries		• •	••	29,03,000
• •	Grants		••	••	1,20,000
	Medical School and College		• •	••	6,49,000
	Punjab Mental Hospital	• •	••	••	2,83,000
	Chemical Examiner		••	••	84,000
	Stores in England	••		••	75,000

of Rs. 51,84,600 under the following main heads :---

The Public Health budget provides for the following expenditure amounting to Rs. 24,71,600 :---

a) Public Health	Establishment	• •	• •	9,42,000*
b) Grants		••		12,70,000
	onnection with epid	emic diseases	••	2,20,000
d) Works, Rural			••	1,55,000
	(Stores, Bacteriol	ogical Laborat	ory,	
Pasteur Insti		-0		1,13,000

*Certain provision for recoveries under Public Health Circle and Rural Sanitary Board make the net amount under these two heads charges ble to Head 33-A-Rs. 1,17,000.

104. Under Medical the charges for 'Superintendence' come to Rs. 1,81,000 and under Public Health to Rs. 78,000 for the pay of the Director and Assistant Directors, plus a sum which is not shown separately in the budget but which we will assume to be Rs. 50,000 for establishment and other charges. The total for the two departments is then something over 2½ lakhs. The history of the directing and superintending staff of these two departments is as follows :-In 1913-14 there was an Inspector-General of Civil Hospitals in charge of Medical and a Sanitary Commissioner and a Deputy Sanitary Commissioner in charge of Their combined offices contained 33 clerks. Public Health. By 1919-20 a Personal Assistant had been added to Medical and a second Deputy Sanitary Commissioner to Public Health. Figures for clerical staff are not available but from the figures of cost, which alone are given in the budget of that year, we can assume that the combined strength had risen to about 45 to 50. In 1931-32 the Personal Assistant has been replaced by an Assistant Inspector-General of Civil Hospitals while the staff of Public Health has become one Director and five Assistant Directors. The total clerical strength seems to be about 60, but we cannot be certain of this figure.

105. It will be noticed that the directorate of the two departments has always been separate. What we are going to recommend, the amalgamation of the two departments, may therefore appear revolutionary, but it seems to us to be a step dictated by commonsense and, as a measure of economy, we believe it has been, or is being, adopted in at least two other provinces. Our recommendation is that at the head of the two departments there should be one officer to be designated Chief Medical Officer of Government. He should have under him on the Medical side an officer corresponding to the Assistant Inspector-General of Civil Hospitals and on the Public Health side an officer corresponding to an Assistant Director of Public Health. This contraction at the top will result in the retrenchment of one of the two posts of Inspector-General of Civil Hospitals and Director of Public Health, of four posts of Assistant Director of Public Health and in a corresponding reduction in clerical establishment and general charges. We estimate the saving at at least one lakh.

106. We propose to carry the process of amalgamation right down the departments and recommend that the Civil Surgeon be the principal medical officer of the district both for medicine and for public health. The departmental view, as expressed to us by the present Inspector-General of Civil Hospitals, is that in some districts Civil Surgeons could take over public health work but that efficiency would suffer. We are not sure whether Colonel Mackenzie correctly grasped our proposals, but we think it not unfair to base upon a semi-acceptance of their feasibility by the head of a department a belief that they will be found in practice to be perfectly feasible. We would apply the same system in the districts as we propose for the centre. The Civil Surgeon should be in charge of public health work as well as medicine and should have in addition to the usual Assistant Surgeon another officer ranking as an Assistant Surgeon for public health purposes. This proposal involves the retrenchment of 84 District Medical Officers of Health and the substitution for them of officers of the rank and pay of Assistant Surgeons with public health qualifications. If the present District Medical Officers of Health are prepared to re-engage in this capacity they should come into the cadre of Assistant Surgeons at the point which their service justifies. We are unable to calculate exactly the effect of this saving, but would expect it to amount to at least a lakh. We think that Assistant Surgeons for public health should get fixed travelling allowance. In making this proposal that District Medical Officers of Health should disappear as such we intend no reflection on their capabilities or devotion to duty. We do not, however, believe that they are fully employed nor do we think that, with the funds which are likely to be available in the next five years, they can be fully In addition they are at a disadvantage in being classed by the employed. public as mere servants of the district boards. They have, in fact, as a rule little or no prestige. Apart from all this we consider that they are an unduly expensive agency. With the public health officer under the control of the Civil Surgeon and backed by his authority, which is strengthened by his close association with the civil power in the district, we expect better results at a lower cost to the State.

107. We now come to the next stage in the Medical hierarchy, the Sub-Assistant Surgeon in charge of the rural dispensary. The State makes much

less use of this officer than it should. As well as being medical officer in charge of his dispensary he should be medical officer of health for the surrounding area. He should be encouraged to close his dispensary in the afternoon and, leaving the dispenser to deal with urgent cases, tour his area dealing with vaccination, anti-plague measures and public health work in general. It may be necessary to give him a small fixed travelling allowance but in fixing this the increased opportunities which will be open to him for private practice should be taken We recommend that rural dispensaries should be a parinto consideration. ticular charge of the Assistant Surgeon for public health. There is nothing in the ordinary inspection work which this officer should not be competent to do and he must be put in a position to see that Sub-Assistant Surgeons do not neglect the public health side of their work. Such medical and public health work as district boards now control should be carefully co-ordinated with the work as now reconstituted under the control of the Civil Surgeon. We should expect to see the disappearance of the provision for Superintendents of Vaccination and for Vaccinators. We see no reason to retain Sanitary Inspectors. This involves a further saving of some Rs. 34,000.

108. We recommend the retention in the hands of the Chief Medical Officer of a small nucleus staff to deal with sudden epidemics. We put forward • for consideration a suggestion that a certain number of private medical practitioners with sufficient public health qualifications should be paid a yearly retainer in consideration of an undertaking to make their services available in the event of sudden and severe epidemics. When called up for duty they should receive a salary and travelling allowance.

We have two other suggestions to make before we turn to a detailed 109. examination of the budgets of these departments. Both contain possibilities of economy. There are in certain tracts rural dispensaries within comparatively easy reach of each other. We suggest that, for the present, one might be closed and the Sub-Assistant Surgeon in charge of the other be required to attend on. say, two fixed mornings or afternoons a week. This suggestion is made purely in the interests of temporary economy and is not to be confused with the scheme, which is, we believe, being tried in the Jhelum district, of requiring the Sub-Assistant Surgeon to open afternoon clinics in neighbouring villages. The second suggestion arises from our view that Government by opening free dispensaries all over the countryside will finally kill any prospect of the appearance in the Punjab of that invaluable person, the country general practitioner. There is no more valuable servant of the public in England than the "G. P." and we should welcome his appearance in the Punjab. We suggest that the experiment be tried of handing over a few rural dispensaries to young medical graduates on the look-out for openings. Two in partnership would be the ideal. We need not go into details of the scheme but it would involve the provision at first by the State of drugs and instruments and perhaps a small subsistence allowance for the first year or so while a practice was being built up. Thereafter an honorarium for public health work would be sufficient. We urge that the scheme, in the interests of both the countryside and of the medical profession, We shall be told that the scheme must fail because should be given a trial. the Punjabi is not accustomed to paying for medical advice. We do not believe this to be an unqualified truth and in any case as long as the State provides free medical advice and drugs why should the citizen be anxious to pay for what he can get for nothing? We wish to see grow up, for doctors as well as for lawyers, an acceptance of the dictum "the labourer is worthy of his hire". It will make for more self-respect both in the patient and in the doctor and, a fact which as a Retrenchment Committee we cannot ignore, save the pockets of the tax-payer.

110. We now turn to the more detailed examination of the budget for Public Health. There is a net provision under the heads Public Health Circle and Rural Sanitary Board (33-A-Establishment) of Rs. 1,17,000. The Irrigation Department, the Buildings and Roads Branch, the Agricultural Department and the Public Health Department all seem to concern themselves with various forms of well-boring and drainage engineering. We do not feel competent to advise on this point, but we feel that there is waste of money due to overlapping and desire that the question should be examined carefully. We understand that another province is likely to combine under one department all engineering activities of this kind.

111. Under 33-B-Grants for Public Health Purposes-there is a provision for about $12\frac{3}{4}$ lakhs. Of this sum $7\frac{1}{4}$ lakhs is to be spent by the Urban-Sanitary Board and nearly 4 lakhs by the Rural Sanitary Board, mainly on schemes for drainage and water supply. Admitting that in many places such schemes are urgently needed, they cannot be described as "stark necessities" and we recommend that, when schemes already begun have been completed, both these Boards should be kept in abeyance until conditions improve. Al-**Al**lowing one lakh for works under construction which will not be finished this year, this will save $10\frac{1}{2}$ lakhs. As regards other grants under this head, we are reluctant to touch that for maternity and child welfare work. The grant to the Lahore municipal committee, we consider, should be given only for approved We are schemes on which the committee is prepared to start immediately. not sure of the justification for the grants to district boards for the pay of dispensers and we think that the grant to the Simla municipal committee towards the pay of the Laboratory Assistant should disappear. The majority of us are in favour of the system under which Government pays part of the salaries of Medical Officers of Health in municipalities, but we are unanimous that the municipalities of Simla and Lahore should bear the whole cost of their Medical Officers of Health, whose appointment should, however, be approved by the Ministry of Local Self-Government.

A difference between the revised and original estimates of 1930-31 112. under "33-C-Expenses in connection with Epidemic Diseases-Supplies and Services " of no less than one lakh shows that budgetting under this head is largely guess-work. This is not unreasonable since no one can foretell when epidemics will appear. We recommend that the provision under this head be kept at Rs. 50,000. If more is urgently required there are means of obtaining Under 83-E there is provision for Rs. 36,000 for a grant-in-aid to the funds. Pasteur Institute. We recommend that steps be taken to ensure that persons who can afford to pay do not receive free treatment at the Lahore anti-rabic If our recommendations as to the Rural Sanitary Board are accepted, station. the provision under 33-A for works, now shown separately in the budget, amounting to Rs. 1,55,000, will largely disappear. There should be a saving of Rs. 1,10,000 under "Works in Progress", and "new minor works." We leave the provision of Rs. 42,000 for repairs.

The Medical budget has risen from about 17³ lakhs in 1919-20 to 118. over 51% lakhs in 1931-32. There has been real development, especially in the direction of providing medical relief in rural tracts. At the same time while examining the expenditure we have been conscious of a feeling that waste is going on in the department though it is difficult to point to a particular item and say "this is unnecessary" or "here there is extravagance." As regards "Superintendence (32-A (1))" our proposals for amalgamating the office of Inspector-General of Civil Hospitals with that of Director of Public Health must lead to a resurvey of the necessity of the existing establishment of both offices and we need not say more on the subject. There should be considerable scope Under 32-A (2) District Medical Officers, there is provision for economy. We suggest that the possibility of replacing Civil Surgeons for Rs. 9,39,000. by Assistant Surgeons in the smaller and less important districts be examined.

114. The largest single head of the budget is 32-B-Hospitals and Dispensaries, which provides for all State hospitals and for grants to other hospitals. Leaving aside the provision for "Pay of Officers and Establishment," the largest expenditure is on "Supplies and Services" (Rs. 5,22,000) and "Contingencies" (Rs. 3,35,000). Diet of patients accounts for over a lakh and we think that the fall in prices justifies a large reduction here. Medicines cost Rs. 2,15,000. We were told that all medicines required by provincialized hospitals must be obtained from the Medical Stores Depôt and that this is considered to be the cheapest source of supply. The question is, however, being examined and we trust it will not be allowed to drop. We regard with disapproval the practice of giving free medicine to those who can perfectly well afford to pay for it. They There should be given their prescriptions and referred to the nearest chemist. Though this suggestion does not directly are possibilities of saving here. affect the provincial budget, we think Government should consider whether it should not insist on local bodies adopting some form of consolidated indenting for medicines. There is obviously much waste of local funds by the system under which each local body in a district makes its own arrangements. We recommend a cut of $12\frac{1}{2}$ per cent. in the provision for "Supplies and Services" and "Contingencies". This will result in the saving of over one lakh.

115. We recommend a reduction of $12\frac{1}{2}$ per cent. in all recurring grants under 32-B and the discontinuance for the present of non-recurring grants. This will save Rs. 2,65,000. There are certain other grants under 32-C. We recommend a reduction of $12\frac{1}{2}$ per cent. except in the case of the grant to the Punjab Medical School for Women, Ludhiana. Here we recommend that the grant be paid on a capitation basis of not more than Rs. 600 per annum for each student who is admitted on non-religious considerations. This will reduce the present grant of Rs. 89,000 substantially. We estimate the saving under 32-C at not less than Rs. 40,000.

116. Under 32-D is grouped the expenditure amounting to Rs. 6,49,700 on the King Edward Medical College and the Amritsar School of Medicine. Rupees 3,83,000 out of a total of Rs. 4,72,000 spent on the College goes in salaries and special pay of officers and establishment. From the remaining Rs. 89,000 we ask for a 12¹/₂ per cent. cut, involving a saving of Rs. 11,000. The Medical School costs Rs. 1,77,000 gross and Rs. 1,07,000 net. We are informed that at present the supply of Sub-Assistant Surgeons exceeds the demand. From our own experience we know that Assistant Surgeons are prepared to take posts on pay designed to attract Sub-Assistant Surgeons. We can see no object in spending money in producing a product for which there is no demand outside Government service, when the supply already exceeds what the requirements of Government service can absorb, and a product which, though only half trained, competes with the properly qualified product of the Medical College. We recommend therefore that no fresh admissions be made to the school and that it be closed down when the present classes finish. If there is a demand for it on the part of students, we recommend that the Medical College should increase the number of admissions to its degree classes. We b-lieve that this can be done without increasing the existing staff of the College. The gross saving by the gradual closing of the school would be about 13 lakhs spread over three years. We desire to recommend the adoption of the system of employing honorary physicians and surgeons in our hospitals and schools, both as making for economy and as encouraging the growth of a class of medical practitioners outside the State medical service.

117. The expenses of the Punjab Mental Hospital (Rs. 2,82,000) are provided for under 32-E. We recommend a reduction of $12\frac{1}{2}$ per cent. in all charges other than "Pay of Officers and Establishment." This will save Rs. 22,000. In particular we wish the conditions of the grant of Rs. 33,900 to the Ranchi Mental Hospital examined. Some of us are strongly of the opinion that we get insufficient value for our money.

118. The expenditure under the head "Agriculture" has risen from Agriculture (Head 34-A). Government from provincial revenues was slow and it is comparatively lately that the cost of the department has risen to about its present figure. The main activities of the department, arranged in what we are disposed to consider their relative importance, and the cost of each in the budget for the current year are as follows :—

					Rs.
(1) Research	••	••	••	• •	8,60,000
(2) Agricultural Stations	3-4	••	••	••	2,84,000
(8) District work (including a	seed farr	ns)	••	••	12,58,000
(4) Direction	••		_ ••	••	1,21,000
(5) Agricultural Education	••	• •	••	••	1,90,000
(6) Agricultural Engineering		••	•••	1 *	1,07,000

We omit for the present "Well-boring operations" and "Botanical and other public gardens," which have no essential connection with the main duties of a department of agriculture.

The principal needs of the zamindar are good seed, good implements 119. and advice about the methods of dealing with crop diseases and insect pests. An agricultural department must therefore be equipped for the conduct of research in the laboratory and in the field and have the use of (but not necessarily the control of) an agency for acquainting the zamindar with the results of research. It may also, at any rate in the early stages, undertake the supply and distribution of new varieties of seeds in bulk. The Punjab Agricultural Department provides for research in seeds, implements and disease under items (1), (2) and (6) given in the preceding paragraph, at a total cost of about $7\frac{1}{2}$ On propaganda and the production and distribution of seed it spends lakhs. 121 lakhs (item 3). Making some allowance for the fact that some of the staff debited to item (3) is employed on research stations (item (2)) we still consider that the arrangements for this side of the activities of the department are unnecessarily expensive and doubtfully efficient.

120. In 1921-22 the staff employed on district work, i.e., propaganda and the production and distribution of seed, consisted of 5 Extra Assistant Directors of Agriculture, 69 Agricultural Assistants and 58 Mukaddams. For 1931-32 provision has been made for 15 Extra Assistant Directors, 227 Agricultural Assistants and 336 Mukaddams. We are unanimous that the province is not getting value for money from this expenditure. The agricultural staff in the districts is not, we believe, in close touch with the zamindar and generally is without prestige. We doubt whether one zamindar in a hundred knows by name or sight the local agricultural officers. We realize that some agency is required for popularising new seeds and methods, but our experience leads us to the conclusion that the most effective agency would be the civil authorities of the district. We can think of no ordinary district activity of the department which could not be carried out as well and more economically through this agency. Accordingly we recommend that the agricultural district staff should cease to exist, except in so far as the retention of some part of it is implied by our subsequent recommendation regarding seed farms. We propose that the present activities of the staff should be handed over to Deputy Commissioners who should be provided with one (and perhaps in some districts two) Agricultural Naib-Tahsildars. These officers should have the status of a revenue Naib-Tahsildar and their pay should be approximately the same. The scale might go up slightly higher than the Naib-Tahsildars' scale in view of the fact that they will have no chance of promotion to higher posts. We consider that these officers should be selected from the existing cadre of Agricultural Assistants and that they should be chosen with due regard to their suitability for the districts in which they will We shall be told that this proposal means the end of agricultural proserve. gress in the province. We emphatically do not agree. We anticipate that Government will issue instructions to its Deputy Commissioners that agricultural matters are one of their chief concerns. We propose that Deputy Commissioners should be in direct communication with Lyallpur and should be supplied with all instructions and propagandist material which the Agricultural Department desires to issue to zamindars. We lay stress on the necessity for the formation of live agricultural associations.

121. This recommendation involves the disappearance of the thirteen district farms. They will, we believe, die unlamented by the zamindar who has never taken any advantage of them. We propose that the Agricultural Department should retain its research stations and seed farms. These will provide facilities for the trying out of the suitability of new kinds of seeds to local conditions, while as a means of introducing to the zamindars new varieties, the value of which has been established, we consider that the agency of the Deputy Commissioner is the best available. We recommend that the existing seed farms with the addition of five of the present research stations should be retained for the production of seed. But we should add a rider that these farms should be self-supporting as a whole. There seems no reason why they should not be. The question, however, whether as good results would not be attained by leasing these farms to private individuals as by leaving them under the department deserves serious consideration. It is desirable in our opinion to keep down the number of institutions under departmental control to the minimum. The lease conditions would of course provide for the requirements of the department in the way of the production of the desired varieties of seeds being met. We think that the needs of the research side of the department will be sufficiently met by the retention as research stations of the farms at Lyallpur, Gurdaspur, Rawalpindi, Kala Shah Kaku (for rice) and an additional farm for the peculiar conditions of the south-east Punjab. We gather that neither Hansi nor Sirsa is ideal for this purpose.

122. Our proposals so far result in confining departmental activity to Lyallpur and a few research and seed farms outside. The present expenditure on the Research Institute is Rs. 3,69,000. The number of officers has increased from 6 to 14 and their total cost is Rs. 78,000. The increase has been mainly at the bottom. We are casting no reflection on the officers themselves when we say that many of them are not specialists at all but men with a bent for research in a particular subject who may or may not eventually qualify as specialists in that subject. We consider that the research staff requires strengthening by the addition of specialists of established reputation. This will be expensive, but we think that, in view of the large economies which the acceptance of our proposals for this department will bring about, it is expense which the province can and should afford. We should be prepared to see the provision for the Research Institute increased to 5 lakhs.

The provision for the Agricultural College in the budget for 1931-82 123. is Rs. 1,90,000. The cost in 1921-22 was apparently Rs. 1,15,000 and in 1914 Rs. 65,600. The staff in 1914 consisted of a Principal, an Economist Botanist, a Professor of Agriculture, five Assistant Professors, four Laboratory Assistants and six clerks and servants. The staff now consists of a Principal (who is also Agricultural Engineer : primâ facie a curious combination of duties), ten Assistant Professors, one Professor of Agriculture, two Associate Professors, one Superintendent of the Boarding House, four Demonstrators, 40 clerks and servants and 22 other establishment, representing a total salary bill of Rs. 1,38,000 as against Rs. 53,000 in 1914. The College, as well as holding classes in vernacular mainly, we gather, intended for zamindars, has a degree course (the reputation of which is second to none in India) and also awards diplomas and leaving certificates in Agriculture. We obtained some interesting figures showing the future careers of agricultural students. Of those who take the degree or diploma 58 per cent. enter the Agricultural Department, 15 per cent. find employment in other departments or in Indian States, 4 per cent. are in other professions or private service and 2 per cent. are farming their own lands. The remainder, as far as is known, are unemployed. The corresponding figures for students who take the leaving certificate are 28 per cent., 32 per cent., 14 per cent. and 4 per cent. The significance of these figures is that of the degree and diploma students only 21 per cent. find employment outside the department, while of the leaving certificate students 50 per cent. find such employment. It is obvious therefore that the drastic reductions which we are proposing in the staff of the department will materially affect enrolment-for the degree and diploma We do not desire that the College should be closed, for we think that courses. apart from all question of obtaining service under Government a degree in Agriculture is at least as useful to a Punjabi as a degree in Arts or Mathematics. We should like to see the standard of the degree maintained and we think that it should be made as easy for a successful Lyallpur student to get employment in departments of Government, where technical training is not required, as it is for any other graduate. But we consider that there is scope for considerable A reduction by 25 per cent. should be economy in the cost of the College. obtainable.

124. The Agricultural Engineer and his section did not apparently exist in 1914. We find him in existence in 1921-22, but the arrangement of the budget which then obtained does not tell us what he and his staff cost. The expenditure in 1931-32 on Agricultural Engineering is Rs. 1,07,000. It has already been noted that the Agricultural Engineer is also Principal of the Agricultural College. The work of this branch is, we gather, mainly devoted to investigation into tube-wells and agricultural machinery and implements. We are not altogether convinced of the necessity of this side of the department's activities in its present form. Research on tube-wells is going on both in the Irrigation and Buildings and Roads branches of the Public Works Department and we suspect that there is overlapping. The Agricultural Engineer, who costs Rs. 15,000 a year, is the only officer in the section, the rest of the expenditure (some Rs. 92,000) being on subordinate establishment and workshop charges. We understand that part of the charges are on account of the electric installation for the Research Institute and College. If it is so, it should be debited to the proper head. Six clerks in this section seem a great many. Research on agricultural machinery and implements is, as far as the technical aspect goes, a matter of drawing and design. We recommend that the question whether the making of working models from designs cannot be carried out more economically through private firms should be examined. The necessity of retaining this section in its present form needs careful examination. We recommend an immediate reduction in cost by 25 per cent.

This concludes our survey of the essential activities of the depart-125. We have left it greatly reduced in size, but we believe more fitted than ment. before to supply the genuine agricultural needs of the province. It will still require a Director, perhaps under another name, who will be responsible for work on research farms and on seeds production and distribution. He will be administrative head of the Research Institute and chief agricultural adviser to Government. We think he should not be a specialist and we dissent from the view of the Royal Commission on Agriculture that it is necessary to compensate senior specialist officers if their junior is appointed to this post. The post should definitely be not one to which specialists can aspire. We consider that a scale of pay of Rs. 1,750-2,000 will be sufficient for the post. The Director should have his headquarters at Lyallpur, and will require only a small office establishment. We contemplate that expenses under "Direction" should not exceed Rs. 50,000 as against Rs. 1,21,000 to-day. The Director will probably require a Deputy Assistant Director for seed operations and Extra Assistant Directors to be in charge of research stations, *plus* a certain number of Agricul-tural Assistants and subordinate staff. We think that $8\frac{1}{2}$ lakhs should cover the cost of all these operations, which at present, including district work, absorb over $14\frac{1}{2}$ lakhs. Agricultural Naib-Tahsildars will cost about Rs. 75,000. We think that existing "specialist" officers, if they are retained, should be on the cadre of the department, but that all future specialist appointments should be on contract.

126. We have still to deal with certain subsidiary activities which are under the Director of Agriculture, well-boring, the Poultry Farm at Gurdaspur and Botanical and other Public Gardens. The provision for well-boring in the budget is Rs. 2,12,000 which includes a cut of Rs. 50,000 made by the Finance Department. The cost in 1930-81 and 1929-30 was over 23 lakhs. We have not traced the growth of the total expenditure on this head further back but we note that well-boring staff only cost Rs. 11,400 in 1919-20 and Rs. 8,160 in 1914, as against Rs. 1,10,000 to-day. Receipts under this head are about Rs. 1,00,000. The loss on the well-boring section is in effect a subsidy to zamindars paid out of general revenues. We do not recommend that this section should be closed down. The subsidy probably produces some return to Government in the form of increased land revenue. Nor do we think that in existing circumstances any private agency would be prepared to take over this work. We think, however, that every opportunity should be taken to encourage private enterprise in this field. Our recommendation is that the cost of well-boring to the State should be reduced either by an increase in charges or preferably, in the present circumstances, by a reduction in cost. In particular we recommend the abolition of footage allowance to borers.

127. We owe the experimental poultry farm to the wave of enthusiasm for development in every direction which swept over the province a few years ago. We recommend that this experiment be discontinued. If any actual results have been obtained, we think they need not be entirely lost if the stock is handed over to selected private breeders.

128. The upkeep of Botanical and public gardens is in a sense a luxury and costs over 1 lakh. We do not, however, suggest that Government should abandon responsibility for the upkeep of the Lawrence Gardens, Shahdara and Shalimar. But we think economies are possible, and we recommend a cut of 25 per cent. under this head. 129. The provision for Veterinary Services in the budget for 1931-32 Veterinary Department (Head 34-B.) is Rs. 14,70,000, divided as follows :---

				Rs.
(1) Direction	••	• •	• •	1,07,000
(2) Superintendence	• •	••	••	8,44,000
(3) Subordinate establishment	••	• •		4,26,000
(4) Breeding operations	••	••		8,99,000
(5) Veterinary College and Gover	nment V	eterinary Ho	spital	1,88,000

Items (2), (3) and (4) provide for the staff and other charges for all veterinary work in the districts for which Government, as distinct from local bodies, is responsible. It includes the staff of all mufassil veterinary hospitals, the cost of the Hissar Cattle Farm and the expenditure on serum for inoculation, as well as the staff which is engaged in general district work. Item (5) includes the cost of the Veterinary College, where all except a few of the veterinary staff of the province receive their training, and for the cost of the Lahore Veterinary Hospital, which is maintained at Government expense.

130. The Veterinary Department was separated from the Agricultural Department in 1929-30. The cost in 1914 was Rs. $4\frac{1}{2}$ lakhs and in 1919-20 Rs. $5\frac{3}{4}$ lakhs. By 1921-22 it had risen to 11 lakhs. The rise in cost during the last ten years has been slow compared with many other departments. In 1914 there was a Chief Superintendent and four Superintendents (including Superintendent, Hissar Cattle Farm). In 1931-32 the number of Superintendents is the same, while the Director has taken the place of the Chief Superintendent. We should like to see a return to the old designation. There has been a large increase in Deputy Superintendents from 1 in 1914 to 3 in 1921 and 11 in 1931, while the subordinate veterinary staff has increased from 200 to 240 in 1921 and 363 in 1931. Veterinary hospitals have increased from 159 in 1921 to 287 to-day.

131. We have no criticism to make on the way in which this department deals with its district work. But prima facie we doubt the justification in the present circumstances for such a large superintending and subordinate staff. We cannot see the necessity for the two grades of Deputy Superintendents and Veterinary Inspectors who come between the ordinary subordinate staff and the Superintendents. As a measure of economy we recommend a reduction of 10 per cent. in the provision under the heads "Superintendence" and "Subordinate Veterinary Establishment," the reduction to be mainly in the provision for staff. We consider that the Department can be worked, as we believe it used to be worked at one time, with one Chief Superintendent and two Superintendents in charge of circles, and we recommend that this be the organization of the department in future. We think that the Chief Superintendent might take administrative charge of one division. The Director of Veterinary Services does not, if we understand him rightly, attach much importance to the retention of the establishment under Breeding Operations, (c) Other Supervising Establishment, and we recommend that this staff be retrenched.

We considered the budget of the Hissar Cattle Farm at length and 182. in spite of a further detailed note which we received from the Director we are not convinced that this farm is run as economically as possible. We admit that the breeding of pedigree stock is not usually a paying proposition. We understand that bulls have to be sold to District Boards much below cost price, but we do not feel sure that the cost price is as low as it should be. We shall not criticize the budget of the farm in detail, but we recommend an immediate cut of 25 per cent. and the appointment by Government of a committee to examine whether the loss on this farm, which is nearly $1\frac{1}{2}$ lakes in 1931-32, cannot be reduced. It has been suggested to us that the farm might be handed over to private enterprise on suitable terms and we should like this point definitely included in the terms of reference of the proposed committee. We think that some of the members of any committee which may be appointed should have personal experience of the running of large stock and general farms in India and we would ask that the membership should include two of our own members. The post of Superintendent, Nili Bar Farm, is borne on the budget of the Hissar Farm. We understand that there is no immediate prospect of any farm being started in the Nili Bar and recommend that this post should be retrenched forthwith.

133. We were informed that up to July 1931 there had only been one application for admission to the Veterinary College this year. There being

unfortunately no openings for private veterinary surgeons in the province, the students of this college look solely to Government service. We believe that the supply of trained veterinary surgeons is sufficient at present to fill any vacancies which are likely to occur. Such vacancies will not be many for the next few years. We accordingly recommend that the College be either closed down temporarily or at any rate only maintained with the staff necessary to provide instruction for students at present studying there and such additional students, if any, as may be estimated to be necessary to replace casualties in the veterinary service. We note that the item of Rs.-10,000 in the college budget for "Diet of College Animals" seems unreasonably large.

134. The co-operative credit movement in the Punjab is under the Co-operative Credit Societies (Head 34-C). Control of a Government department. The State makes provision for the superior direction and supervision and for much of the cost of the subordinate inspecting staff. A grant is also made to the Punjab Co-operative Union nominally for propaganda and audit. Actually the grant is mainly expended on the payment of that part of the inspecting staff which is paid by the Punjab Co-operative Union. We have no particular objection to this but think that the description should be altered. The provision in the budget for 1931-32 amounts to Rs. 12,27,000 divided as follows :--

(a) Direction and Superintendence		ns. 2,14,000	
(b) Subordinate inspectorate, clerical establishment	and	· · ·	
miscellaneous charges of (a) and (b)		6,62,000	
(c) Consolidation of holdings	••	1,90,000	
(d) Grant to Punjab Co-operative Union	• •	1,62,000	

In 1914 the provision under this head was only Rs. 62,000 for 3,333 societies. By 1919-20 it had increased to Rs. 1,71,000 for 5,465 societies. In 1921-22 the number of societies was 8,458 and the budget provision Rs. 4,29,000. In the current year the number of societies is 20,333. The increase in expenditure seems to be mainly due to the growth of the movement, but as between 1921 and 1931 the expenditure is as 8 to 24 while the number of societies is as 8 to 20. We were given no convincing reason for this.

We have had some difficulty in arriving at our conclusions re-135. garding the Co-operative Department. We do not wish to minimize the value to the province of a genuine co-operative movement. By genuine we mean a movement which derives its impetus from within and not from pressure from without. . While we admit the existence o' a sound core of genuine co-operators in the Punjab, we note that, although the movement has been in existence for 20 years, the best part of a generation, and has had the advantage of three Directors of great enthusiasm and world-wide reputation, the plant of cooperation is still an exotic. The growth of the movement can even now hardly be described as natural and many of the societies are artificial and would, if left to themselves, speedily dissolve. This element in the movement we consider to be a real danger to its progress and we cannot ignore the possibility (some of us would rather say the probability) of the weaker societies collapsing and bringing down with them the whole edifice. There seems to be more than one course open to us. We can adopt the easy course of leaving the movement to go on on its present lines. If we do this, we are bound to add that from the point of view of economy the staff paid by Government seems to us excessive. Take first the Banking Expert. Assuming that he is necessary in view of the large amount of money, Government and private, invested in the Central and Mortgage Banks (an assumption of the validity of which some of us are doubtful) we definitely consider that he is unnecessarily expensive. We consider that the supervising staff is unduly large and their pay unduly high. We con-sider that the expenditure on consolidation of holdings, however desirable, might well be discontinued in the present financial stringency and we feel doubts about the necessity for the grant to the Punjab Co-operative Union and recommend that it be reduced by 50 per cent.

An alternative course to which we were at one time attracted by the possibilities of economy which it offered would be to require the societies to pay much more towards the cost of the supervising agency. We contemplated in that event that the cost of all subordinate establishment would be borne by the societies, whose yearly profits are, we are informed, over 40 lakhs. This, we expected, would result in the cheapening of the agency employed and in the weeding out of some of the weaker societies. We contemplated that Government should continue to bear the cost of the superior inspecting and directing staff and should perhaps give a grant, ultimately disappearing in, say, 5 years, to the Punjab Co-operative Union.

136. But, holding the views we do about the unsoundness of the structure of the co-operative movement in the Punjab to-day, we are bound to reject these two paths in favour of a bolder course. The course we have decided to recommend will, we believe, not only result in great economy, but will also in the end give the movement, in so far as it has elements of permanence, a chance to develop on sound and natural lines. We recommend that all "fancy" societies, in which definition we are inclined to include land mortgage banks, and all ordinary B and C class co-operative credit societies should be wound up with as little delay as possible. To this end we would divide the existing staff into two. One part would be concerned solely with the liquidation of societies marked down for abolition, while the other will continue to supervise A class societies. We think that two years should suffice for liquidation. No immediate reduction of staff will be possible, but we suggest that the position be examined twice a year by Government and staff reduced as the progress of liquidation proceeds. We anticipate that after two years there will be left a nucleus of strong societies which will require a supervising staff of perhaps onethird of the present strength. These societies, being ex hypothesi healthy, will be in a position to bear a large proportion of the cost of the ordinary supervising staff. The movement should then be left to stand on its own legs and to flourish or fade on its merits and should not be spoon-fed in any way. We do not ignore the probability that the adoption of this course will involve hardship to members of B and C class societies who have believed perhaps that membership of a society was a step towards the millenium. But we do believe that in the end a decision on these lines will be to the great advantage of the movement and of the province. In the meanwhile we recommend-

- (1) holding consolidation work in abeyance,;
- (2) a cut of 10 per cent. in expenditure other than that on salaries, and
- (3) the reduction of the grants to the Punjab Co-operative Union by 50 per cent.

137. In order to get a proper view of the activities of the Department Industries (Major Head 35). of Industries it is necessary to exclude Fisheries

which, though for some reason or other it is included under Head 35, is under the Financial Commissioner, Development, and has nothing whatever to do with industries, and to include two items from Head 37—Miscellaneous Departments, the expenditure of the Inspector of Factories and of the Inspector of Steam Boilers which are under the Director of Industries, as follows :---

					Rs.
85—Industries			••		10,69,800
Deduct Fisheries	••	••	••	••	70,500
					9,99,800
Add— 97—Inspector of Fi	actories	• •	••		81,200
87—Inspector of B		••	••		43,400
		•	Total	••	10,78,900

Of this amount Rs. 8,22,500 is expended on industrial education, leaving Rs. 2,51,400 which is accounted for as follows :—

					Rs.
Direction	••		• •	••	79,500
Superintendence	• •	r 4	• •	• •	38,600
Loss on commercial u	undertakings	••	••	••	21,880
Interest charges		••	•• ^		8,750
Expenditure in Engle		• •	* •		20,600
Boilers and Factories		• •		••	74,600

138. The general staff of the Department is provided for under 'Direction' and 'Superintendence' and consists of the following officers: Director, two Assistants, six Industrial Surveyors and a Textile Inspector. Their duties are (we quote from the Department's Memorandum)—

- (1) the collection of information relating to the industries of the province;
- (2) the provision of technical advice and assistance to the industrial public of the province;
- (3) the provision of financial facilities to industrialists to the extent of rupees one lakh a year under the Punjab Industrial Loans Act;
- (4) the organisation of exhibitions and practical demonstrations of improved methods of manufacture and up-to-date machines and accessories;
- (5) the development of industries by various other methods, e. g., establishment of demonstration factories run on commercial basis (*i.e.*, Weaving Factory and the Arts and Crafts Depôt), and
- (6) the administration of the following Acts :---
 - (i) Indian Factories Act,
 - (ii) Indian Boilers Act,
 - (iii) Indian Electricity Act,
 - (iv) Indian Mines Act,
 - (v) Indian Trade Unions Act,
 - (vi) Indian Trade Disputes Act, and
 - (vii) Workmen's Compensation Act.
- 139. We take these functions in order :---
 - (1) The collection of information.—This we suppose to be done by the Industrial Surveyors and the results collected and arranged in the Director's office.
 - (2) The provision of technical advice and assistance.—We do not know who provides this. The superior staff are neither industrialists nor businessmen, and we can hardly imagine that much advice or assistance of value can be given by the Industrial Surveyors. We think that the function of providing information, advice and assistance had much better be left to some non-official body. If necessary, Government could encourage the formation of such a body and pay it a small subsidy.
 - (3) The provision of loans under the Punjab Industrial Loans Act.—We think this task should be left to the Standing Committee of the Council or to any other body, such as that suggested above, as may be found suitable.
 - (4) The organisation of exhibitions and demonstrations.—Here again we should prefer to leave this to private enterprise, assisted in such manner as may from time to time appear desirable. It is a task which Chambers of Commerce, Trades Associations or manufacturers of machinery or accessories are best fitted to undertake. If such exhibitions tend to promote sales, they will do so. If they do not promote sales, then we doubt the justification for spending public money on them.
 - (5) The development of industries by various other methods.—The method actually referred to in the Memorandum is the establishment of demonstration factories run on commercial lines. We draw attention to the words "on commercial lines". The Weaving Factory at Shahdara and the Arts and Crafts Depôt are run at a loss and the Government Resin Factory at Shahdara has gone into liquidation. We must be excused from the accusation of scoffing if we suggest that these are hardly examples which the business men of the Punjab will hasten to follow; in fact, as far as we know, these institutions have no progeny. The foregoing criticisms will show

that we take the line that State aid can do little to create industries in the Punjab. We believe it to be a fact that, whenever a State (for example Japan) has developed new industrial life, the first steps have come from the enterprise of its citizens. The State has only stepped in afterwards to nurse through difficult times enterprises which have in them more than the mere germs of success and to protect them from unfair competition. This is a policy of which we thoroughly approve and, if enterprises take shape in the province, we should be the first to urge judicious assistance being afforded by the State by, for instance, the purchase of shares.

(6) The administration of various Acts.—This work can, we think, easily be handed over to departments or offices which cannot be dispensed with. As to the administration of Joint Stock Companies with which the Director is directly entrasted by the Government of India, we consider that this could well be done by the Financial Adviser to the Co-operative Department. We may insert here a recommendation to the effect that this officer should cease to be Financial Adviser to the Co-operative Department and become Financial Adviser to Government for Cooperative Societies and Banks. He will be no less useful to the department in such a capacity and of much more value to Government in securing the proper management of the very large sums of money involved in the co-operative movement.

There remains Industrial Education. This we consider a mis-140. nomer. It is really vocational education and the very real concern of the Department of Education. Its development is one of the crying needs of the province, for until a proper system of vocational education is grafted on to our general system we shall continue to move in the wrong direction. We therefore recommend that the control of institutions provided for under 35-A (c), Industrial Education, be transferred to the Educational Department. We are aware that this is contrary to the view expressed by the Industries Commission, but we are (with two dissentient votes) unanimous in recommending the change. We believe that this step will lead to economy, as the vocational schools can be run in close connection with existing ordinary schools with a consequent avoidance of overlapping in the teaching of ordinary subjects. This might save as much as Rs. 50,000. We recommend that in order to keep the Director of Education in touch with trade and craft requirements a committee of gentlemen connected with the practical aspect of vocational teaching should be associated with the management of all vocational schools. The post of Inspector of Industrial Schools should be retained and the claims of ordinary education on the funds available should not be allowed to override the claims of vocational education. We desire to draw attention to the large amounts paid in stipends in industrial institutions (as distinct from industrial schools) and to the high cost per head of each pupil. We believe that savings are possible here.

141. Our considered recommendation is therefore that the Department of Industries should cease to exist as a department. This involves the disappearance of the staff under "Direction" and "Superintendence". It is fair to state that two of us are opposed to our recommendations about this department. They consider its retention desirable in order to provide visible assurance that Government is not neglectful of the industrial progress of the province. We have given sufficient reasons to show why we do not agree. We do not underestimate the value of sentiment, but are unwilling in the present circumstances to pay as much as a lakh for it (apart from possible savings on Industrial Education). That is the saving which we anticipate as a result of the abolition of the department.

142. The cost of the Department of Fisheries is Rs. 21,000 (Expenditure Fisheries (Major Head 35-B.) Rs. 70,500, receipts Rs. 49,500). It is, we feel, somewhat of a luxury, though we admit that an increase in the supply of fish would provide a wholesome and valuable addition to the food supply of the province. The department owes everything to the enthusiasm of the present Warden of Fisheries. He will, we understand, shortly retire. He could only be replaced by an expert from abroad who would certainly demand a much higher salary. We cannot recommend any extra expenditure on the department. We accordingly recommend that the department should disappear. The revenue side of it can be handed over to district officers who, we trust, will see to it that the tradition of the department of protecting the fisherman is carried on. We should be prepared to see the retention of a very small staff in charge of a few hatcheries under the control of any appropriate department, e.g., the Department of Agriculture. This would prevent the entire loss of any results which have so far been achieved.

143. 37 (R) C---Examinations.--We recommend a reduction of 25 per cent. in the fees paid for conducting examinations, Miscellaneous Departments (Major in 'Contingencies' and in the contribution to Heads 37 and 47).

Heads 37 and 47). the Government of India for conducting examinations. This will save Rs. 4,300.

47-RA.—Cost of Books and Periodicals.—We recommend a reduction of 25 per cent, saving Rs. 2,125.

47-R. C.—Charges on account of European Vagrants.—The fall in prices justifies a reduction of 20 per cent. under 'Diet 'charges, saving Rs. 1,025.

144. 47-RD—Publicity Board.—The work of the Publicity Board, which costs Rs. 70,100, was described to us as follows :---

I.—Publicity, viz., representation of Government side in the press.

Under this head comes the publication of-

- (i) summaries and reviews of Government reports in popular form;
- (ii) achievements of the various beneficent departments of the Government, including their new schemes;
- (iii) press communiqués, notes, etc.;
- (iv) useful original articles; and
- (v) pamphlets and leaflets.

11.—Marking of mis-statements in the Press and issuing contradictions, if necessary—

- (1) It had helped to improve the tone of the entire local press by prompt contradiction of mis-statements. Individual departments cannot always know about the mis-statements appearing about them in the press.
- (2) The Bureau had worked as a check on the extreme communal -tendencies of the communal papers by publishing correct statements with regard to the communal proportion in services, etc., whenever such questions had arisen.
- (3) The Bureau kept all the Heads of the Departments informed of what appeared in the press about them. This could not be done by the departments individually. Nothing which appeared in the press and related to Government, its Ministers, its departments and its officials now went unnoticed by them.

III.— The maintenance by the cutting section of the Bureau of a record of the developments of all political, economic and social movements in the country for the benefit of the Members of the Legislative Council as well as of the journalists, including the Bureau's own article-writers.

IV.—Information.—(1) The Bureau supplied to all enquirers all available information which related to Government Departments and was not of confidential nature. The enquirers simply applied to the Bureau for the required information and the Bureau collected it for them from the various departments unofficially.

(2) The Bureau undertook to supply rules and regulations to candidates preparing for competitive examinations held for All-India and Provincial Services. It also gave suitable publicity to all Government notifications in which announcements were made for new opportunities for young men.

V.-Educative Propaganda.-The Bureau did a lot of educative work in the rural areas by exhibiting useful films prepared by itself, VI.—" To act as a link between the public and the press on the one side and the Government on the other."

Much of this work is doubtless valuable but equally most of it cannot be described as a necessity. We gather that the Publicity Board is closely The latter appears to deal mainly with confidenlinked with the Press Bureau. tial work under the Chief Secretary and the Deputy Inspector-General, Criminal Investigation Department, while the former deals with the public under the Director of the Information Bureau. We gather that official opinion is not satisfied that the present arrangements cannot be improved. Nor, we may remark, We agree that it is in the interests of the press and the public as well as are we. of Government that correct information as to facts should be made known. But we are not convinced that it is necessary to have an officer of the status of a Joint Secretary to Government in charge nor that considerable other savings are not possible, for instance by amalgamation of the Press Branch and the Publicity Bureau. With considerable hesitation we recommend that the Bureau should continue, but in any case its cost should be reduced by 50 per cent. This will save Rs. 35,000.

145. 47-RE—Rewards for the destruction of wild animals.—We recommend that this charge should be discontinued for the present, saving Rs. 2,500.

47-RF—Special Commissions of Enquiry.—This head provides for the cost of the Waterlogging Assistant to the Financial Commissioner, Revenue and his staff, at a cost of Rs. 19,000. We understand that this post has been abolished but that it will be necessary to retain some of the staff. The savings should be about Rs. 15,000. The provision of Rs. 5,000 for the expenses of Miscellaneous Conferences may be retained.

47-RG—Contributions —The main item is Rs. 80,000 for the guarantee to the Posts and Telegraph Department of annual income from telegraph and telephone lines. It appears that when the local Government asks for a new line to be opened it has to guarantee the Posts and Telegraph Department against loss on working. The system is "Heads you win, tails I lose", for if there is any profit the Posts and Telegraph Department takes it. We think that at least the income from all these lines should be consolidated and that the Punjab Government should only be asked to pay when there is a deficit on the total number of guaranteed lines. Where the line is merely a convenience and not an administrative necessity we recommend that the working of the line should cease until times improve.

146. 47-A—Miscellaneous makes provision for the Joint Development 47—Miscellaneous (Transferred). Board be kept in abeyance during the present stringency, saving Rs. 3,800.

47-B—Contributions.—Under this head there is provision for Rs. 12,62,800, of which the principal item is the "Consolidated and Development grants to District Boards" amounting to Rs. 12,28,000. We did not originally intend to recommend the reduction of this grant except as a last resort, being fully aware of the difficulties that district boards have in keeping their heads above water, but, since we understand that the pay of all Government servants is to be cut by 10 per cent., employees of district boards should share in this sacrifice. The only way to bring home to district boards the fact that they must reduce their establishment charges, either by a reduction in pay or by retrenchment in staff, is to reduce the amount of the grants paid to them. We accordingly recommend a reduction of 20 per cent. in this grant, saving Rs. 2,45,000.

147. We do not quite see why Government should pay Rs. 2,750 to the Kasumpti municipal committee towards quit-rent payable to the Raja of Keonthal. Presumably the municipal committee collects rates and taxes. We recommend re-examination of the justification for this grant. The net grant to the Board of Economic Enquiry is Rs. 10,000. The Board apparently has Rs. 50,000 in the way of unspent grants. We recommend that no further grants be made until this balance has been exhausted. This will save Rs. 10,000.

148. Under 47-D there is provision of Rs. 27,610 for "Gurdwara Elections" and work connected with the Gurdwaras Act. Until the large number of enquiries which are still pending under the Gurdwara Act is disposed of, we are afraid this expenditure must continue. It has been substantially reduced this year. We understand that the Second Gurdwara Tribunal has been abolished with effect from 1st September 1931. This step, of which we approve, will save about Rs. 1,05,000.

149. Panchayat Officers.—While fully recognizing the recent remarkable growth of the panchayat system and the useful part which panchayats can play in the life of the countryside, we consider that the pace of development may well be slowed down in the present circumstances of the finances of the province. We believe that for a few years the existing panchayats might safely be left to the care of district officers and accordingly recommend that the staff of Panchayat officers should be discharged as soon as possible. The saving will be Rs. 42,700 for a whole year.

150. Under this head will be found the provision for 'Working Expenses' Hydro-Electric Head XXX-A). Scheme-(Major of the Hydro-Electric Scheme. Consideration of this expenditure was excluded from our terms of reference. We desire to make only one remark.

We have noticed a tendency in the larger departments to regard themselves as an "imperium in imperio." We desire to record a warning against the Hydro-Electric Department being allowed to consider itself outside the scope of the measures of retrenchment which Government will be forced to apply to other departments.

151. The Buildings and Roads Branch of the Public Works Department is charged mainly with the duty of constructing

Public Works Department (Buildings and Roads Branch) Heads 41 and 60.

and keeping in repair Government buildings and roads which are not under the control of local

bodies. As a subsidiary activity it employs an Electrical Engineer and a staff to look after Government electrical installations, the lighting of Government buildings and to administer the Electricity Act. It is also responsible for the administration of the two engineering institutions at Rasul and Moghalpura and administers and, through the Communications Board, supervises the expenditure of grants to local bodies for Class II roads.

For its main activities—the construction and repair of buildings and roads—it maintains a permanent technical staff consisting of a Chief Engineer, a Superintending Architect, three Superintending Engineers, sixteen Executive Engineers, two Assistant Executive Engineers, twenty-two Assistant Engineers, nine Sub-Engineers and a considerable subordinate and clerical staff. It also had at the time the budget for 1931-32 was framed some temporary staff both superior and subordinate. We understand that most of this temporary staff has been dismissed or is under notice. The Chief Engineer is a Secretary to Government and has the assistance of an Under-Secretary and an Assistant Secretary. The following table shows the expenditure on Works, Repairs, Tools and Plant and the establishment detailed above in various years since 1913-14:—

	1918-14.	1917-18.	1919-20.	1921-22.	1928-24.	1928-29.	1981-92.
Works, &c. Establishment Percentage of establish-	97 <u>1</u> . 8 <u>1</u>	44 8	84 9 1	95 16	66 15 1	2,08 19	99 16 <u>7</u>
ment to works	8 <u>1</u> %	18%	11%	17%	26%	9%	16%

(In lakhs of rupees).

This table falls into two periods, the dividing line coming in 1920-21 when the general increase in pay in all services took place. It will be noticed that each period embraces eras of expansion and contraction in expenditure but that, while the expenditure on Works varies violently, the cost of Establishment is comparatively constant within the period. This we consider to be an unanswerable objection to the present system. It is wasteful in the extreme to employ a staff capable of executing works worth two crores on a works programme of a crore and less. We do not anticipate that for the next two or three years the works and repairs programme of the province will exceed 60 lakhs and for years after that one crore. We accordingly recommend that, if the present system is to be retained, steps be taken to reduce the Buildings and Roads staff to a scale equal to coping with that amount of work. What the necessary staff should be we are not competent to advise, but we imagine that it should represent from 8 to 10 per cent. of the cost of works likely to be executed. We realise that such drastic reduction cannot be obtained by a stroke of the pen, but we recommend that a reduction of at least 25 per cent. should be aimed at within a year under the heads "41-A (1)—Chief Engineer," "41-A (4)—Superintending Engineers" and "41-A (5)—Executive Engineers." The increase in Superintending and Executive staff since 1914 has been small. The permanent staff budgetted for under office establishment has increased out of all proportion, the figures for 1914 and 1931 being as follows : Chief Engineer's office, 43 and 87; offices of Superintending Engineers, 28 and 80; offices of Executive Engineers, etc., 92 and 205. The increase all over is 128 per cent. The post of Superintending Architect seems to us, in the present circumstances, to be superfluous and, we recommend the abolition of the post and the establishment detailed under "41-A (2)."

152. We now turn to the expenditure on works of all kinds and repairs. The expenditure on Original Works (buildings) since 1921-22, charged either to "41—(Revenue)" or "60—(Capital)" is 420 lakhs, on Communications 328 lakhs and on Miscellaneous 42 lakhs, making a total of 790 lakhs. Education absorbed 80 lakhs, Jails came next with 60, followed by Medical and General Administration with 51½ and 40 respectively. It is not our business perhaps to comment on this large outlay, nearly 90 per cent. of which was financed out of revenue, but we are probably not unfair in suggesting that both Government and the Legislature have been blind to the fact that this capital outlay involved a large and inevitable increase in recurring charges. The bill for repairs of buildings and roads has increased from 30 lakhs in 1921 to 65 lakhs in the budget for the current year. The increase of 35 lakhs represents $4\frac{1}{2}$ per cent. on the value of works constructed since 1921-22.

153. The bill for repairs is, for 1931-32, divided between buildings and miscellaneous (Reserved and Transferred), 12½ lakhs, and Communications (Transferred) 52½ lakhs. We cannot regard the provision for repairs to buildings as extravagant. It only amounts to about 3 per cent. of the cost of buildings constructed since 1921-22. We were unable to obtain an estimate of the capital value of all buildings in charge of the Department. But as a measure of economy we recommend that the standard of maintenance be temporarily lowered and that the provision for the next two years should not exceed 10 lakhs under both Reserved and Transferred heads.

The cost of maintenance of roads and bridges has increased to 524 154. lakhs from 221 in 1921-22 and the increase of 30 lakhs represents 9 per cent. on the value of the works executed during this period. We were informed that the road mileage in charge of the department would, by the end of 1931-32, be 2,783 miles metalled and 1,844 miles unmetalled and that the average cost of maintenance per mile of all kinds of roads was Rs. 935. The cost per metalled mile is between Rs. 1,500 and Rs. 1,600. (We cannot reconcile the total of 52] lakhs with the figure of Rs. 935 per mile for 4,627 miles). We recommend that the standard of maintenance of all roads be temporarily lowered. We realize that a metalled road which has gone to pieces is worse than no road at all, but at the same time the present standard, taking it all round, seems to us higher than the province can afford. We understand that for a year or two a lowered standard is not likely to result in very serious deterioration. We suggest Rs. 1,200 per mile for metalled and Rs. 50 for unmetalled roads and recommend that the total provision for repairs to roads and bridges should be limited to 34¹/₂ lakhs.

155. It will be convenient here to allude to two grants which find a place in the budget, Rs. 50,000 for bridges and culverts and Rs. 4,00,000 for Class II roads in the charge of district boards. We recommend reduction by $1\frac{1}{2}$ lakhs in these grants combined. At the same time we desire that Government should seriously consider_the extension of the system of road monopolies which we understand to be in existence in the districts of Jhelum, Rawalpindi and Attock. We believe that the system is not only profitable to the district board but appreciated by the public in general. Its extension will, we believe, assist the finances of district boards and eventually make any grants from provincial funds unnecessary. As long as grants continue to be paid, we do not recommend the disappearance of all provision under "41-A (6)—Communications Board." 156. Contemplating, as we do, a very large reduction in the staff and expenditure of the Buildings and Roads Branch, we consider that there is no longer any need for the Chief Engineer to be a Secretary to Government. In this department we do not consider that the work is now sufficient to justify the existence of a separate Secretary. Whether our recommendation as regards this Secretaryship is accepted or not, we do not see the need for the retention of both the posts of Under-Secretary and Assistant Secretary in this department. It is probable that as Head of a department, which will still be responsible for the spending of much public money, the Chief Engineer will require an assistant of gazetted rank in his office. But with cadre and expenditure both much reduced there will no longer be any justification for two gazetted assistants. We recommend also a cut of 25 per cent. in the Chief Engineer's Office Establishment and Charges.

157. We now turn to what we may call the subsidiary activities of this department, the Electrical Engineer and his staff and the two engineering institutions. Under "41-A (3)" provision is made in the budget for an Electrical Engineer, an Executive Engineer and two Sub-Divisional Officers *plus* subordinate establishment at a total cost of one lakh. We must confess to being not altogether clear what work this staff does, but we understand that it has three main functions—

- (a) the administration of the Electricity Act;
- (b) the running of certain Government electrical plants, such as the pumping station at Renala Khurd; and

(c) the charge of electric installations in Government buildings.

We admit that the first two are functions proper to be discharged by a State agency. But we cannot admit that it requires two highly paid engineers to do the work. We recommend that the post of Electrical Engineer should be abolished. As regards the third item we can see the justification, in the days when electricity was in its infancy in India and competent electrical engineering firms were few and far between, for putting the charge of electric installations in Government buildings in charge of a public department. We cannot see that that justification any longer exists. There are now firms to which this work could be entrusted either as piece-work or on an annual contract. We have no hesitation in advising that this work should no longer be done departmentally.

158. The School of Engineering at Rasul we believe to provide facilities which the province cannot do without and *primâ facie* it is not extravagantly run. We recommend, however, that a committee be appointed to examine the question whether equally good results cannot be obtained at a lower cost. The same cannot be said of the Maclagan Engineering College at Moghalpura. We understand that one of the main objects of starting this institution was to provide students fit to enter the superior railway engineering service. We gather that this object has not been achieved. Some of us are inclined to think that, in the present financial circumstances of the province, we cannot afford to keep the college open and we are all agreed that the present cost of Rs. 2,65,000 must be substantially reduced. We are not clear what justification there is for the payment of Rs. 87,640 as "Allowances to students for working in the Railway Workshops." The college seems generously staffed and the staff by no means overworked. We recommend that the expenditure on this institution should not exceed Rs. 1,50,000. We consider that it would not be unreasonable to ask the North-Western Railway administration to contribute towards the cost of this institution.

159. We noticed two items of expenditure—(1) Thomason Engineering College, Roorki—Rs. 1,44,000 and (2) Scholarships to Punjabi students undergoing instruction at Roorki College—Rs. 2,600, for which we enquired the justification. It appears that this represents the cost of the education of Punjabi students at Roorki. We willingly admit the value of the Roorki-trained engineer in the Punjab: in fact we contemplate that in the future he will provide us with the personnel for 90 per cent. of our engineering staff. But we cannot admit the necessity of paying the whole cost of the education of every Punjabi student irrespective of his means. We recommend that a "means test" should be introduced and only so much given in the way of stipends as may be sufficient, n view of their private means, to enable suitable students to proceed to Roorki. We do not contemplate that the total amount paid in stipends and scholarships should in future exceed Rs. 75,000 to Rs. 1,00,000.

160. We have already recommended reduction in the provision for repairs to buildings and in staff. We think the acceptance of the following recommendations will facilitate economies in these directions:---

- (a) the responsibility for annual repairs should everywhere be handed over to the heads of departments concerned, who should be left to make their own arrangements. The necessary funds should be provided for under "Contingencies" and the actual arrangements for repairs be under the control of the officer responsible in any particular office for the control of contingent expenditure;
- (b) in any place which is the headquarters of an officer of the Irrigation Branch of a rank not lower than Sub-Divisional Officer, the responsibility for special repairs and all works, major or minor, excepting perhaps communications, should be handed over to the Irrigation Branch. We except Lahore from this recommendation. In other stations the question of handing over to heads of departments responsibility for all works, major or minor; not exceeding Rs. 5,000 in value, should be seriously considered.

161. It is perhaps hardly necessary to add that for the present we recommend that no new works, either buildings or roads, should be undertaken. We understand that the Government of India has been approached to permit receipts • from the Central Road Fund, which ordinarily can be applied only to development, to be devoted temporarily to maintenance. We endorse this suggestion. If it is not accepted, we suggest that permission be obtained to invest any sums received from the Central Road Fund, since we consider it inadvisable to undertake at present new works which will involve increased recurring expenditure on maintenance.

All our recommendations so far have been based on the assumption 162. that the present system will continue, that is to say that the Buildings and Roads Branch of the Public Works Department will continue to be an executive agency for the construction and repair of State works. But we desire to recommend for the serious consideration of Government an alternative suggestion. The grave defect of maintaining a permanent State executive engineering service is that, as the figures given above show, it has often to be maintained at an unnecessarily high strength, simply because the State has for the time being no money to spend on works. Permanent staff cannot, ex hypothesi, be engaged and dismissed at a day's notice. The entertainment of temporary staff is not an entirely satisfactory solution of this difficulty as temporary employees have, from the nature of their employment, no great incentive to give of their best. The solution we suggest is to develope the system of getting public works done through the agency of private firms and gradually to reduce the State executive Engineering Service to a State Engineering inspectorate. This suggestion has, we admit, received short shrift from the department. All Government departments are notoriously conservative. But the solution has, we claim, great merits. Not only is it likely to reduce the cost of public works but it will also encourage the development of the engineering profession in a Province the inhabitants of which have shown decided aptitude in this direction. It is an added recommendation for the proposal that the reduction in the present staff of the Buildings and Roads Branch will throw out of employment many well-qualified engineers. The moment is thus favourable for the creation of private engineering enterprise.

(1) Government Presses	• • .	••			5, 75,000
(2) Printing, such as lithog	raphy, done	at other	Presses	••	79,000
(8) Stationery supplied from			••	••	5,38,000
(4) Miscellaneous, including	g expenditur	e on store	s in England	••	79,000

Rs.

Government maintains three presses,—Secretariat Press, Central Jail Press and Borstal Institution Press,—at which the great bulk of Government printing is done. Much of Government's printing work is confidential, much also is urgent and must be completed within a fixed period. We are satisfied that Government cannot dispense with a printing press of its own. At the same time we consider that a good deal of work, such as the printing of departmental reports, might be done by private agency. We recommend that an experiment be made on these lines. A good deal of extra work and of extra expense in the way of spare type and over-time payments might be avoided if departments would observe the following rules :—

- (1) Work should never be marked 'urgent' and 'immediate' unless there is real necessity for doing so.
- (2) Type matter should not be kept standing for longer than it is absolutely necessary. We recommend that a limit should be fixed and that the department responsible for keeping matter in type for longer than this period should pay the extra cost from its contingencies.
- (3) Manuscript sent to the press is frequently carelessly edited. The result is expense on corrections. We recommend that departments should pay from their own contingencies for corrections in printed matter the cost which exceeds 5 per cent. of the cost of actual composition.
- (4) New forms are frequently ordered before the stock of the old forms is exhausted. This is wasteful. We recommend that new forms should not be introduced until the stock of old forms has been finished.
- (5) Departments responsible for various Government publications seem to be unduly optimistic about the demand from the public for their productions. We recommend that more care should be taken in deciding the number of copies of a work to be printed and that the free list should be carefully reviewed.

164. We gather that the cost of stationery and printing can be considerably reduced by the introduction of less expensive types of paper for all printing and stationery purposes. As far as possible there should be uniformity in the types of paper and envelopes used. The use of "national economy" slips for closing envelopes should be enforced. We consider that the issue of the Civil List half-yearly would be sufficient. We doubt the necessity for the monthly gradation lists which many departments issue. Departmental reports are usually verbose. We recommend drastic reduction in their size. It is quite unnecessary, we think, to issue so many of them annually. We have no objection to their being compiled annually for the information of Government, but a short review published in the gazette is all that the general public requires.

165. We expect that these measures taken together will enable a reduction of 20 per cent. to be made in the present cost of stationery supplied from the Central Stores, involving a saving of Rs. 1,07,000, and a simultaneous saving of 10 per cent. in the cost of the working of Government presses, amounting to Rs. 57,000. A suggestion was made that the business of publishing and selling Government reports should be handed over to private presses and firms of publishers. We have not gone into this question carefully, but put it forward for the consideration of Government.

Special Pay and Allowances, Pay, Pensions and Leave.

Special Pay and Allowances.

166. Special pay is defined in Fundamental Rule'9 (25).

- "Special pay means an addition, of the nature of pay, to the emoluments of a post or of a Government servant, granted in consideration of—
 - (a) the specially arduous nature of the duties; or
 - (b) a specific addition to the work or responsibility; or
 - (c) the unhealthiness of the locality in which the work is performed.

"Compensatory Allowance" is defined in Fundamental Rule 9 (5)-

"Compensatory allowance means an allowance granted to meet personal expenditure necessitated by the special circumstances in which duty is performed. It includes a travelling allowance but does not include a sumptuary allowance nor the grant of a free passage by sea to or from any place outside India."

These definitions are not entirely exclusive and it is sometimes difficult to say whether a particular addition to the emoluments of an officer partakes more of the nature of a special pay or of a compensatory allowance. It is well to be clear also what is not special pay or an allowance. For instance, overseas pay is not special pay nor an allowance. It is part of the substantive pay of officers of the All-India Services recruited in England before a certain date. So too is the addition to his pay drawn by an officer on the inferior scale, e.g., of the Indian Civil Service, Indian Police Service or Indian Service of Engineers, when holding a post on the superior scale. For instance, an Assistant Commissioner of five years' service holding the post of Deputy Commissioner is shown in the Civil List as drawing Rs. 650 as pay and Rs. 350 as allowance. This is not a correct way of putting it. He is drawing Rs. 1,000, the minimum substantive pay of an Indian Civil Service officer holding the appointment of Deputy Commissioner. Similarly an officer of the Executive Branch of the Provincial Civil Service is shown as officiating as Deputy Commissioner and drawing Rs. 850 as pay and Rs. 425 as acting allowance. Again he is really drawing the minimum sub-stantive pay of Rs. 1,275 laid down for an officer of the Provincial Civil Service holding the appointment of Deputy Commissioner. Allowance in lieu of rent-free accommodation comes under the definition of 'Compensatory Allowance'; so does a fixed travelling or conveyance allowance. The amount drawn as special pay by Government servants amounts to about 33 lakhs approximately. The total amount provided under the head "Allowances and Honoraria", which includes all allowances except fixed travelling and conveyance allowances, is We are not sure that in some cases the same items have not been about 30 lakhs. included under each head. A full list of and our detailed recommendations on all allowances and special pays, except fixed travelling and conveyance allowances, is given in Appendix E. It will be noticed that we have made no recommendations on allowances in the Medical Department. This is because the statement was not received in time. What our recommendations would have been is, we think, sufficiently clear from our recommendations elsewhere.

167. Our main objection to special pay is that as soon as it is granted in one place a precedent arises for its grant in another. It is not, we think, unjustifiable to make an addition to substantive pay in the comparatively rare occasions when a post is filled by selection and carries definitely an increase in responsibility. There must be some inducement offered to the best men to fill the most difficult posts. In such cases we should prefer to fix the consolidated pay of the post at a sufficient figure. But it has been pointed out to us that this would not usually be economical and would in effect, in times of financial stringency, result in the principle of selection being laid aside and the man on the pay nearest to that of the selection post being appointed. For instance, suppose we substitute a post on a fixed pay of Rs. 2,500 for a post carrying an allowance of

Rs. 250. It becomes a certainty that the claims of merit will have to give way to the claims of economy. The man on Rs. 2,250 will always, on grounds of economy, be given preference to the man on Rs. 1,500 even if the latter has rather more qualifications for the post. We have no desire to see this happen and, much as we should like to see the words "special pay" disappear, we cannot in the circumstances recommend the adoption of this system. There are however instances where special pay can be consolidated with substantive pay. Our specific recommendations show that we desire the grant of special pay to be restricted to cases where it is necessary to attract suitable men to difficult and responsible posts, for which it is not economical to lay down a fixed pay.

168. Compensatory allowances are on a different footing. When they are given in accordance with the definition in Fundamental Rule 9 (5), we have no objection to them provided that they are fixed at a rate at which they cannot be a source of profit. For instance, we do not object to some allowance being given for service in hills tracts which are notoriously expensive. The rates generally allowed seem, however, to be prima facie excessive and we recommend their re-examination. But our specific proposals in each case show clearly enough what our views are.

169. The introduction of an all round cut in pay of 10 per cent. makes it necessary to modify to some extent the immediate effect of our recommendations. We had originally intended that they should take effect at once. But it would obviously be unfair that an officer fit to be chosen for a selection post should lose both his special pay and suffer a 10 per cent. cut, while his brother officer, ex hypothesi no more efficient, would only lose 10 per cent. So where we recommend that special pay should be abolished, we consider it should continue for the present incumbents. It should be abolished when the present incumbent vacates the post or if the cut is restored. We assume that all special pays will be subject to the cut in the same way as substantive pay. When we recommend the continuance of a compensatory allowance we consider that it should be subject to the same cut as pay. When we recommend its abolition we would postpone total abolition until April 1st, 1931, making immediately a reduction of not more than 50 per cent. The fall in the cost of living has made the justification of many of the existing allowances very slight.

A word is necessary about rent free accommodation and allowances 170. in lieu. Rent free accommodation is given ordinarily to certain menial servants and also to other Government servants who are compelled to reside on the scene of their work. An allowance in lieu of rent free accommodation is given when the conditions governing the grant of rent free accommodation are fulfilled but no Government accommodation is available. The Government servant must then in order to qualify for the allowance live within such distance of his work as will enable him to be available at the shortest notice. This concession is on the whole justifiable. No one, for instance, would willingly live inside a jail. But we have noticed instances of the concession being given to Government servants whose constant presence on the scene of their duties seems not to be necessary. We recommend that all grants of this concession be carefully reviewed. We have not had time to estimate the financial effect of our recommendations about special pay and allowances, but we should expect the cost ultimately to be reduced by at least 75 per cent.

171. The whole question of the scales of pay in force for the public ser-Pay (present and future).

vices has been obscured by the existence of the All-India Services, the members of which draw

pay based not on the market value prevailing in the province of the services of Punjabis but on the amount necessary to attract highly educated foreigners to func ion 6,000 miles away from their own country not so much as servants but as rulers. As long as the burning question of the services was Indianization the high rates of pay drawn by Europeans was bound to force up the general level of salaries. Now that the question is one of the element of Europeanization which it is necessary or desirable to have in Indian services, the matter assumes a different aspect and we are entitled to insist that the only criterion on which the pay of a Punjabi serving in the Punjab shall be fixed shall be the market value of his services calculated, on the general level of salaries rev alent in the province outside the public services. Europeans, as far as their services are required, will continue to command the salaries which those who wish to employ them are prepared to pay, but this scale, whatever it may be, should not

be allowed to affect the pitch of the salaries of men serving in their own country.

172. Following this principle, of the validity of which we have no doubt. we have drawn up scales of pay for the superior provincial services and also for the subordinate and clerical staff. They will be found in Appendix C. These scales we regard as tentative and subject to such modification as further examination may show to be necessary. They are based generally on three assumptions, firstly, that the scales of pay for all the various services should be approximately the same ; secondly, that about Rs. 150 per mensem is sufficiently high a starting pay to attract the type of young man whom we desire to see in our superior services ; and, thirdly, that Rs. 600 per mensem is sufficiently high for the top of the time-scale. We recognise that it may be necessary to have small selection grades above the time-scale but have not attempted to suggest what the pay of such grades should be. We have, however, indicated our ideas about the pay suitable for certain important posts. We think, as we have already said, that Rs. 150 a month is sufficient for the starting pay of young men who we hope will be unmarried. It compares favourably with the £150 a year which, until about 10 years ago, was the starting pay in the higher Civil Service in England. We take Rs. 600 as the ordinary maximum because we think it. represents about what the ordinary man can look to be earning in a profession at the age of 45. We do not pretend that this compares with the prizes open to exceptional men, for instance at the Bar. It is not the exceptional man whom we wish to attract to the public service. No State in fact can afford to offer enough to attract him. It is the man of average or slightly above average abilities who makes the best civil servant.

173. For the subordinate services we recommend scales about 15 per cent. below the present scales. The rates of pay drawn by the various classes of subordinates are so numerous that we have not attempted to give a list of them. A measure of uniformity between the different subordinate services is, we think, desirable. We realize that it may not be possible to fit certain classes of subordinate public servants into the ordinary scales of pay because of the special nature of their technical qualifications. In their case the current market rates should be taken as a guide.

174. Specialists of superior qualifications we would obtain from whatever source the best men are available. We would pay them whatever is necessary to attract the best men; for when it comes to specialist knowledge the best is the cheapest. They should invariably be engaged on contract and not be included in the ordinary cadre of a service.

175. In fixing rates of pay for clerical establishment we have tried to get rid of some of the multifarious scales at present in force. We think the present scales are markedly generous in the higher grades. We realise the necessity for a really competent clerical staff in such offices as the Civil Secretariat and would not be averse to a division of the clerical service into first class clerks and second class clerks, the first class being recruited both directly and also by promotion from the second class.

176. Our detailed proposals are given in Appendix C. We wish to emphasize the fact that our recommendations are only intended to lay down the general lines which we think a revision of pay should take. To work out properly rates of pay for every class of Government servant is a task which we have had neither the time nor the knowledge to undertake. The new scales should provide for at least two efficiency bars, one after about four years service and the other after about fifteen. Crossing the efficiency bar should be no mere formality, but should be considered a real means of getting rid of incompetents. Fitness should be the invariable and sole justification for promotion to any selection post above the time-scale. We recommend that new scales of pay should be introduced as early as possible for all future entrants into Government service.

177. We now come to the question of what is to be done about the pay of present Government servants. That the existing pay is too high and more than the province can afford to pay we have no doubt. The cut of 10 per cent., which we understand will shortly come into effect, will afford merely a temporary alleviation of the difficulty. To effect the adjustment in pay which we consider essential it would be necessary to make a cut, which in some cases might be as much as 50 per cent., and to make it permanently. Such sudden reductions would inflict intolerable hardship on a body of men whose interests the province is bound to safeguard with all the tenderness that financial considerations make per-We desire as far as possible to avoid positive reductions in existing missible. pay except when it is absolutely necessary in order to balance the budget. We must make it absolutely clear that, in our view, only when the alternative is probable insolvency with all its disastrous consequences is a State, any more than a private person, entitled to decline to fulfil any longer its moral or contractual obligations. The law "Salus reipublicæ suprema lex" is a supreme law and must only be invoked in supreme need. This need we believe to exist and it must be our justification for our recommendations. We think that on the whole reduction in numbers is, as a measure of retrenchment, to be preferred to reduetion in pay. Unfortunately reduction in numbers on a scale which will produce appreciable saving in the total salary bill is out of the question where the provincial and subordinate services are concerned. The administration must be carried on. We are forced therefore to adopt the other alternative for these services. We recommend therefore that, as soon as the temporary cut is withdrawn, new scales of pay shall be introduced for all Government servants, who shall be considered to be from that moment on the new scales. No Government servant's pay shall be actually reduced but he shall draw no further increments until his pay reckoned on the new scale shall have reached the point on which he stands on the old scale after the cut has been withdrawn. To give an example. An Extra Assistant Commissioner of x years' service is drawing Rs. 500. On the new scale this point is not reached until x+5 years of service. He will remain at Rs. 500 for the next five years and then proceed upwards in the new grade. Men whose pay already exceeds the highest pay of the new grade will remain on their present pay until they retire or are promoted to a selection post carrying higher pay. This action should be accompanied by the retirement of men who have earned a pension or reached the age of superannuation and by the weeding out of incompetents. This coupled with the lower starting pay of new recruits will gradually reduce the total salary bill.

An immediate positive cut in salaries is on a different footing 178. from the readjustment of swollen rates of pay. It can, we think, only be justified on the ground that the budget can be balanced in no other way. This is certainly the position as regards this year's budget and we regard an immediate We recommend that it should be taken off as soon as the budget cut as essential. can be balanced by other means, a state of affairs which we do not expect to see before the end of the financial year 1932-33. Our original proposals were drawn up before the Government of India's announcement was made that it had been decided that an all-round cut should be imposed. Our proposals, which will be found in Appendix D, provided for a graded cut and in making them we were influenced by the fact that Government servants drawing over Rs. 163 a month were already paying from 3 per cent. to 13 per cent. of their salaries in income-tax. We still consider that a graded cut going right down to the bottom is more equitable, and this is our recommendation; though we admit that it will produce less. We do not, however, consider an all-round cut unfair in its general incidence taking into consideration the present economic circumstances. The fall in the cost of living gives a benefit which we estimate to amount to 25 per cent. or more on salaries up to Rs. 20 or Rs. 25 per mensem and about 15 per cent. on salaries up to Rs. 50 per mensem. From that point, as the proportion of the salary spent on the primary foodstuffs falls, the benefit of the drop in the cost of living decreases, and we are inclined to think that the effect of the fall in prices has not yet begun to make itself seriously felt on incomes above say Rs. 500 or Rs. 600 or on the cost of living of those who live in European style. Such persons have also been more directly affected by the increase in custom duties last April and will be further affected if the duties are raised again. Menials and other Government servants whose pay has been or is being adjusted to current market rates should be exempt and also new entrants to Government service whose starting pay has been subjected already to a cut.

179. Connected with the question of readjustment of pay is the question of pensions. The general rule governing pensions is that a Government servant earns a pension of 1/60th of his pay for each year of service up to a maximum of 30/60ths. The bill for pensions has risen from 22½ lakhs in 1913-14 to 68¾ lakhs in 1981-32 and the increased capitalized value of this liability is enormous.

We doubt if all the implications of the general rise in pay were fully realized We consider the pension rules unduly generous when it was given in 1920. and we were struck by the fact that a man can go on earning additional pension even when he is on extension after the ordinary age of superannuation. We should like to see them recast on the lines of the Indian Civil Service pension The officer in the Indian Civil Service (whose pension has, incidentally, rules. remained unchanged for nearly 80 years) earns a pension after 25 years' service. He is expected by that time to have reached the top of his time scale and his pension is roughly equivalent to half the highest time-scale pay. Having earned this pension he cannot earn any more however long he may serve or whatever post he may hold. We should like to see this system introduced for the superior provincial services. Pension should be earned after 25 years' service of which 23 (not 21 as in the Indian Civil Service) must be active service. The amount should be one half of the highest pay in the time scale. After 25 years' service Government servants should be liable to retirement at any time at the option Service after 25 years should not generally earn additional pension. of the State. We would make an exception to this rule and allow approved service in certain important administrative posts to carry small additions to the standard pension. For subordinate and clerical services we recommend the substitution for the existing pension scheme of a system of contributory provident fund or provident fund supplemented by a small pension. This system has advantages over a system of pensions in that it makes provision for an officer's dependents in the event of his death and also enables the State to get rid of its unsatisfactory servants more easily.

As for pay, so for leave. The influence of the All-India Services' 18**0**. leave rules, which are designed to meet the case of men whose homes are in Europe, has seriously affected the leave rules for those whose homes are in India. We are anxious that the principle should be adopted that leave rules applicable to officers of Asiatic domicile need bear no relation to leave rules for officers If this is accepted, the question is infinitely simplified. of non-Asiatic domicile. In England the Civil servant gets, we believe, one month's leave a year. If in any year he is prevented by the exigencies of the public service from enjoying this leave he may, we believe, take six weeks the following year. No other accumulation of leave is ordinarily permitted. The conditions in the Punjab Circumstances do arise, such as marriages and betroare not quite the same. thals, when an officer's religious and social obligations compel him to take as much as two months' leave. The general principle we advocate in framing new leave rules is one month's leave on full pay a year, with permission to ac-cumulate up to a maximum of two months. There should be some provision for leave on medical certificate on half pay, for the grant of "leave not due" in emergencies and for study leave in Europe. All other leave should be without The provision for leave salary in the current budget is 18 lakhs in India pay. and 11 lakhs in England and we recommend that the question of altering the leave rules be taken up forthwith. As regards leave pay, it does not seem to us proper that an official should draw on leave more than he would have drawn if he had remained on duty. We accordingly recommend that leave pay should not exceed the pay of the post held substantively by the official at the time he proceeds on leave.

181. Our proposals, we regret to say, will involve the retrenchment of a considerable number of Government servants. We desire that these officers should be treated fairly and with as much generosity as the finances of the province permit. Their services are being dispensed with for no fault of their own. The following principles commend themselves to us :--

- (a) officers who can be retired at once under existing rules should be required to retire;
- (b) officers who are within say three years of the stage when they can be retired should be given their full pension and retired;
- (c) reduction of cadres should be used as an opportunity to get rid of officers who are definitely incompetent or are unlikely to receive advancement into higher posts. In the case of such officers the question whether, in view of the nature of their service, they would have been entitled to compensatory pensions at the full rate should be taken into consideration in assessing the compensation to be given them;

- (d) officers who are retired simply because their services are no longer required should be given at least all the leave due to them and retired on full compensatory pension at the expiry of their leave. We would not rule out consideration of the question whether it would not be fair to grant such officers a bonus for loss of prospects;
- (e) officers retired under (d) should be given preference for re-appointment to Government service if in the future fresh appointments are necessary. Government should take such steps as are possible to obtain employment for such officers under local bodies and courts of wards.

182. We recommend that, when the readjustment of the general rates of pay which we have proposed takes place, officers should be given the option, at whatever stage of service they may be, of taking all the leave due to them and being compulsorily retired at the end of it on full compensatory pension calculated on their pay on the old scale.

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CHAPTER VI.

The Financial Results of Recommendations.

183. We set out to balance the budget for 1931-32 at about 8,82 lakhs (paragraph 10). The total amount of particular retrenchments of which we can calculate the financial effect (Appendix A) is 2,45 lakhs, including 28 lakhs which a graded cut on the pay of all Government servants will produce. From this total of 2,45 lakhs must be deducted the sum of 40 lakhs, representing estimated savings in irrigation Working Expenses of which we have already taken account in estimating the net income from Land Revenue and Irrigation. The net savings on the expenditure side of the budget are therefore 2,05 lakhs, which brings the figure of 10,83 lakhs taken in the budget down to 8,78 lakhs. In addition we have in Appendix B given a list of recommendations the financial effect of which we have not been able to calculate. Some of them involve large savings, 'for instance, the reduction of travelling allowance to the 1919-20 level, the abolition or reduction of most allowances, the introduction of the contract system for the sale of water, the reduc-tion in the size of patwaris' circles, the return to the old system of Forest administration, the reorganization of the Co-operative Department on a non-State basis, the further reduction of Buildings and Roads staff, the introduction of new scales of pay for all Government servants. We do not expect that the full effect of all our recommendations will be felt in 1932-33. For instance the benefit from the retirement of officers will not fully materialize until their period of leave preparatory to final retirement is over. We contemplate that it may be again necessary in 1932-33 to call in Extraordinary Receipts to the help of the revenue account. Our expectation is that by 1933-34 the finances of the province will be on a sound basis.

184. We have seen it suggested that the axe of retrenchment has been designedly directed mainly against the so-called "beneficent" departments. The figures give the lie to this suggestion. "Beneficent" departments are cut 20 per cent., all other departments whose expenditure is found on the expenditure side of the budget 25 per cent. The Irrigation Branch, whose expenditure is given mainly on the receipts side of the budget, is cut 18 per cent. This result is purely fortuitous but not unsatisfactory. In performing our disagreeable task we have paid no regard whatsoever to the nature of the department under examination. Where we have detected excrescences and extravagances we have tried to cut them off with no other motive than to secure economy with as little loss of efficiency as possible. We accept the fact that efficiency may be diminished. No State and no person can suffer a sudden loss in income of 20 per cent. without an accompanying loss in efficiency. We ourselves are not enamoured of the division of departments into beneficent and other. We should prefer to divide them as follows :---

Revenue-production	• •	••	••	Land Revenue, Excise and Stamps.
Protection and ancillary	••	••	••	Civil Administration. Administration of Justice. Jails. Police. Stationery and Printing. Miscellaneous.
Development		••	4 •	Forests. Irrigation. Agriculture. Veterinary. Co-operation. Industries. Fisheries. Civil Works.
Social Services	••	••	••	Education. Medicine. Public Health.

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Taking this division the cuts amount to 8 per cent. on Revenue production, $12\frac{1}{2}$ per cent. on Protection, 26 per cent. on Development and 20 per cent. on Social Services. This is again a fortuitous but not unsatisfactory result. We ask that our work shall be judged not as the work of advocates of particular policies but as an attempt to suggest means by which the finances of this province, whose future prosperity and happiness we deeply desire, may be re-established on a sound basis.

> AKBAR ALI.* J. D. ANDERSON. ARJAN SINGH.* FAIZ MUHAMMAD. MOHAN LAL.* MUHAMMAD AMIN.* A. MURPHY. C. M. G. OGILVIE. F. H. PUCKLE. MUKAND LAL PURI.* OWEN ROBERTS.

* Subject to his separate note, 24th October 1931.

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ADDENDUM.

Recommendations of the Non-official Members of the Committee on matters relating to the services under the control of His Majesty's Secretary of State for India.

IT is considered advisable that these recommendations should be made under the title given to this subject in paragraph 3, Chapter I, of the report of this Committee. The decision of His Majesty's Secretary of State for India debarring official members of the Committee from participating in recommendations affecting these services has thrown a heavy responsibility on non-official members. In discharging this responsibility we have endeavoured to keep before us the necessity for maintaining contented services where "services" are necessary and at the same time to bear in mind our responsibility as a Retrenchment Committee of bringing the expenditure on these services into line with the capacity of the Province to pay.

Our examination of the subject has been conducted along two main lines; the first of these deals with a reduction of the cost of the services from the point of view of the numbers that are necessary to assist the administration and the second with certain sacrifices that we feel justified in asking these services to make in common with all other public services employed under the Government of the Province.

As regards the first of these lines attention is drawn to the attached statement headed "Statement showing the sanctioned cadre and number of appointments of Imperial and Provincial Service officers of the various Services."

In reading this statement it is suggested that column 7 which gives the effective proportions of Imperial Service to Provincial Service officers should be taken; these figures give the proportions between columns 3 and 5 and therefore officers in column 2 who may be on deputation or so employed as not to be available in the Province itself are excluded. A glance at the figures in column 7 will show how greatly the proportion of Imperial Service officers to Provincial Service officers varies in the different services.

Before dealing with the matter in detail it may be as well to explain that, in the opinion of the Non-official Members, administration must ultimately depend upon what are now known as the Provincial Services and we hold that these services must be so developed as to contain ultimately not merely the executive of the departments, but also the necessary administrative heads. It is realised that the transition to a complete Provincial Service cannot take place simultaneously in all departments. It is further realised that in the Security Services, *i.e.*, the I. C. S. and Police, the period of transition must take more time than in the case of the remaining services and finally it is expected that even completely provincialised services may require specialists added to them and working with them, but not forming a part of the ordinary cadre of the services to which they are attached.

In addressing ourselves to the task before us, we are unfortunate in not having more information available through the evidence. We have in fact one statement only, that made by Mr. Ogilvie, which has been amplified in discussions of which very properly there is no special record, and if we are to add anything to this evidence it can come only from the published reports of the Provincial Government and the Government of India on the subject of the Services.

However valuable these latter may be from the point of view of administration they are certainly lacking in value from the stand-point of the individual whose career stands to be affected by pending changes. From this conclusion we are forced back to a consideration of Mr. Ogilvie's statement and we are faced there with the suggestion that the only fair and proper method of dealing with the subject is the acceptance in principle of settling up the Services as was done in Egypt and entering into fresh contracts with the officers it is desired to retain.

At this point it is necessary to emphasize our conclusion that a distinction must be made between the Security Services as explained above and Nonsecurity Services and we are loath to admit that no other solution than that suggested by Mr. Ogilvie exists. The whole history of the connection between these services and the development of the country and the many ties and connections that bind them together would seem to make it imperative that some via media must be found; some solution which will leave these services having the same connection with the administration as they have to-day and allowing of scope for a contented body of permanent officials. The need for this is very great, as we are unanimous in realising the impossibility of doing without permanent officials in an advisory capacity in the higher branches of administration and of the impossibility either of replacing them satisfactorily by means of men employed on contract or except through the channel of training in the country itself.

The question of the general reduction of the cost of the services by regulation of the proportion of Imperial Service officers to Provincial Service officers may now be considered in detail.

In the matter of the I.C.S. a reference should be made to the 2nd group of figures on the attached statement showing the distribution of officers for the two branches of this Service. It will be observed that the effective proportion in the case of the executive is 31 per cent. and in the case of the Judicial 15 per cent.

The question of recruitment for the Judicial Service is one that was considered at some length at various times by the Committee as a whole and we, the non-official members, are unanimous in recommending that no further recruitment should take place through the I. C. S. on the Judicial side. It is anticipated that recruitment for the Judicial side of the administration should be made through the Bar, it being understood that it will be open to the administration at any time to employ direct any officers that may be required for this service to supplement recruitment from the Province and that such officers can be entertained on special terms.

On the executive side, it is considered that for the present the proportion of Imperial Service Officers should be 20 per cent.

In the matter of the Police, the other Security Service, the present effective proportion is 177 per cent. and it is appreciated that it would be impossible to reduce this immediately but in our opinion steps should be taken to reduce it to 20 per cent. in the not remote future and we recommend accordingly.

In the matter of all other services it is recommended that the proportion of Imperial Service officers to Provincial Service officers should not exceed 20 per cent. and that, where the percentages now employed are less than this figure, these percentages should not be increased above the figures they now stand at. Where the figures are largely in excess of the standard fixed, steps should be taken to reduce them with as little delay, as possible to the accepted standard.

It is impossible for us to estimate the savings that will be effected if these recommendations are accepted by Government but they should be very considerable.

We now pass on to the question of reduction in remuneration of these Services.

The first point to which we desire to direct the attention of Government relates to what are known as the Lee Concessions. A very valuable note was given to us on this subject and without attempting to go into the history of the matter at length, it would seem that these concessions were made at a time when the revenues of the country stood very high. The concessions themselves fall into two distinct groups ; that known as Overseas Pay should be discontinued.

The second part of the concessions relates to free passages to and from England for officers and their wives and children. It is recommended that these concessions should be discontinued and that an officer should be allowed two free passages only, one on joining the service and one on his final retirement. In the event of an officer's services being terminated by death whilst in the country, it is recommended that the free passage which would have been due him on retirement should be granted to his widow, if in the country at the time of his death. Subject to the reservation in this paragraph the entir e position should revert to exactly what it stood at before these concessions were granted.

Our final recommendation in this connection deals with the question of general reduction in pay. The members of this Committee feel very strongly that a general reduction in the scale of salaries is essential and, while any interference with the time scales or other general rules of pay might prove a complicated and lengthy matter, it is recommended that a general reduction of 10 per cent. in all salaries should be made, quite apart from any temporary reduction effected by the Government of India.

We also hold that the reduction of 10 per cent. by the Government of India should not be reduced by making allowances for the extra income-tax which is to be levied. If the deductions on account of Income-Tax are to be considered it is the opinion of the Committee that an appreciably higher graded rate of reduction should be made, say from 15 to 20 per cent., and the uniform rate of 10 per cent. is only acceptable, in the case of higher salaries especially, provided no deductions are permitted on account of Income-Tax.

In the matter of recruitment for these services, where such is necessary, a revised scale of emoluments should be created; the present scales, in the opinion of the Committee, are higher than the Province can afford to pay. It is considered that the highest scale on admission should not exceed Rs. 300 per month and the maximum of the highest time-scale should not exceed Rs. 1,500. The scale suggested is not intended to exclude the employment of specialists, on contract terms at market rates.

We take this opportunity to express our special indebtedness to Mr.Puckle who, first as Secretary and later in the dual capacities of Secretary and Chairman, did everything possible to obtain and place at our disposal the fullest information on every subject considered and at the same time to direct the examination of witnesses and documents so as to ensure the opening up of evidence on the lines required by members.

Our discussions on every point have been characterised by complete freedom and have been without reserve and we are indebted to Mr. Puckle not only for his hard work but for his sympathy with our objects and good judgment.

Signed by—

OWEN ROBERTS (subject to a minute of dissent). MOHAN LALL.

MUKAND LALL, PURI.

MUHAMMAD AMIN.

Name of Service.		All-India Service Officers.			L SERVICE ICERS.	PRECENTAGE . OF	
		Sanotioned cadre.	Number on duty.	Sanctioned cadre.	Number on duty.	Columns 2 to 4.	Columns 3 to 5.
1	·	2	3	4	5	6	7
1, Education	••	82	16	119	118	Per cent. 26.9	Per cent. 13.5
Buildings and Roads	••	32	26	24	23	133.3	108.4
. Irrigation	**	148	148	140	115	106	128.7
. Public Health	••	••	•••	49	49	••	
5. Medical		21	21	150	150	14 ⁽	14
I.C.S. and P.C.S.		160	102	405	405	39.5	25,2
. Agriculture	* *	16	10	84	-34	47	39.4
9. Police	INF	115 DÉMATION APP	115 LICABLE TO TE	1 70 1 I.C.S. AND	65 P.C.S. ONLY.	164.3	177
I.C.S. Executive	••	119	- 76				
I.O.S. Judicial	ê	41	26				- -
P.C.S. Executive	818	-	••	239		49	- 31
P.C.S. Judicial	••	-		186		24	15

• AKBAR ALI (subject to a minute of dissent). STATEMENT SHOWING THE SANCTIONED CADRE AND NUMBER OF APPOINTMENTS OF THE IMPERIAL AND PROVINCIAL SERVICE OFFICERS OF THE VARIOUS SERVICES.

NOTE .-- (1) In the Education, Buildings and Roads and Agricultural Departments, the All-India Services are being replaced by Class I Provincial Services.

Minutes of Dissent in respect of Recommendations by Non-official Members in connection with services of which the Secretary of State retains control.

A PERUSAL at leisure of the note compels me to submit this minute of dissent, as I am convinced that the cumulative effect of the direct cuts recommended on the emoluments of officers would be so heavy as to drive all those who can afford to go into resignation, leaving only a discontended body of men to serve, whose main object would be to escape from the bonds of a service where they will feel that they have been made the victims of intolerable injustice.

The replacement of those who leave the services will be impossible also on the scales suggested for the new services.

These statements are not to be interpreted as an implied agreement that the present cost of these services are such as the Province can afford to pay.

I am entirely with my colleagues in considering that heavy reductions are called for, and I also look upon the Lee Concessions in their present form as a clumsy and unjustified addition to public expenditure, but this does not detract from the necessity of paying due regard to the vested rights of individuals, and the only just solution of the problem is not to attack the existing rights of the individual officers but to reduce the cost of the services as a whole.

The question of reducing the ratios of Imperial to Provincial Service officers has already been touched upon in the main note. While accepting the principle, I would ask for a much more drastic application of it. The exceptions to this application would be the Security Services as defined in the note and the Indian Medical Services.

I suggest that all the other services should be shut down immediately qua Imperial Services, and only such officers retained who may be required as "specialists." The agreements made with the individuals retained should be personal to each officer; the income of the post, freed from all doubt-creating items of allowances or Lee Concessions, should be definitely fixed and the period for which the services are entertained, together with provisions regarding return passages, if any, should be embodied in the agreements.

The Indian Medical Service occupies a special position, differing in certain respects from both the Security Services and the general group of Non-security services. It should continue to be maintained as a service, its strength being dictated by Government's commitments in the matter of provision of doctors and the necessary specialists which it so largely supplies. It is a question whether jails should not be transferred to Provincial Medical Officers.

The proportion of Indian Civil Service officers to Provincial is given in the note as 31 per cent. I cannot agree to the reduction of this figure to 20 per cent., though at the same time I am not prepared to suggest any other figure. It should be maintained at sufficient strength not merely to fill a proportion of the more important executive posts, but also to provide a sufficiency of trained administrative officers as Secretaries to Government and in such other capacities as may be required to ensure that what one may call "the supervision, direction and control " of each department will be under an I. C. S. Officer, including financial supervision, leaving the officers of the several departments to carry on the executive and technical functions only. The Indian Civil Service should be retained as a Service ; this is very essential, as not only the Provinces but the Government of India also must look to this source for administrative officers, but I consider it most unfair to this Service that the scales of emoluments should be fixed as they now are. There can never be any security for officers whose total emoluments are made up piece-meal, as such an arrangement is always open to attack at the weakest points of construction, and fresh consolidated scales of emolument should be drawn up securing to this Service remuneration equal to that now enjoyed in order to attract picked men to the service. A highly efficient and contented service is necessary and, as it is essential that men should rise to responsible posts with Indian experience behind them, recruitment on contract is to be avoided and a service maintained.

In the matter of the Police, a service is also necessary. The present proportion of Imperial to Provincial Service officers is high and should be examined with a view to its reduction. Here also scales of salary should be revised and consolidated, and it would simplify the doing of this if pension terms similar to those prevailing in the I. C. S. were introduced, allowing an officer to attain a full pension after 25 years' service and not increasing the pension after that period.

Finally, I must touch at some length on a matter that was frequently the subject of remark during our deliberations but which, so far as I can see, has only been touched upon in the main report and has not been referred to in the report in connection with which this minute is submitted. I refer to the identity of scales of remuneration to officers of Asiatic and non-Asiatic origin.

If, as is suggested in this minute, only three Imperial Services are to be retained the adjustment of this matter becomes relatively simple. One of these services need not be considered at all, namely, the Indian Medical Service. It is believed that they are recruited initially for the Army and will be governed presumably by conditions attaching to recruitment of officers in the Army. If this presumption is incorrect, this service should also be dealt with along the lines of the two Security Services.

My first point is to record my dissent to the recommendation that the highest rate of pay to be given on recruitment to any service shall be Rs. 300 per mensem and the highest pay on any time-scale Rs. 1,500. On these terms I do not believe that recruits of a suitable character, either European or Indian, will be forthcoming in any of the three services. That some candidates will come forward is not improbable, but the average procurable will be much below the present standard and will not be capable of giving that class of service which alone justifies the existence or need for two classes of service, Imperial and Provincial. The recommendation appears to be based on the fallacy that there are today numerous men with European qualifications ready to accept employment on these or even lower terms. The only cases that have come under my observation are Engineers,-a fact which is not surprising so long as the development of this profession is put back as it has been by the policy of Government in the past; but it is unthinkable that picked men qualified to enter the Indian Civil Service or Indian Medical Service will accept posts on the time-scales suggested, or that suitable candidates for the Police Service will be forthcoming on a scale that would necessarily be lower still.

I am of opinion that, in the cases of both the Indian Civil Service and of the Police, two separate time-scales should exist in the Imperial Services and that the time-scale for officers of Asiatic origin should be considerably lower than that for officers of non-Asiatic origin, and that no passage concessions should exist for the former, though conditions under which study leave, outside India, may be given should be identical both as regards pay and passages.

I further suggest that "Selection appointments" should be held on identical terms of remuneration when held by either class of officer.

In order to arrive at a fair time-scale for officers of Asiatic origin, the scales of the Home Civil Service might be examined and compared with those of the Indian and Colonial Services.

The new scales laid down should not apply to officers of Asiatic origin now in the service; these officers should receive exactly the same treatment as officers of non-Asiatic origin serving with them at present and the new scales should be applied to new recruitment only.

If the recommendations for separate scales is rejected, the alternative would be to close recruitment to these services to persons of Asiatic origin and to keep the cadre open only for the purpose of recruiting such personnel of non-Asiatic origin as may be required from time to time.

In conclusions, while associating myself heartily with all that has been said regarding Mr. Puckle, I would desire to add my acknowledgments to the other official members of the Committee for their- co-operation and sympathy in carrying out what has been to all of us an arduous and unpleasant task.

OWEN ROBERTS.

So far as the Security Services go I adhere to the same opinion as I expressed in Simla that the scale of pay including passage concessions for an European and that for a Punjabi should not be the same. I was at that time and am still now for reduction of posts as far as possible. I cannot accept the scale suggested of Rs. 300 as a starting pay and Rs. 1,500 as a maximum, as I doubt very much that suitable persons will be available on this scale of salary.

As long as we require the services of I. C. S. officers we should give them such terms as will attract the very best men.

The suggested percentage of 20 per cent. of Imperial to Provincial Services is at present too low. The present circumstances through which the country is passing are such that it is desirable, in the interests of the country, to have a higher percentage of I. C. S. officers in the service not only for guiding and supervising but also for maintaining equilibrium between the various communities, and for that very reason I am positively of opinion that the percentage in the Police Service should not be lowered to 20 per cent.; for some time I would suggest not less than 50 per cent.

29-10-31.

AKBAR ALI.

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Note by Sardar Arjan Singh.

(MAJOR HEAD 33).

(PUBLIC HEALTH).

THE chief recommendations of the Committee regarding amalgamation of Medical and Public Health are set out in paragraphs 106, 107, 108 of the draft report, and presumably paragraph 105, 106, 107 of the report as passed by the Committee.

It is admitted that the directorate of the two departments has all along been separate. But it was in 1919 that the matter was considered seriously, and in consequence of the recommendation of the Sanitary Board, Public Health Department was established as a permanent and separate entity. But it took long before every district could have its own District Medical Officer of Health.

The utility of the department cannot be denied. Even the prevailing financial stringency of the Province has not been, and cannot be, urged as a sufficient reason for total abolition of the department. In fact the importance of the department cannot be emphasised too much. The scheme of amalgamation adumbrated in the proposals of the Committee does provide for an officer corresponding to the Assistant Director of Public Health and also urges the necessity of the appointment of an Assistant Surgeon under the Civil Surgeon for Public Health work. All this shows that it is too late in the day to deny that the State owes a duty to its people for making suitable arrangements for their health.

I have considered the proposal of the Committee most carefully, but having weighed the evidence that has been adduced before the Committee, I am not convinced that the amalgamation would be a step in the right direction. To begin with, I must remark that I am a strong advocate of economy and would like that all possible retrenchment be carried out to meet the present deficit. I believe it is possible to make a saving without impairing the integrity of the department. Further I do not see the least necessity for any Assistant Directors. They are a surplusage and excressence. All the five posts of Assistant Directors can be brought under reduction without any loss of efficiency to the Department.

Having got rid of these unnecessary posts I would suggest that the department should on no account be amalgamated with the Medical Department. The first serious objection to the amalgamation would be that it is a retrograde step. It was recognised long ago that Medical and (Sanitary) Public Health Departments should be dissociated from the head downwards before any improvement could be expected on the Public Health side. From a perusal of the history of the department it would be observed that it was not before the begining of the financial year of 1927 that the scheme of providing each district with its own District Medical Officer of Health was given effect to. The scheme therefore could not be said to have had a fair trial. But during the short period of its existence the department has given a good account of itself to justify its existence. A chart is provided to the Committee which shows the incidence of cholera for the last 17 years which include 8 years before and 9 years after the organisation of the department, the result being that there were three extensive epidemics during the former and only one localised epidemic during the latter. The Punjabi is a born conservative. It was an herculean task to bring him round to the view that preventive measures are far more advantageous, cheaper and more effective than the curative ones. The department has done much spade work in that direction for the last ten years. It can be claimed with legitimate pride by the department that it has done much commendable work for the Province and saved many lives. It would, therefore, be a pity that a step should be taken which would be calculated to undo the work of the last 10 years and should reverse a policy which has been adopted after mature consideration and has proved an immense success in such a short period.

The scheme of amalgamation is open to another equally well founded objection. It would transfer all powers of initiation and work to the Civil Surgeon. It would surely relegate the Public Health work to secondary position which, as can be envisaged, cannot but expect a step-motherly treatment. The Civil Surgeon is admittedly an over-worked official. About ten years ago the separation of two departments took place mainly because it was found that the Civil Surgeon could not carry on both the duties satisfactorily. If it was so a decade back, it is *ex hypothesi* impossible for the Civil Surgeon to cope with this work to-day. If the work is again forced on unwilling shoulders the result can be better imagined than described, because the work would be done neither satisfactorily nor efficiently in either of the departments.

Thirdly, it is in evidence that all the Civil Surgeons are not qualified to do-Public Health work, which requires special qualifications and Public Health experience. This would create an extremely anomalous situation. This will impair the efficiency of the department. The State would be spending Public Funds without any guarantee that it gets full value of the money.

It may be remarked in passing that a half-hearted suggestion was made at an early stage that two districts might be placed under one District Medical Officer of Health, but it was rightly ruled out because it was anticipated that the result would be confusion worse confounded. The proposal was too impracticable to merit any consideration at the hands of the Committee.

It has been pointed out that District Medical Officers were an expensive agency; surely they are, but by no means an exception to the whole system of administration which has been described as top heavy and the most expensive on the face of the earth. To single out and scrap away the Public Health Department alone on that score would not be fair, and any differential treatment proposed to be meted out to a number of Public Officers whose capabilities and devotion to duty are second to none would be justly resented. As a measure of economy I would suggest that they should get a fixed Travelling Allowance.

Again it has been pointed out that they are not fully occupied. The ordinary duties of a District Medical Officer of Health are (1) inspection of towns and villages and suggesting improvements thereon, keeping in view the financial condition of the local bodies; (2) investigation of causes of out-break of prevalence of diseases; (3) advising all local bodies on different questions.

Again the officer is to cope with cholera, malaria small-pox and plague.

Inspite of this, it is my considered opinion that there is some truth in the statement, and I would suggest that steps be taken to see that he is occupied. He should be given the work of inspection of rural dispensaries as he is fully competent to carry on those duties.

I may add that sometimes it has been said that he has not got power and prestige commensurate with his high office, and that this fact takes away much from his utility. If so, give him increased power, but I am personally of opinion that considering the nature of the work and the class amongst whom he is to function, persuasion would be more effective than coercion.

I must make myself positive and unequivocally clear that my disagreement with the report begins and ends with this note. I have given very anxious consideration to the matter. It is my firm conviction that the existence of the department is indispensable as its activities are directed towards infusing ideas of hygiene and preventive measures, *viz.*, disinfection and inoculation, into the minds of the people of the Province living in rural areas—the very backbone of the Punjab,—and therefore claims of retrenchment, however strong, must be subordinated to the welfare of the peasantry in this particular instance.

HOSHIARPUR: Dated the 25th of October 1931. ARJAN SINGH, M. L. C., Punjab.

Note by Pir Akbar Ali.

THE Ministers owe their existence to the introduction of Reforms. In the beginning their number was two. When one of them went on leave, his paraphernalia also was taken over by the other and thus for sometime at least there was only one Minister in the Province. This happened at a time when the financial position of the Province was much better than it is now, and when there were many new schemes of development in contemplation and were actually being introduced. At that time no complaint was ever made that the Ministers were overworked, not even when there was only one Minister.

The work in the so-called Transferred Departments is not so much as to keep fully engaged even one man. Every department under the Minister is being run by a highly paid responsible officer, in addition to there being a separate Secretary for the Transferred Departments.

At present, moreover, there is no scope for further activities. Some of the existing departments having been considered to be superfluous are being brought under reduction. There is, therefore, no necessity at all for more than one Minister. The appointment of three Ministers has given an impetus to communal tension and has decreased their responsibility to all the communities. If the number is reduced to one, these defects would, I believe, be remedied. I therefore am of opinion that the number of Ministers be reduced to one, with a monthly pay of in no case more than Rs. 3,000, which, in my opinion, is too generous, but to which I agreed only for complying with the opinion of the majority of my colleagues.

23-10-1931.

PIR AKBAR ALI.

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Note by Khan Bahadur Malik Muhammad Amin Khan.

Paragraph 15. Holidays.—While recommending a reduction in the number of holidays, it seems to me very necessary to urge that half holidays on Saturdays be entirely abolished.

Paragraph 19.—Exodus to Simla.—The popular feeling has always been against the Government moving from the plains to the hills, both on grounds of economy as well as efficiency of administration. One feels that those who govern must remain in close touch with the governed. This feeling has greatly intensified during the recent years and Government will be well advised to consider this question very seriously and from all aspects. If exodus is absolutely essential it should be restricted to exceedingly few officers of the Secretariat and as few clerks as possible.

I personally see no justification for nine officers of Public Works Department, Irr gation Branch, two officers of the Education Department, two Financial Commissioners with their two Secretaries, Legal Remembrancer, Director of Agriculture, Inspector-General, Police, and his Personal Assistant, Inspector-General, Civil Hospitals, Director of Public Health, Director of Industries and a number of other officers of the Civil Secretariat with Superintendents and Clerks to be at Simla during five months of the year. The proposals made by us recommending a reduction in the number of Secretaries if accepted will automatically reduce the number of the "required" officers for move to Simla and I urge that when revising the list of the "required" and "permitted" officers a careful and strict scrutiny should be exercised. In place of 47 officers who are shown in the statement supplied to us not more than a dozen should be allowed to move to Simla.

From the statement of exodus expenditure supplied it appears that incidental charges such as postage on files moving between Simla and Lahore, and travelling allowance of officers for monsoon tour and other tours necessary during their period of stay at Simla and travelling allowance of clerks and other officers who are frequently called up to Simla, are not included. I presume that this would be a very high item of expenditure.

It has been stated by the witnesses appearing before us that the Heads of Departments and certain other officers are required at Simla for meetings of various committees of which they happen to be members and if they have to come up to Simla from their headquarters the expenditure would be far more than that on exodus. If the proposals made by us are accepted, a number of these officers will cease to be Secretaries to Government and, therefore, their presence in many meetings will not be required. Further, as most of the officers would not move to Simla they-could hold meetings at Lahore.

Regarding difficulties of work in the plains, one finds that during the hottest months of the year, *i.e.*, May and June, the Judges of High Court carry on their very difficult task, the Accountant-General and the entire office of the Account Department remain in Lahore and District Officers remain in such a place as Multan, Muzaffargarh and Dera Ghazi Khan in buildings not specially designed for hot weather use. This argument for exodus is not convincing.

Hill Recess.—Regarding recess in hills, which amounts to a holiday in a majority of cases, I consider $2\frac{1}{2}$ months is not justifiable, particularly when we base our recommendations of retrenchment on reducing the number of officers and requiring an increased amount of work done by each individual officer.

In this connection I would like to mention that Professors in Colleges who are allowed about 10 weeks vacation are classed as belonging to the "Vacation Department" and are not entitled to leave on average salary on the scale permitted to members of the non-vacation department. Therefore, the officers who take 2½ months' hill recess should be treated as "Vacation Department" officers. This principle has already been accepted in the case of Sub-Judges who are given one month's leave but are not entitled to leave on average salary on the same scale as by members of a non-vacation department.

Paragraph 21.—Information, which I have been able to gather, makes me believe that the Dhundi and Bruceabad Estates are being run most inefficiently. Any private owner, if he managed his estate in this manner, will soon become bankrupt and I strongly recommend that an enquiry committee consisting of the members of the Punjab Legislative Council, including member from Dera Ghazi Khan, be appointed to go into the administration of these Estates. I am strongly of opinion that colonization work in the Pir Mahal Colony should be carried out by the Deputy Commissioner, Lyallpur. Paragraph 35.—Registration.—I am of opinion that a further substantial

Paragraph 35.—Registration.—I am of opinion that a further substantial reduction in the expenditure in the registration will be possible if the district headquarters with the exception of Lahore and Amritsar are not excluded from our general recommendation that the work of the Sub-Registrars should be performed by the Tahsildars and Naib-Tahsildars. At the District Headquarters this work can be entrusted to the Treasury Officer or may be shared by the Tahsildar or Naib-Tahsildar and Treasury Officer or if necessary the Deputy Commissioner may appoint any officer to this work in addition to his own duties.

Paragraph 64. Pay of Ministers.—Although I reluctantly accepted the compromise regarding the pay and number of Ministers, yet I feel that I must express my real opinion. We are certainly spending far more than we can afford to spend on our cabinet, which is very top heavy and we cannot with justification cut down the salary and reduce the number of permanent Government officials without cutting down the expenditure on the elected representative of the people. In fact the work of the nature which Indian Ministers and Executive Councillors are required to do should be considered a national duty and an honoured privilege. The pay drawn should be more in the nature of honoraria.

In our country instances are known where Executive Councillors and Ministers have voluntarily foregone their salaries. In some provinces, the Legislative Councils have cut down the salaries of their Ministers to produce a really healthy atmosphere of secrifice in the minds of all Public servants. In the interest of economy I strongly urge that steps be taken to cut down the expenditure of the cabinet. I am convinced that reduction is possible in the number of Ministers and it would be possible to carry on work with only one member. The communal difficulties can be easily overcome by appointing Ministers from different communities by turn. I also feel that the public will greatly appreciate a considerable reduction in the salary of the Ministers and Iconsider Rs. 2,000 the maximum pay we can afford to pay at the present financial crisis. I have every sympathy with the sentimental objections, based on difference in the emoluments of the Executive Councillors and the Ministers. However, we are told that similar differences exist in the salaries of the Ministers in the British Cabinet. Moreover, if in one case we reduce the salary by the vote of the legislature in the other case we should also expect a similar reduction.

Paragraph 123. Punjab Agricultural College.—The present teaching staff of the Punjab Agricultural College appears to be excessive, particularly when there is a rapid fall in the number of students seeking admission into this college. My information is that only 35 students were admitted this year as against 75 or so a couple of years ago.

As expansion of the Department of Agriculture has stopped, and as it is likely that for a few years to come the financial conditions will not improve sufficiently for a further recruitment, the number of students seeking admission next year would fall. And we may have to face the same situation as is the case of the Veterinary College, where only one student offered himself for admission. Thus the number of teachers required should not be the same as was necessary so far. I therefore feel that there is no justification for retaining Associate Professors particularly the Associate Professor of Agriculture, and it should not be impossible to reduce the number of Assistant Professors also. One is surprised to see that there are 40 clerks in the Agricultural College; there seems no justification for a troop of clerks.

Paragraph 124. Agricultural Engineering.—The committee did not make any definite recommendation regarding retrenchment in the Agricultural Engineering Section, but it seems to me that considerable saving could be made. This section not unlike certain sections of the Department of Agriculture expanded at a head-long speed, and a huge staff was recruited. It is, however, fortunate that already some reduction has taken place. For example, the temporary Water Lift Irrigation Section has been abolished. But certain posts which came into being as a result of the general expansion are still continuing, for instance, the post of an Overseer, the post of the Superintendent, Workshop, Sub-Divisional Officer, Rock Drilling, and a number of Store-keepers and clerks, etc. I pointed this out during the course of the discussion but I do not remember what reply has been given to my questions. I feel that the Staff of this section is far in excess of the need for efficiency.

The Workshop is practically closed and the amount of work done is exceedingly little, and there is absolutely no justification in having a Gazetted Officer as Superintendent, Workshop, and in retaining the services of a number of Store-keepers. This matter should be carefully gone into.

Paragraph 125. Director of Agriculture.--I very strongly dissent from the opinion expressed in this paragraph. All through our recommendations we have insisted on maintaining the strength of the research side of the Agricultural Department and it is surprising to find that it is proposed that the person who should be the head of Research Institute and the Chief Agricultural Adviser to the Government should not be a specialist. Mr. Stewart in his note brought to our attention the recommendations of the Royal Commission in Agriculture, to the effect that a person, appointed to the post of Director, should be a man of "high scientific qualifications." I am very strongly of opinion that a real scientist, with an extensive experience of the research, should be appointed in charge of the Research Institute, which would not form the main part of the Department. I have gone through the report of the Royal Commission and I find that the heads of such institutes of international reputation as the Rothamstead Agricultural Experimental Station in England are Scientists and Specialists of renown. Ι am therefore of opinion that a Director or any other officer who will be responsible for the work of the Research Farms and other Research activities of the Department, should not be an officer who is not fully initiated into research work himself, because only a research worker can guide research work properly. I do hope that an instance of compensating specialists officers would not arise by the appointment of their junior and perhaps incompetent officers to such a post of responsibility as that of Director of Agriculture. This applies to the fechnical head of the department, but does not apply to an administrative head.

With the reduced department and a small office with head-quarters at Lyallpur, as agreed upon, it is not at all necessary to give such a high salary to man in charge of Department of Agriculture, and I recommend an allowance of Rs. 150 to the grade salary of the officers so appointed, if such officer is in selection grade, this allowance should not be given.

The recommendations, made by the committee, would mean reduction in the number of Deputy Directors of Agriculture and, keeping in view, the recommendations of the Islington Commission and the generally recognised policy of the Government of India and Local Governments, the Department of Agriculture should be completely Indianized. I strongly recommend that the British elements be retrenched. A foreigner, whatever his qualifications may be and whatever the length of service in India, is entirely unfit to enter into the real spirit of the farmer of this country, and as compared to an Indian Officer never makes an efficient Agricultural Officer.

With the reduced activities of the department of Agriculture and the transfer of all district work to the Deputy Commissioners I do not consider that there would be the slightest justification of the appointment of Deputy Assistant Director, or of retaining the present Assistant Director of Agriculture, (It is surprizing to find out that there are two Assistant Directors in the Department of Agriculture with a budget of Rs. 53,10,000 (1930-31) and there is only one Assistant Director in the Department of Public Instructions with a budget of Rs. 1,67,85,000).

Paragraph 131-132. Veterinary Service. Breeding operations.—The breeding operations at present cost something like Rs. 4,00,000 (four lakhs) and the Director of Veterinary Services does not attach any importance to the reduction of the establishment under this head. Our committee have unfortunately recommended the appointment of another committee. On the Hissar Cattle Farm the Government are losing a large amount every year and my considered opini on is that this Cattle Farm serves no useful purpose and should be abolished forthw th, without waiting for the opinion of the committee.

Paragraph 135. Co-operative Societies.—The Committee has not expressed a very definite opinion about the post of the Banking Expert. This post was originally unnecessary and the fact that this officer is now on long leave without any substitute is a clear proof of the fact that his presence in this province can be dispensed with. I am strongly opposed to the suggestion made that instead of being called Banking Expert of the Co-operative Department he should be made a Financial Adviser to the Punjab Government—vide paragraph 139, sub-paragraph (6). This will be an absolutely waste of money.

Paragraph 145. Reward for wild animals.—I would strongly recommend# that this small item of Rs. 2,500 should not be retrenched. Wild animals, even to-day, cause great deal of damage to life and crops of Agriculturists and if any at all an increased amount of money should be spent to save the crops of Agriculturists from depredation of wild animals.

During our sittings we discussed at great length the advisability or otherwise or retrenching the post of Commissioners, Superintending Engineers (Irrigation and Public Works Department, Roads and Buildings) and Public Health Circle; and Deputy Inspector-General of Police, etc., etc. It was not possible for all the members to be unanimous on this retrenchment.

I personally feel that all these posts could be reduced without loss in efficiency. The work done by these officers is mere duplication of the work done by their subordinates on the one hand and the officers superior to them on the other.

The only argument of some weight put forward on behalf of the Commissioners was the fact of their guiding the young I.C.S., Deputy Commissioners. With development of Telephonic connections all over the province and better means of communication it should be possible for any young officer to get immediate advice, and for an officer stationed at Lahore, to reach the farthest corner of the Punjab within 12 hours. Moreover, we have recommended that raw recruits should not be appointed as Deputy Commissioners. These posts of responsibility should be held by senior members of the Provincial Civil Service, if Senior members of the Indian Civil Service are not available. I, therefore, recommend that all the posts of Commissioners should be retrenched.

Exactly the same argument applies to all the posts mentioned above. For instance, the Superintending Engineers who number about 20 in both branches of Public Works Department are entirely unnecessary. Their work could be easily done by giving little more power to Executive Engineers. On account of the well established canal system and the introduction of cars, it is very easy for an Executive Engineer to properly control his division. Even at present the Superintending Engineers are absent from their head-quarters in the remote hills during five summer months of the year, which is the most important period for the department of Irrigation, because it is during this period that the head works are threatened by floods and constant supervision is necessary. If the Executive Engineers could be entrusted with the work of the Superintending Engineers during this critical period, surely they could be made responsible for the proper discharge of their duties during the remaining part of the year also.

Time-scale and Special Salaries of Deputy Commissioners and Sessions Judges, etc., etc.—On going through the Quarterly Civil List, published by the Punjab Government, one finds that quite often officers officiate in appointments where they draw more than double their substantive pay. For instance, very young officers of the Indian Civil Service, with hardly couple of years' service, are appointed to officiate as Deputy Commissioners and draw Rs. 1,000 as pay. The same applies to officers who are appointed as Sessions Judges and also to those who are appointed to these posts from the provincial cadre. I am strongly of opinion and recommend to Government that the time-scale, which is quite satisfactory should be considered adequate for these officers and the minimum pays for special posts should be entirely abolished. Whenever an officer officiates as Deputy Commissioner he should simply get his grade pay. The Senior grade should only be given to officers who specially deserve promotion. The mere fact that a person has to be appointed as Deputy Commissioner or Sessions Judge in itself should be no argument for giving him a senior grade.

Paragraph 173. Appointment of Europeans on higher salaries.— * I very strongly disassociate myself with the spirit and wording of paragraph 171 of the report. It is very painful to find that while on the one hand, we are told, "that the duty of the state was to run its public service with as little cost as possible to the tax payers," on the other hand we are reminded of the necessity of "the element of Europeanization in the All-India Services." In all these services where no definite proportion of Europeans has been fixed, we find that the Indian members possess far superior qualifications to those of their European colleagues, for instance, in the Indian Educational Service and in the Indian Agricultural Service. Not only that but we have Indians serving in the Junior Provincial Service, both Educational and Agricultural, who possess academic qualifications far superior to those of the Europeans in All-India Services. Numerous instances could be cited to prove this assertion but I do not desire to enter into details.

This burning question of paying the Europeans more than Indians on the rather hackneyed argument of the former serving 6,000 miles away from their home need hardly be considered. We must pay for the work that an individual officer has to perform and for his intelligence and attainments for performing such a work efficiently and officers of equal attainment and intelligence should get the same pay irrespective of the country to which they belong. At the threshold of a fresh instalment of reforms we must completely discard the idea of paying our public servants on racial and geographical considerations. The Indian Officers in the All-India Services had never made a secret of the abhorrence they have for the discrimination that Lee Commission recommendations have produced. They feel this distinction as a great national humiliation and further continuance of these distinctive terms is certain to produce bad blood and must be avoided at all costs. If the Englishmen are not prepared to accept the salary offered by us we can do without them. However, I feel that with increasing unemployments in that country there shall be no difficulty in procuring suitable recruits on the same terms and conditions as the Indians.

Another means of economy which has not been fully worked out by the Retrenchment Committee is that of the amalgamation of departments. We have proposed the amalgamation of Departments of Public Health and Medicine. It has come to the notice of the committee that not long ago the departments of Agriculture, Veterinary, Industry and Land Records was under one Director. I feel that Co-operation, Agriculture, Veterinary and Industry under one Director form a very useful combination. Not only that but I feel that the amalgamation of the entire department could be easily worked out and Agricultural Assistants could very easily do most of the work which is done by Inspectors and Sub-Inspectors of the Co-operative Department and the Industrial Inspectors and Sub-Inspectors ; and with little training they could do general propaganda work of the Veterinary Department. This would be real boon to the rural population because this population shall have to deal with one *hakam*. I suggest that this proposition should be gone into by a special sub-committee of which Mr. Brayne should be a member.

In the end I would strongly urge that immediate action should be taken on the recommendations of the Retrenchment Committee. I sincerely hope that our report would not meet the fate of the report of the Retrenchment Committee appointed in the year 1922-24. Being in touch with the Agricultural condition of the country and being in intimate contact with the farming community of the Punjab I consider it my duty to place my sincere views before Government. I feel that the condition of the Zamindars is such that it will not be possible for them to pay up their dues, and that Government may not be able to realize even the reduced amount of revenue which we have estimated. Unless immediate steps are taken and most stringent measures adopted to economize the situation will become very grave.

MOHAMMAD AMIN.

Note by Mr. Mukand Lal Puri and Rai Bahadur Lala Mohan Lak

THERE is general complaint that the administration is top heavy, and there is considerable feeling that the retrenchment is more required at the top than at the bottom. * The proposals of retrenchment as they usually emanate from the Heads of Departments or from people who are senior in services have generally led to retrenchment of the menial establishment or of junior officers who have not been long in service to acquire any influence in the Department. We agree with this criticism which is levelled against all the departments, and we think that the administration is really top heavy and requires drastic retrenchment at the top both in the number of appointments as well as in their salaries Much greater saving can be effected by retrenching the post and allowances. of Commissioners, Deputy Inspectors-General or some of the Chief Engineers and Directors or Assistant Directors than can be effected by the reduction of half a dozen or even a dozen of provincial service men. For instance, the economy effected by reducing the post of one Chief Engineer, Irrigation, and his establishment (Rs. 2,17,000 per annum) would be equal to the pay of as many as sixty Assistant Engineers at Rs. 300 per mensem or the entire cost of maintaining a large number of Sub-Divisions. The same is the case more or less with the army of Chief Conservators and Conservators, Inspectors-General and Deputy Inspectors-General, Directors and Assistant Directors of various departments.

Thus in the interest of economy, retrenchment is more called for at the higher grades than at the lower grades, and this would lead to greater saving with unimpaired efficiency. The retrenchment of field workers like the junior officers of the Engineering, Medical, Agriculture and other services is bound to lead to greater inefficiency and to decreased service to the community at large rendered by the State.

Wherever percentage cuts in the departments have been proposed by the committee there will be, I am afraid, a tendency to retrench the staff of the lower grades, because proposals for retrenchment will emanate from heads of departments, who are not likely to propose retrenchment of the superior staff. The entire amount of retrenchment demanded can be effected by retrenching unnecessary posts at the top or by retirement on pension of people who have earned their pensions, but unfortunately the question of retrenchment having been left to those very officers whose posts should really be retrenched, real lines of retrenchment are not likely to be followed. The method of retrenchment adopted by the heads of department is to get rid of young, promising and able officers who may by accident in some cases be temporary officers, inspite of efficient service extending over a number of years. They feel no compunction in recommending the reduction of such twenty or even thirty. officers, on the ground of economy, with all the hardship it causes to them. apart altogether from being stranded in the midst of their career. It would never occur to the Head of the Department or his deputies that any of their own posts is unnecessary and should be retrenched; although retrenchment in their case does not lead to loss of service altogether but merely reversion to a post with a lesser salary. Therefore in applying the axe of retrenchment where it is found to be necessary we would earnestly request the Government to retrench at the top rather than to retrench at the bottom.

2. We regret that we find ourselves in entire disagreement with the views expressed in the report (paragraph 177) that "on the whole reduction in numbers is as a measure of retrenchment to be preferred to reduction in pay ". In this respect, we think, His Majesty the King has set an excellent example to be followed by all Governments. His Majesty made a substantial cut in his own allowance, but scrupulously avoided any reduction in the numbers of It can hardly be contested that efficiency cannot be mainhis personal staff. tained at the same standard after any degree of substantial reduction in the personnel, but, considering the changed circumstances, no reasonable and loyal employee of the Government should feel any grievance at a reasonable reduction in his pay. It is laying down a very broad proposition to say, as the majority state, that any justification for a reduction in the employee's pay can be found only in impending bankruptcy, and that cut in salaries should only be made as a last resort. Reduction in salaries, in our opinion, should come first and re-We are definitely of opinion that all superduction in numbers of staff last. fluous staff should in any case be retrenched. But if we have to choose between ·87 76

two alternatives, reduction in salary, or reduction in staff, we would unhesitating-I, ly recommend the former. We are positive that most people would rather stay on a reduced salary than be thrown on the streets altogether. There is much , greater hardship and heart-burning if ten men are thrown out of employment , at a time when they are absolutely unfit to start on a new career, than to cut down the salaries of 100 persons by 10 per cent., and we think that disgrantled people thrown out of employment are a positive danger to the State, and will be a source of particularly greater danger at the present time. On this point public opinion, as expressed in the press, is outspoken and unanimous. The Muslim Outlook writing under the heading of "Unemployment Tragedies" 5 complained of the callousness shown in discharging large number of men and observed "dismissing men who have obtained employment after a hard struggle in early life and who have large families to support or who have been just married and have no other source to fall back upon, the discharge of such men argues a hardness of heart which few Indians can tolerate. And the indignation caused by such retrenchments becomes all the more strong when it transpires that the officers with full salaries have hardly been touched, while thousands of others who cannot afford unemployment have been discharged.'

3. Another point which would be noticed by even a cursory perusal of the report (vide paragraph 184) is that the axe has been too heavily applied to the departments of development and social service, namely, the beneficent The Committee has proceeded on the assumption as if these departments. departments were a luxury and not a necessity, as if the only function of the State was to collect revenue and maintain the machinery to assist it in the col-We do not think that the things have come to such a pass lection of revenue. that reversion in such a large measure should be made to the primitive modes In opposing such a heavy reduction in the budget for beneficent of government. departments, we have fully taken into account the present financial stringency, but we are not prepared to believe that the present state of affairs, unsatisfactory as it is, in any way justifies such large reductions in the beneficent department recommended by majority,-vide our notes on Industries, Public Works Department, Health Departments.

4. The Committee have proposed a maximum cut in salaries of 10 per * cent. excluding income-tax. Rai Bahadur Chhotu Ram in an article contributed to the press proposed that all salaries of and above Rs. 2,000 a month should be subjected to a reduction of 25 per cent., those between Rs. 1,000 and Rs. 2,000 to a reduction of 20 per cent., those between Rs. 500 and Rs. 1,000 to a reduction of 15 per cent., etc. We do not recommend such a heavy percentage, but in our opinion there should be a higher cut on high salaries, and we therefore recommend a cut of Rs. 15 per cent. on higher salaries.

We do not agree with the recommendation made in the concluding 5. portion of paragraph 177 that "a Government servant shall draw no further increments until his pay reckoned on the new scale shall have reached the point on which he stands on the old scale." This is a most inequitable proposal as it affects only the Provincial and Subordinate Services and does not touch the Imperial Services at all. Again it affects different individuals of the same service differently. Some officers will have their increments stopped for ever, others for a long number of years, and there will be still others who will continue to get increments. This, in our opinion, is not a fair and equitable way of effecting retrenchment. A general recommendation that all annual increments, whether of Imperial, Provincial or of Subordinate services, be stopped till economic conditions improve, is worth consideration, and we feel no hestitation in recommending it for acceptance ; as we believe our proposal, if given effect to, will result in considerable saving, both immediate and recurring. But we cannot possibly associate ourselves with the recommendation of the report which not only affects different services differently but also affects various employees in the same service differently. We state below in what respects we differ from the recommendations contained in the various paragraphs of the report :-

6. Paragraphs 14 and 15—Holidays.—The recommendation of the majority is that the number of holidays be substantially reduced, that there is no reason why a religious festival of one community should be a holiday for everyone else, and that not more than one holiday should be allowed for each festival, except Christmas. At the same time it is recommended that a half holiday be allowed mevery Saturday. While we are very anxious to reduce the number of holidays, we do not endorse the proposals of the majority in their entirety. The suggestion that a holiday of particular community should not be a holiday for members of other communities is anti-national and impractical: we should encourage the spirit of nationalism by giving opportunities to members of other communities to join and make the holidays a matter of national enjoyment just as Xmas is in Europe. Members of all communities in the western countries would, for instance, take part in all festivals on the occasion of the Xmas. Why should obstacles be placed in the way of such a spirit being fostered in India? Again the suggestion of the majority will create practical difficulties in working. What would happen in courts, for instance? How would, for instance, a Muslim Sub-Judge carry on his work in his absence of his Hindu reader and Sikh Ahlmad and in the absence of Hindu and Sikh witnesses and parties. We would, therefore, therefore make a reduction of not more than 8 in the total number or religious holidays. We would not agree to reducing Dussehra holidays, for instance, to one day. We would urge the stoppage of half holiday on Saturdays. There is no justification for it. It is in fact likely to be abused. This luxury is a recent We would not agree to reducing Dussehra holidays, for instance, to innovation, and must disappear. By the aceptance of this suggestion, we shall save 25 days in the year. By saving another 8 days out of the religious holidays we shall be reducing the total number of holidays to 100 from 134. The majoriy has suggested a reduction to 97 by indiscriminate cutting of religious holidays,a suggestion which is very inconvenient and likely to be resented by the public.

Paragraph 19-Move to Simla.-I am not convinced by the reasons 7. givenin the report for the annual move, and therefore I do not endorse the policy of the move of the Punjab Government to Simla. In case, however, Government is not yet prepared to stay down in the plains in the summer, I would suggest that all Under and Deputy Secretaries should stay down at Lahore, and that only Secretaries should go up to Simla with Camp Clerks. I would also allow all Heads of Department to go to Simla with one Camp Clerk each. I consider that all Heads of Department should be in constant touch with the Ministers and His Excellency; otherwise there is the danger of a paper Government which is more expensive and less efficient. I see no justification for any Head of Department being allowed more than one or two clerks. If Chief Conservator of Forests, Inspector-General of Prisons and Director of Industries can get along with one or two clerks, why should not others do so? The system of grant of Simla allowances should be revised : no gazetted officer should be given a Simla allowance, and the non-gazetted servants should be allowed only a house-rent on the basis of the Government of India. The Punjab allowances are much too liberal and must be revised immediately.

Paragraph 22—Director of Land Records.—It is recommended by the 8. majority that the post of Director of Land Records be held in abeyance, and that his work be handed over to the Financial Commissioner, Revenue, helped by a suitable officer of the rank of Extra Assistant Commissioner. We do not agree with the recommendation which is against the spirit of reasonable economy. The Financial Commissioner, Revenue, controls the department of Director of Land Records at present. By the proposed change he would be burdened with the additional work which at present is carried out by a cheaper agency. This addition in the work of the Financial Commissioner, Revenue, is further, we fear, likely to be used as an argument for the retention of the second Financial Commissioner which must, in my opinion, go. We accordingly oppose the proposed change and would suggest the retention of the post of Director of Land Records without a Personal Assistant. The post of Director of Land Record has for some time past been held by a Provincial Civil Service officer, and the only economy contemplated by the report is the substitution of a senior Extra Assistant Commissioner by a junior Extra Assistant Commissioner, and this is not worth consideration when the change suggested is opposed to the opinion of the experts. Economy can, however, be effected by providing that the Provincial Civil Service officer who acts as Director of Land Record should only be given his grade pay plus an allowance of Rs. 150 or Rs. 200 per mensem. 9. Paragraphs 53, 54.—Secretaries.—The majority propose to make no reduction in the number of Secretaries, and in fact arguments have been put forward here and there, for an increase in their number, c.g., Chief Engineer should

not be a Secretary to Government. In the Department of Education the Director of Public Instruction is Under-Secretary to Government, and there is no Secretary between him and Government. Similarly are the Chief Engineers Secretaries to Government. This arrangement has worked quite efficiently, and we think that the same efficiency would be ample for the adequate requirements of other Departments. We accordingly recommend strongly that in view of the existing financial stringency, all Heads of Departments (with the exception of Commissioners and Deputy Commissioners, Criminal Tribes) may be declared Secretaries to Government. This will enable Government to dispense with the following appointments:—-

- Revenue Secretary and His Establishment.—He is in fact a recent addition. He is a post office for work coming from the Financial Commissioners and deals with very little original work from the Secretariat. In fact Legal Remembrancer, not a light worked officer, has recently been able to carry on the work of R. S. in addition to his own for some months. This post is entirely unnecessary and can be easily retrenched.
- One Secretary out of Home Secretary and Secretary, Transferred Departments, may be retrenched.—TheHeads of Departments can deal with Government direct and accordingly whatever remaining work is left over can be dealt with by one Secretary.

When these Secretaryships were originally created, there were no light worked Ministers and Members on the hands of Government. There was only one Lieutenant-Governor. His place has now been taken by six officers, Governor, two Members and three Ministers. Without the intervention of a Secretary, which is really a fifth wheel in the coach in these days, the Ministers will be able to carry out their policy more expeditiously. There need be no fear that the Ministers will land Government into heavy unchecked expenditure, as the ever alert watch dog of the Punjab finances, viz., the Finance Department, will be in existence to veto all items of new expenditure. We consider this reform to be long overdue, and would most strongly urge its immediate consideration in the interests of economy, efficiency and convenience.

9. Paragraph 58.—Financial Commissioner, Development.—While recommending the reduction of the post of Financial Commissioner, Development, it is suggested that it may involve the creation of another post of Secretary to Gowernment. In this connection we wish to note that in our opinion the mention of the possibility of the creation of another post of Secretary to Government is quite uncalled for. Besides acting as an unnecessary intermediary between the Director of Agriculture and Registrar, Co-operative Societies, and Government, he is controlling colonies, Court of Wards and certain other minor heads. Colonies work can go to the Financial Commissioner, Revenue, and it might be noted that there is at present no settlement in progress,—a work which constitutes one of his main duties. The work of Agriculture and Co-operation should pass direct from the Heads of Departments concerned to the Minister, and then there remains absolutely no justification for the possible creation of another Secretaryship. With these remarks we would urge the immediate abolition of the post of Financial Commissioner, Development.

Paragraph 59.—Commissioners.—It is a pity that the Committee al-10. though unanimously of opinion that "the revenue appellate work of Commissioners will sooner or later inevitably have to be transferred to the District Judge," has not thought fit to make this recommendation. A perusal of the preceedings would show that not only all the members agreed with this proposed at one time, but also later on while making their tentative recommendations, recorded a definite opinion on this point. It is regrettable that at the time of final recommendations, the previous decision was not adhered to in its entiriety. Not only is this reform called for on its merits, as admitted by the Committee, but in our opinion it would have made possible the abolition of the posts of Commissioners and in any case an immediate reduction in the number. The Local Government work could be entrusted to a special Commissioner, and the balance of work could be entrusted to another officer. Even without changing the present system of administration or effecting any considerable devolution of powers, the work of the five Commissioners can be done by two officers, if they are relieved of the revenue appellate work.

11. Paragraph 61.—Proposed amendment of Criminal Procedure Code.— With reference to the proposed amendments of the Criminal Procedure Code we regret we cannot agree with the amendments suggested in sub-clause (a) and (b) of paragraph 61. Both the sections 256 and 526 of the Criminal Procedure Code were amended in 1923 after full consideration of the *pros* and *cons* of the matter. In our opinion reversion to the old state of law before the amendment is neither desirable in the interests of the administration of Criminal Justice nor would it lead to any relief to the magistrates or effect any appreciable saving in expense.

The amendment of section 256 of the Criminal Procedure Code on the lines suggested in the report would not reduce the amount of work which the magistrates have to do. Section 256 provides that the accused shall be required to state, " at the commencement of the next hearing of the case or if the Magistrate for reasons to be recorded in writing so thinks fit, forthwith whether he wishes to cross-examine any and, if so, which of the witnesses for the prosecution, etc., etc." Therefore even under the present law it is permissible to a magistrate to ask the accused to state forthwith which of the witnesses he wishes to recall for cross-examination. In cases where the accused does not object or for other sufficient reasons the magistrate thinks fit, he can ask the accused to give immediately the names of witnesses he wishes to cross-examine, and if the magistrates judiciously exercised the powers given to them by the present section 256, the trial need not be postponed, in a large number of cases. Besides, the amount of work which a magistrate has to do is not in any way affected by the option given to the accused to give at the next hearing the names of the witnesses he wants to cross-examine rather than at the same hearing at which a charge is framed.

This would not lead to any appreciable saving in the diet money of witnesses either, as in vast majority of cases, it would not be practicable to crossexamine all the prosecution witnesses after the charge on the same day on which they have been examined before the charge, nor is it desirable that an accused person should be compelled to do so. It is very necessary that the accused person should have the fullest possible opportunity of cross-examination, and even preparation for cross-examination, after the charge has been framed. In fact it is only when a charge has been framed that in law his trial is said to commence and he is actually in a position to know the case that he has got to answer. The reasons for the amendment given by the Select Committee of the Criminal Procedure Code Amendment Act were thus stated "it may happen that up to the time of the charge being framed, the accused is not professionally represented, and it seems reasonable in such a case that he should be given time until the next hearing to engage a pleader and decide what witnesses he will cross-examine.' In fact this provision, of giving time to the accused to select the prosecution witnesses, should ordinarily lead to the ultimate saving of time because the accused and his counsel if they had time to think over their case and make up their minds, will ask for recalling of only a few necessary witnesses. If the accused is asked to state forthwith as soon as a charge is framed, then as he has not time to make up his mind as to what witnesses to cross-examine, he usually asks for the recall of all the prosecution witnesses which ultimately leads to greater waste of time and more expense. Thus this provision in the Criminal Procedure Code does not lead to increase the amount of work of magistrates while judiciously worked, it may actually curtail their amount of work. The amendment which was ultimately adopted by the Act of 1923 is an exact reproduction of the redraft of section 256 suggested by the Judges of the Calcutta High Court, and was passed after very careful consideration of all that could be said on the subject, and the opinion of the Select Committee was "that there was no justification for making any severer restriction of the existing right of the accused." With respect to paragraph 61 (b) it is also necessary, in our opinion, that all the material witnesses should be examined before the accused is committed to the Session, nor is the suggested amendment of section 526, Indian Penal Code, necessary in the interests of administration of justice or is called for in the interest of economy. Leaving aside other reasons, the number of cases in which transfer applications are filed, compared with the number actually tried, is far too insignificant to justify even the consideration of such an important change in an all-India enactment from the point of view of retrenchment by a retrenchment committee.

12. Paragraph 63.—The salary of Ministers and the President is not really a matter on which we are called upon to report to the Local Government as the question entirely rests with the Punjab Legislative Council and the question should have been left to the Council. These gentlemen are fully cognisant of the

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existing state of affairs, and can be relied upon to show good sense in the matter and set a good example for others. We have no doubt that the President and the Ministers will not be slow to make the sacrifice which can be reasonably expected from them.

13. Paragraph 67.—We entirely disassociate ourselves from the suggestions made in paragraph 67 of the report that the question of so increasing the powers of District Judges as to enable them to hear appeals of value up to Rs. 15,000, should be seriously considered. Apart altogether from the merits of the proposal, in our opinion, this suggestion is not likely to lead to any economy. It will no doubt lead to reduction in the number of first appeals in the High Court, but these appeals will have to be heard by the District Judges, and it would thus necessitate an increase in the cadre of the District Judges to cope with the increased work. Under the present law, a second appeal is allowed from all appellate decrees of the District Judge on grounds specified in section 100, Criminal Procedure Code, and therefore, even after an appeal has been finally heard and decided by the District Judge, it will be open to the party to come up to the High Court in second appeal, thus making considerable addition to the number of second appeals in the High Court. It is doubtful, therefore, if it will ultimately lead to any substantial economy. In the Punjab as late as 1912 a further appeal to the Chief Court was allowed on all questions of fact in all suits of the value of Rs. 2,000 from the decrees of District Judges and, where the District Judges and the Sub-Judges had differed, a further appeal was allowed in suits of the value of Rs. 1,000 only. In other provinces, appeals to the High Court on questions of fact. were only allowed in cases of the value exceeding Rs. 5,000, and the only justification for allowing appeals to the Chief Court in case of smaller value than in other provinces was that the standard of efficiency of subordinate judiciary in this province was not considered to be as high as in other provinces. In 1912, however, it was felt that the law of appeal in the Punjab should be brought into line with the law of appeal in other Provinces in view of the improved efficiency of subordinate judiciary. It is curious, however, that while other provinces are still sticking to the limit of Rs. 5,000 our provinces, which cannot boast of any higher efficiency of its subordinate judiciary, should attempt to raise the limit to Rs. 15,000. Unfortunately the subordinate judiciary in this province has been depleted of its best field of recruitment from the I.C.S. on account of the preference shown by the best I. C. S. officers for the Executive service. It is a matter of common knowledge, that almost all our District Judges are either recruited from the ranks of the P.C.S. men or by very junior I.C.S. officers, and unfortunately this Province has not in the past like other provinces improved its subordinate judiciary by large recruitments from the Bar. It is a matter of great satisfaction, however, that the non-official members of the committee have unanimously recommended that the higher judiciary should in future be recruited from the Bar to the exclusion of the I. C. S. Therefore, until the general standard of District Judges is very much improved, it will be highly unsafe to give to the District Judges of our province any increased powers in civil cases, not to speak of increasing their powers up to Rs. 15,000. The Retrenchment Committee considered a proposal that all appeals from cases decided by Revenue Courts should be heard by the District Judges, and the Committee in paragraph 59 recorded their opinion on this point :-

"Some of us would like to see the Revenue appellate work of Commissioners transferred to District Judges, but the majority while agreeing that this is a step which sooner or later will inevitably be taken, is of opinion that the province is not ripe for it." If our District Judges are, for some reason or other, not deemed fit to do the work of hearing appeals in petty revenue cases it is strange that it should be proposed to leave the ultimate decision of all questions of fact in cases of such high value to the District Judge. The effect of this proposal if carried out would be that one Junior Civilian of 8 or 4 years' standing while sitting singly will decide cases which in every province, including Punjab, are at present heard by two High Court Judges of mature experience sitting together. A few years ago, there was a proposal to increase the value of appeals to the Distruct Judge from Rs. 5,000 to Rs. 7,500 only, and the Honourable Judges of the High Court also recommended this on the main ground that the value of property had risen and therefore it was necessary to raise the valuation. The proposal was, however, rejected by the Punjab Legislative Council. Now when the value has again fallen there is no justification whatsoever for considering this proposal.

Again the limit of appeals to the Privy Council is Rs. 10,000, and if the appellate powers of District Judges are raised to Rs. 15,000 as proposed, the limit of Privy Council appeals will also have to be raised. This will require amendment of the Civil Procedure Code. Civil litigation is definitely a source of revenue to the State and we are of opinion that the State should not lower the standard of administration of Justice for a problematic decrease in expenditure.

The arrears of the work of the High Court is due to various reasons but mainly to increase in the volume of criminal work, (including sedition cases and appeals from Conspiracy cases) and the appeals under the Gurdwara Act which makes every case of whatever value or nature, appealable to a Division Bench of High Court. From the point of view of retrenchment, the most expensive litigation to the State is the Gurdwara litigation. The work which used to be done by a Sub-Judge is being now done by a High Court Judge with the assistance of two persons of the status and emoluments of District Judges and the court fee realised in each case is only Rs. 5, whatever the value of subject matter of litigation may be. Again the appeal which in large percentage of cases would under the ordinary law be disposed of by a District Judge, is now to be heard under statute by a Division Bench of the High Court and the Court fee again on appeal is only Rs. 10, irrespective of the value of the property involved. Again the Gurdwara cases are given precedence at the request of Government, which naturally throws the ordinary Division Bench civil work in arrears, although the bulk of revenue from stamps is received from such civil cases.

14. Paragraphs 103-112.-Public Health Department is one of the beneficient activities of the State which came into existence with the introduction of reforms and for which Sir Fazal-i-Husain was responsible. The Royal Commission on Labour only recently laid stress on the utility of Public Health Department to rural areas and pointed out that "Expenditure on public health besides yielding an immense return in human happiness, is bound to produce great economic advantages". It will be a pity, therefore, if the activities of this department are curtailed and its utility to the public restricted. Prevention is every time better than cure. A little recurring expenditure on preventive medicine by the State prevents huge expenditure on disease in the way of This is very well illustrated by an efficient control of epidemics partment came, into existence. It will be a pity, therefore, if the treatment. since the department came, into existence. activities of this department are curtailed and its utility to the public restricted. Therefore we feel very reluctant to favour any retrenchment in this department The Scheme of the retrenchment committee of placing if it could be avoided. both the officers—preventive as well as curative—under the Civil Surgeon would certainly lead to greater co-operation by the medical staff and thus in-crease the efficiency and is therefore well worth a trial. For this idea we desire to record our appreciation of Mr. Brayne's note regarding reorganisation and amalgamation of medical and public health departments in the districts. His opinion based on experience of rural public health work is likely to prove Before the organization of the health department on the present useful. lines, there used to be 12 Indian Medical Service officers and 30 assistant surgeons on plague duty in the province during plague epidemics and for routine work an assistant surgeon on plague duty with emoluments higher than that of an assistant surgeon (medical) was kept in each district as a preventive measure These were replaced by the present whether there was an epidemic or not. District Medical Officers of Health who were given additional duties of vaccination, child welfare, school inspection, etc. There should be at least one-medical officer solely in charge of preventive medicine in each district and the proposal considered in the committee but finally rejected by it, of giving two districts to one health officer, is absolutely out of question and is worse than keeping It will be impossible for one officer to do anything in two districts. none at all. The constant touring of one officer in two districts will adversely affect the efficiency and will not lead to any real ultimate saving. The experience of the department in its early days of existence has clearly demonstrated beyond the possibility of doubt that such an arrangement cannot bring about any useful results. Therefore while insisting on at least one public health officer for each district we are in favour of closer co-operation between the medical and public health sections in the districts and therefore are in agreement with the proposal to make the District Medical Officer of Health subordinate to the civil surgeon.

As to amalgamation at the top the expert opinion is against it. Colonel H. M. Mackenzie, Inspector-General Civil Hospitals, was definitely opposed to it and was of opinion that "as a matter of fact superman would be needed to perform the duties of both the Inspector-General Civil Hospitals and Director of Public Health." The officiating Director of Public Health, Khan Bahadur Khwaja Abdur Rahman, was equally emphatic on this point. Therefore it will be unsafe and undesirable to combine both these duties and entrust them to But there is absolutely no justification for keeping such a large one officer. number of Assistant Directors. If one Inspector-General of Civil Hospitals can look after 28 Civil Surgeons, there is no reason why one Director of Public Health or Deputy Inspector-General (Health) cannot supervise the public health officers of as many districts especially now when under the new scheme he will have the co-operation of the Civil Surgeons.

The above scheme would result in a saving of about a lakh of rupees per annum in the form of salaries and Travelling Allowance of such officers and their establishment.

Further general cut of 10 per cent. in the salaries in other departments will be a sufficient retrenchment in the public health budget and any further reduction in this beneficent department will not be advisable.

Designation and the salaries of the present incumbents :---We do not see any justification for changing the designation of District Medical Officer of Health. All that is needed is that he should be made to work in subordinate co-operation with the Civil Surgeon and that he should have the co-operation of the medical officers in charge of rural dispensaries. If this is provided for a change in designation will be entirely unnecessary and useless.

Regarding salaries, under the proposals embodied in the majority report, there will be a change in nomenclature only in so far as the District Medical Officer of Health will be designated Assistant Surgeon (Health) as opposed to Assistant Surgeon (Medical). In fact according to the recommendations he will have increased responsibilities thrown upon him, e.g., inspection and control of rural Therefore there is no justification for reducing the pay of the dispensaries. present District Medical Officers of Health who were engaged on a definite contract like any other service. Of course new entrants can be engaged on any new terms that might be fixed but under guise of changed nomenclature or socalled amalgamation there is no valid reason for cutting down the pay of the individual officers which will not equally apply to the employees of other departments like judicial, executive, irrigation, public works Department, etc. It has also to be borne in mind that the Government requires officers of the health section to possess an extra post-graduate qualification over and above the minimum required of Assistant Surgeon (Medical) and also to desist from private practice. With these two extra embargoes it will be very unfair to fix the remuneration of the health section at the same rate as that of the medical. One should also not forget that Assistant Surgeons (Medical) are provided with free residential quarters while the health section will have no such facilities.

Paragraphs 82 to 92, Police.—In addition to the retrenchments recommended by the committee, in our opinion, at least one of the posts of the Deputy Inspector-General of Police should be retrenched. The work can efficiently be carried on by two Deputy Inspectors-General of Police instead of three.

15. Paragraph 125. Agriculture.—We have no opinion to offer as to whether the Director should be a specialist or an officer of general agricultural education but it is in any case essential that he should be a man possessing technical knowledge and experience. This would obviate the necessity of giving him a Technical Assistant, like an Assistant Director. For administrative purposes he can have, if necessary, as personal assistant an officer with executive experience.

We think, however, that pay proposed for the Dirctor is too much. The actual grade pay of the present acting Director in the Indian Agricultural Service (as Deputy Director of Agriculture and Professor of the Agriculture) is only Rs. 950. The Scale of pay of Director should not, therefore, be more than Rs. 1,250-50-1,500.

16. Paragraphs 129—32. Veterinary Department.—The recommendation of the committee that higher veterinary staff should be the same as it was in 1928, involves in our opinion a necessary corollary that the Chief Superintendent, Veterinary, should be under the Director of Agriculture as in 1928. The Veterinary Department was separated from the Agricultural Department in 1929-30 only.

Paragraph 132. Hissar Cattle Farm.—Almost all the non-official members of the committee were dissatisfied with its working and were of opinion that this institution is not being properly managed. Some of the members, especially those connected with District Boards, were of opinion that the cattle farm was not doing any useful work at all. Ultimately all the members agreed in having a thorough over-hauling enquiry by a small committee. We should like to draw the attention of the Government to the strong feeling that exists amongst the non-official members about the mismanagement and waste at the Hissar Cattle Farm.

The object of opening the Government Cattle Farm at Hissar has been to supply the best type of bulls for breeding purposes to different districts in the Punjab. We were told that the bulls from Hissar farm are not at all indented in some divisions and are not popular anywhere.

The expenditure on the Hissar Farm has gone up while the number of bulls indented by the District Boards has gone down considerably since the last two years. We were told that neither the Superintendent, Government Cattle Farm, nor the Assistant Superintendent, Fodder, possess any technical qualification or any education degree. Under these conditions, it is not surprising that bulls of the Hissar Farm have ceased to be popular and there are complaints of mismanagement.

It is also well-known that the number of bulls actually bred at the Government Cattle Farm, Hissar, cannot be sold to different District Boards even at the concession price of Rs. 175 and their feed and keep is costing unnecessary expenditure to the State. In our opinion the herd of cattle in the Farm should be reduced considerably to reduce unnecessary expenditure of their feed and keep, and the staff should also be correspondingly reduced.

It is surprising that the Hissar Cattle Farm in spite of getting more, if not double, the supply of water as compared with the Izamindars cultivating the adjoining lands, is still unable to produce fodder and crops at the rate at which they are sold in the District.

To give an instance of enormous waste at the Farm, the budget shows an item of Rs. 29,500 as depôt and workshop charges and we were told that this workshop was maintained for repairs and manufacture of Farm implements, a work which could be done most conveniently by local labour in Hissar City or by giving a contract for supply to some contractor, at considerably reduced cost.

Considerable savings can be affected if the affairs were completely overhauled and the Farm placed on sound business footing under proper technical control.

As the bulls produced by the Hissar Farm are not popular, the Government should also consider the question of closing this farm altogether. Bulls of Hariana and Hissar breed could be had from three different grantee farms on , the Lower Bari Doab Canal where Government has given, free of cost, over 7,000 acres of land for breeding purposes.

The Farm at Bahadur Nagar has a grant over 3,000 acres given purely for cattle-breeding purposes with the condition that the cattle must be of Hissar or Hariana breed.

Similarly land over 1,000 acres was given to Dr. Ghulam Qadir, Veterinary Assistant, and land over 3,000 acres was given to Risaldar Major Fazal Dad Khan for a similar purpose. The Government, having given these free grants of valuable and extensive areas of land for this purpose, should take effective steps to ensure that these farms provide all the bulls of Hariana breed of proper quality required in the Province. There is absolutely no reason why the Government should run an extravagantly expensive (and as some of us believe, an entirely useless) farm at Government expense when it has already made sufficient provision for the supply of cattle of this breed by grant of lands. The budget estimates for year 1931-32 show that a saving of $1\frac{1}{2}$ lakh could be immediately affected by closing the Hissar Farm. This would leave at the disposal of Government 42,000 acres of land with several up-to-date buildings and live-stock. The Government could sell the land to recoup its revenues, or better still a small portion of it could be given to deserving and qualified individuals for breeding purposes as at Sher Garh and the rest could be leased out bringing some revenue to the State. By adopting this proposal an annual recurring loss of $1\frac{1}{2}$ lakhs will disappear, the provision of bulls of Hariana breed at Hissar could be assured and also a recurring income from the balance of land secured.

17. Paragraph 136. Co-operation.—The staff of this department is unduly excessive. Besides an army of Assistant Registrars there is a Registrar and three Deputy Registrars holding superior posts. There are over 125 Inspectors, and over 150 Sub-Inspectors. The direction and the superintendence are costing Rs. 2,14,000 and the subordinate inspectorate, clerical establishment, &c., Rs. 6,62,000. There is no justification for such a large staff which is excessive in the opinion of all the members of the Committee and which has not produced much lasting results. The post of Banking or Financial Adviser to the Co-operative Department on a salary of Rs. 2,500 a month has been an unjustified extravagance. This appointment has been productive of no good results, in fact the position of the Co-operative Banks has been very bad for the last two years or so. The report contains a suggestion to retain this post still under another name, for which we see no possible justification. In times of financial stringency like the present it is inexcusable to create new posts. It is time that the Banking Expert, for whom there was never any justification, should be dispensed with at the earliest possible opportunity.

18. Paragraph 187. Industries.—The recommendation of the majority is that the Department of Industries should cease to exist as a separate department. It is proposed to entrust the giving of advice, information and assistance to non-official body on payment of a small subsidy. The giving of loans under the Punjab Industrial Acts would be stopped. And it is proposed to leave the organization of exhibitions and demonstrations to private enterprise. Industrial Schools will be handed over to the Department of Education. The Administration of the various Acts, which are at present entrusted to the Director of Industries will be handed over to the Departments and offices which cannot be dispensed with. In fact the proposal is to take stock of whatever industrial activities the State is carrying on at present, to abolish them and to disclaim responsibility for them wherever possible and, for the rest, to place them in the unswept corners and dust bins of a number of overbusy and possibly unsympathetic departments. The majority has also taken the line that "State aid can do little to create industries in the Punjab." As representative of the Industry Constituency in the Punjab, I think it my duty to enter my emphatic protest against this policy.

I was not present on the date when the Director of Industries was examined by the Committee, and have accordingly gone through the printed copy of his evidence very carefully, I may be pardoned for pointing out that the material furnished by him has not been given due consideration. The belief of the majority that "wherever a state (for example Japan) has developed new Industrial life, the first steps have come from the enterprise of its citizens," is not borne out by history.

The Director of Industries in his evidence states :----

"Here in India in the pre-British days the industry flourished round the thrones of the rulers and had looked to them for support. That tradition continues. Take the case of a nearer country, viz., Japan. Japan, originally an agricultural country, has not followed the western model. From 1870 to 1883 Government owned the main factories in Japan and worked them, owing to the lack of experience of the people. About 1883 the industries under State management were gradually handed over to private enterprise which was at the time subsidized by the State for the encouragement of staple industries. Thus gradually the policy of State management was replaced by private enterprize by 1894. The Industrial Commission stated that English theories as to appropriate limits of the State's activity' are not applicable to India, and that if the resources of the country were to be developed, the Government must take action. The Montagu-Chelmsford report affirmed the principles underlying the Industrial Commission's Scheme."

A reference to the Industrial Commission's report will further show that its main recommendation is that "in future Government should play an active part in the industrial development of the country " and that Government cannot undertake this work unless provided with adequate administrative equipment, This recommendation was affirmed in the Montague-Chelmsford Report. How does it then lie with a provincial Government to scrap the declarations accepted by the Government of India and the Secretary of State? We are positively of the view that it is the function of the State to aid industries. The attention of the majority has apparently not been directed to the report of the Famine Com-mission of 1880 which stated that "at the root of much of the poverty of the people of India and of the risks to which they are exposed in seasons of scarcity (in actual practice the position is as bad now), lies the unfortunate circumstance that agriculture forms almost the sole occupation of the mass of the population." Consider along with it the fact that before the advent of the British "the rivalry amongst the European traders to secure a footing in India at that time was occasioned, not by the raw produce of the country, but by the value and the variety of her manufactures and crafts " (cf. The Wealth of India by Wadia and Joshi). Thereafter there has been a rapid change from an India "with a well balanced economic equilibrium, with a population fairly well distributed between agriculture and industries, to an India with a predominantly agricultural population." Is it not necessary, therefore, for the State to give every possible help in order to restore the equilibrium? Ultimately that will be found to be the only way of balancing the budget. The budget shows that the agricultural department has more than doubled the budget of the Industries Department which has been practically starved in the past. If our industries had been well looked after, India would not have suffered as much from the economic depression. In no province has the department of Industries been abolished, and it is surprising to find that the Punjab which is industrially behind other provinces should be the only one to consider the abolition of the Industries department.

We entirely dissociate ourselves from the other proposals about the functions of Government in connection with the development of industries. It is the recognized function of the State to help in furnishing information and advice and it cannot be left to a private body.

We endorse the opposition of the Director of Industries to the suggestion for entrusting industrial or vocational training to the Education Department. In this connection we cannot do better than quote from his evidence with which we are in agreement :—

If in spite of the foregoing clear verdict the industrial education were placed under the Department of Education we shall be guilty of wasting money in a misguided direction.

It appears to us that the suggestion to entrust the joint stock companies work which is intimately connected with industries, to the Banking Expert of the Co-operative Department is nothing else but an unfair attempt to provide some occupation to the existing incumbent who is superfluous. It is a case of robbing Peter to pay Paul. We consider it unjustified and accordingly oppose the proposal.

The proposal to entrust the administration of Acts to other departments is equally ill-considered. All that we can smell is the anxiety to abolish this department. You cannot develop industries or properly look after them until you have a separate department for the purpose. Was not the administration of industries a farce so long as the work was entrusted to the Director of Agriculture in addition to his other duties? The enunciation of policy that "State aid can do little to create industries" and that State owes no obligation to provide *directly* even for advice on industrial matters, is startling.

Further, it is a matter of surprise that the Retrenchment Committee should at all have considered it necessary to touch a department which has admittedly been literally starved so far. The total budget provision for this department is less than one per cent. of the Provincial expenditure and falls below the amount by which even the travelling allowance, hononraria, etc., of the Police Department have increased during the last 10 years (vide paragraph 92 of the report). We would not subscribe to the policy of killing our industries, which is what the proposal of the majority would result in. We would retain the Department of Industries and would at the same time recommend a larger grant to Industries.

19. Paragraph 151.—Public Works Department (Buildings and Roads Branch).—The majority has recommended a cut of 25 per cent. in the establishment under this head within one year. We hesitate to subscribe to the view more especially in view of the finding in the report itself "what the necessary staff should be, we are not competent to advise." In our opinion, therefore, before attempting any such drastic reduction in personnel, the activities and the work done by the department should be carefully examined by a small committee of experts, nor do we feel quite satisfied about the various percentages mentioned in different paragraphs which require expert scrutiny. It should not, however, be forgotten in this connection that the Public Works Department is essentially a beneficent department and its activities should not be curtailed to such an extent as to affect the well-being of the general public and its prosperity. Apart from the construction and maintenance of buildings essential for the efficient working of administrative departments, the construction and maintenance of roads is of great economic, social and administrative value to all sections of the community and particularly to the rural section.

It provides cheaper means of transport for taking country produce to the markets and enables the Zamindar to dispose of his produce quickly and at better This is generally admitted, but what appears to require better appreciarates. tion is the fact that the better the condition of a road the more money it brings to the Zamindar as it cheapens transport charges, and facilitates better and easier marketing. It is simple arithmetic that if only ten vehicles each carrying $1\frac{1}{2}$ ton pass along a metalled road and the saving in transport due to the improved communication is about one pice per maund, not only the maintenance but interest on capital on its construction is fully recovered. That only a section of the community using roads pays for its upkeep is borne out by the fact that revenue from customs duties on motor cars, their accessories and petrol is almost equal to the expenditure on roads in the country. That this revenue goes to the Central Government is beside the point as it is the community that has to meet in one shape or another these charges. Well maintained roads mean more motors with consequent increase in direct revenues, better prosperity of the community and more return to the Zamindar for his labour and thus indirectly to the coffers of Government. Thus the "Roads" portion of this department brings revenue to the State although its receipts are mostly indirect. Any cutting down of its activities in this direction may, therefore, be a step leading not towards real economy but to drying up resources.

Further, we regret we cannot agree with the view expressed in the report "the present standard of road maintenance is higher than the province can afford and that the standard of maintenance should be temporarily lowered." We are in favour of effecting all possible economies and preventing all waste, but, as far as possible, without impairing efficiency. We are, however, afraid- that any suggestion in this direction may not reduce our roads to the level of the roads maintained by the District Boards and Municipalities. The condition of roads maintained by the District Boards and Municipalities of the Punjab especially the Municipal Committee, Lahore, is too notorious to deserve mention and it is always a relief to travel along a Public Works Department road, after having gone for howsoever short a distance along a municipal road.

Any lowering of the standard of maintenance of roads and buildings is therefore to be deprecated. If a road is once allowed to fall in disrepair, as it will be if not properly maintained, the expenditure required to put it right again will be prohibitive as, unlike a building, even its foundation may have to be reconstructed.

To use a road surface without properly maintaining it, is analogous to living on one's capital.

We are anxious that the roads should continue to be maintained in their present standard and there should not be any undue restriction of activities in this direction. If however, it is possible to maintain this standard by any other method other than that of maintaining the Government establishment at its present strength, we should like its possibilities to be examined by experts.

20. We conclude our remarks on various departments by suggesting that the halting allowance of members of the Punjab Legislative Council should be reduced from Rs. 12 to Rs. 10 per diem.

29-10-81.

MUKAND LAL, PURI. MOHAN LAL.

I wish to add :----

I support the view of the majority of the committee with regard to the move to Simla. I disagree with the majority in their recommendation for the applicability of the graduated salary cut to the cases of those government servants, who are drawing Rs. 40 and under. It is true that they have benefited to some extent on account of the cheapness in the prices of food-stuffs but the benefit is not so great as to justify this cut. Before the cheapness of the food-stuffs came in, they were deprived of many of the necessities of their life, a part of which, they will, perhaps, be now able to get.

MOHAN LAL.

29-10-31.

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Last of recommendations the infancial effect, oc.,-commutated.								
1	2	8	4	5				
Para- graph of the report.	graph Budget Head. of the		Recommendation.	Estimated saving in thousands of rupees.				
. 3	General Admin istration—							
- 59 -	22-C (a)	172-73	Reduction of 10 per cent. in the cost of Civil Secretariat.	83				
55	22-B	169	Post of Deputy President of Legislative Council to be honorary.	5				
58	22-C (c)	175	Abolition of the post of Financial Commissioner, Development, and con- sequent reduction in the staff of Financial Commissioner's office.	65				
59	22-D	. 177	Abolition of two posts of Divisional Commissioner.	1,25				
60	22-E (a)	190	Abolition of 36 posts of Extra Assis- tant Commissioner and consequent	2,75				
.62	22-E (a)	181-194	reduction in clerical establishment. Fifteen per cent. reduction in all clerical establishment and other charges under -District Administration, Treasury, Copying Agency and other establish- ments (excepting Criminal Tribes	7,89				
••	22-E (0)	197	Department.) Effect in full year of economies already effected by Deputy Commissioner,	- 22				
63	22-A (a)	201	Criminal Tribes. Reduction of salaries of Ministers to Rs. 36,000 per annum.	72				
	Administration		Total saving under 22—General Ad- ministration	14,86 (1,15,23 ; 12·5%)				
	of Justice-							
66	22-A	204-5	Reduction of 10 per cent. in High Court establishment and other charges.	49				
68	22-D and E	208-13	Reduction of 5 per cent. in the total charges under District and Sessions Judges, Subordinate Judges, Process Serving Establishment, Judicial Re- cord Room charges, Circuit and Ses- sions Houses and Courts of Small	16				
69	24-B	206-7	Causes. Proposal to return to the old scheme of remunerating Public Prosecutors by fees and general reduction of other fees paid for Crown work.	75				
		、	Total saving under 24—Administration of Justice.	1,40 (55,43 ; 2 [.] 5%)				

1	2	3	4	5
Para- graph of the report.	Budget Head.	Page of the Budget.	Recommendation.	Estimated saving in thousands of rupees.
	Jails and Con- vict Settle- ments			
78	25-A	216	Abolition of the post of Deputy In- spector-General of Prisons.	15
75 76	25-A · , . 25-A · .	219 and 222 217, 219,	Abolition of pecule system Abolition of Agricultural Assistants	2,00 15
77	25-A	221 219, 222,	and fees for religious lectures. Reduction of expenditure on dietary	3,50
82	25-A	228 224—227	and hospital charges. Savings effected in Reclamation De- partment by Deputy Commissioner, Criminal Tribes, for full year.	1,25
·	Police		Total savings under 25—Jails and Con- vict Settlements.	7,05 (38,81 ; 18%)
92	26	229—248	Reduction of 15 per cent. in the total cost of the Police (excluding 26-D- Special Police).	18,00
92	26	229—248	Abolition of Lahore Special Police Total saving under 26—Police	3,20 21,20
98	Education	250	Closing down of the Chorocali Arts	(1,25,60 ; 17%)
98	\$1-R.A. (a) \$1-R.B. (a) &(b)		Closing down of the Ghoragali Arts College. Reduction of 20 per cent. in the cost of	81
98	31-R.B. (b)	251	Secondary Education. Discontinuance of non-recurring	96 86
97	81-A (a)	255	Grants. Reduction in grants to University	79
97 97	81-A (b)	255-6	Reduction in cost of Government Arts Colleges by 25 per cent.	2,70
97	81-A (c) 81-A (d)	257 257-8	Reduction in grants to non-Government Arts Colleges by 12½ per cent. Closing down of Government Profes-	
97		259-262	sional Colleges. Reduction in cost of Government Secon-	1,29
51	81-B	200-202	dary Schools, in grants to non-Gov- ernment Secondary Schools and in	8,74
97	81-C	268	grants to local bodies by 20 per cent Reduction in the cost of Primary Edu-	10,95
97	81-D	264	cation by 12 ¹ / ₂ per cent. Closing down of Government Special Schools.	1,88
99	81-E (a) & (b)	265-7	Reduction of 10 per cent. in the cost of	1,04
101	81-E (d)	268	Direction and Inspection. Abolition of the post of Reporter on Books.	6
101	31-E (đ)	268	Discontinuance of the grant for adult education.	80
101	81-E (d)	268	Reduction of other grants by 25 per cent.	11
			Total savings under 81-Education	81,21 (1,76,98 18%)

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List of recommendations the financial effect, &c.,-continued.

List of recommendations the financial effect, &c.,-continued.

1	2	. 3	4	5
Para- graph of the report.	Budget Head	Page of the Budget.	Recommendation.	Estimated saving in thousands of rupees.
	Medical and Pu	ıb-		
105	lic Health— 32 & 33	273 & 29		1,00
106	82 & 33	29'	 intendence of the two departments. Transfer of the charge of Public Health in districts to Civil Surgeons and sub- stitution of Assistant Surgeons (Public Health) for District Medical Officers of Health. 	1,00
107	32 & 33	29'	7 Transfer to Sub-Assistant Surgeons' of rural dispensaries of the charge of Public Health in their areas and abolition of Vaccinating Staff and	34
111	88- B		Sanitary Inspectors. Abolition of Grant to Simla Munici- pality for Laboratory Assistant.	3
111, 112		: } 300 309		11,63
111, 112	88-A	. 297		14
112	88-C	. 801		92
114	82-B	. 275—281		1,00
115	82-B .	. 282		2,65
115	82-C .	. 288		40
116	82-D .	. 284-5		11
117	82-E .	. 287		22
			Total savings under 32—Medical and 33—Public Health.	19,44 (77,70 ; 25%)
	Agriculture	1		
120 & 125	84-A .	. 807-809	of the Agricultural Department and	6,00
123	94-A .	. 815-16		49
124	84-A	810-11	cultural College by 25 per cent. Reduction in the cost of Agricultural Engineering by 25 per cent.	27
125	84-A	306	Reduction of expenses under Direction	71

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List of recommendations the financial effect, &c.,-continued.

1	2	. 3	4	-5
Para- graph of the report.	Page Budget Head. of the Budget.		Recommendation.	Estimated saving in thousands of rupees.
· · · · · · · · · · · · · · · · · · ·	Agriculture conold.			
127 128	84-A 84-A	816-17 817-19	Abolition of Poultry Farm Reduction of expenditure on Botanical and other Public Gardens by 25 per cent.	18 . 25
			•	7,90
			Add for additional expenditure on the Research Institute (paragraph 124).	1,81
	Veterinary—		Net savings under 34-AAgriculture	6,59 (25,61 ; 25·7%)
181	84-B	821, 829	Reduction of 10 per cent. in the cost of Superintendence and Subordinate Veterinary establishment.	77
- 191	84-B	827	Reduction of establishment under breed- ing operations.	21
182	84-B	825-7	Reduction in the cost of the Hisson	78
199	84-B	828	Cattle Farm by 25 per cent. Reduction by 50 per cent. of the charges for "diet of college animals" at the Veterinary College.	5
,	Co-operative	• •	Total savings under 94-B—Veterinary	1,81 (14,82 ; 12 [.] 2%)
186	Credit 34-C	829-80	Holding consolidation work in abey-	1,90
186	94-C	829-80	ance. Reduction of 10 per cent, in expendi-	25
^р 186	84-C	829-30	-ture other than salaries. Reduction by 50 per cent. of the grant to Punjab Co-operative Union.	81
É N	Tulu		Total Savings under 34-C-Co-opera- tive Credit.	2,96 (12,27 ; 24%)
141	Industries— 85-A	882-88	Abolition of "Direction" and "Super- intendence."	1,08
	Fisheries—		Total savings under 85-A—Industries	1,08 (10,70 ; 9 [.] 6%)
142	85-B	848-49	Abolition of the Department	70
			Total savings under 35-B—Fisheries	70

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List of recommendations the financial effect, &c continued.	

1	2	2 8 4					
Para- graph	Budget Head.	Page of the	Recommendation.	Estimated saving in thousand			
of the report.	• • • • •	Budget.		of rupees.			
	·····	 					
	Miscellaneous-						
148	97-R.C	858	Reduction of 25 per cent. under fees for conducting examinations, contingen- cies and contribution to Government	4			
148	47-R.A	360	of India. Reduction of 25 per cent. in cost of	2			
143	47-R.C	360	Books and Periodicals. Reduction of 20 per cent. in diet charges of European vagrants.	1			
144	47-R.D	861	Reduction of 50 per cent. in cost of Publicity Bureau.	85			
145	47-R.E	362	Abolition of rewards for the destruc- tion of wild animals.	2			
145	47-R.F	368	Abolition of Water-logging Assistant to F. C. R. and most of his staff.	15			
146 146	47-A 47-B	972 972	Abolition of Joint Development Board Reduction in consolidated grants to District Boards of 10 per cent.	4 2·45			
147	47-B	. 872	Discontinuance of grant to Board of Economic Enquiry.	10			
148 149	47-D 47-D	874 874	Abolition of Second Gurdwara Tribunal Abolition of Panchayat Officers	1,05 43			
	P. W. D. (Build-		Total savings under 87 and 47-Mis- cellaneous.	4,66 (29,22 ; 16%)			
	ings and Roads)-	-]]				
151	41-A.R	879	Discontinuance of all new major and minor works (buildings).	9,48			
151 158	41-T	879 884	Discontinuance of all new major and minor works (communications) Reduce provision for repairs (build-	17,79 2,0 4			
155	41-V (1) 41-V (2)	384	ings) to 10 lakhs (R. and T.) Reduce provision for repairs (communi-	18,00			
155	41-X	1-X S85 Reduction of grants for bridges and					
156	41-A (1)	3 88	culverts and class II roads to 8 lakhs. Chief Engineer to cease to be Secretary to Government and abolition of	83			
			Under-Secretary or Assistant Secretary and 25 per cent. of establishment.				
151	A (2)	889	Abolition of Superintending Architect and his office.	76			
151	A (4) & (5)	891-98	Reduction in Superintending Engineers, Executive Engineers, Subordinates, Staff and Charges by 25 per cent. immediately.	8, 94			
157	A (8)	890	Abolition of Electrical Engineer	26			
158	A (8)	896-97	Reduction in cost of Maclagan En-	1,16			
159	A (9) (1)	887	gineering College to 11 lakhs. Reduction in the contribution to Roorkee College and provision for scholarships to maximum of 1 lakh.	44			
			Total savings under 41-Civil Works	55,10 (1,18,87 ; 46·4%)			

1	2	8 •	4	5
Para- graph of the report.	Budget Head.	Page of the Budget.	Recommendation.	Estimated saving in thousands of rupees.
.	Stationery and			· · · ·
165	Printing(R & T)	484 <u>-4</u> 41	Estimated savings in Government Presses as a result of certain recom- mendations for economy in printing costs.	57
165	46-R.E.&T.C.	442-43, 446	Estimated savings from use of cheaper quality paper and economy in use of stationery.	1,07
			Total savings under 46-Stationery and Printing.	1,64 (11,28 ; 14·5 %)
178	General	442-43, 446	Temporary reduction in the pay of all Government servants.	28,00
		·	Total savings under all Budget Heads.	2,45,15

List of recommendations the financial effect, &c .- concluded.

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APPENDIX B.

List of recommendations the financial effect of which cannot be calculated.

1	2		8	4			
Para- graph of Report.	Budget h	æd.	Page of the Budget.	Recommendation.			
12	General	••		Appointment of a Clerical Staff Committee to consider method of work in offices and revision of staff.			
13	Do.	••	••	General increase of hours of work from 10-4 to 9-30-4-30.			
14—15	Do.	••		Reduction in the number of holidays.			
16	Do.	••	••	Reduction in the rates of travelling allowance.			
. 18	Do.	••		Increase in fees at state institutions payable by the			
19	Do.	••	••	well-to-do. Restriction of the number of officers required to move to Simla and review of the scale of Simla allowances.			
	Do.	••		Review of the grant-in-aid system.			
	Land Reve	enue.					
21	5-B.	••	66	Substitution of a darogha for the Naib-tahsilder at Dhundi.			
23	5-D.	••	74	Reduction in the size of patwaris circle by exten- sion of the period of revising <i>jamabandis</i> from 4 to 6 or 8 years.			
	Forests.						
84	8	••	8591	Abandonment of the system of departmental extraction of timber and return to the methods and strength of staff previously employed.			
	Registratio	n. -	4				
85	9	••	101	Reduction of fees of Sub-Registrars and transfer in places, of the work to Tahsildars and Naib- tahsildars.			
	Irrigation.		•				
42—4 6	XIII	••	103—159	Reduction in the numbers of Superintending Engineers, Executive Engineers, Sub-Divisiona Officers, Overseers and Zilladars.			
48	Ditto	••	103—159	Introduction of the contract system of sale of water.			
49	Ditto	••	103—159	Reduction in the number of Canal Dispensaries			
89	Ditto	••	103	Abolition of the post of Chief Engineer, Sutle Valley Project.			
50	Ditto	••	108	Reduction in the number of Chief Engineers and Under-Secretaries.			
	General Ad	min					
	istration-	•					
53	22-B.	••	109	Reduction in the number of Secretariat Chapra- sis and Servants.			
55	22-B	••	109	Appointment of a Committee of the Legislature to consider economies in printing, staff and			
61	22-B	••	109	travelling allowance. Certain changes in the Code of Criminal Pro-			
60	22-B		109	cedure. Amalgamation of certain districts.			
64	22-B		109	Adoption of Madras system of District Adminis			
J				tration.			

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List of recommendations the financial effect, &c.-continued.

1	2	8.	4
Para- graph of Report.	Budget Head.	Page of the Budget.	Recommendation.
67	Administration of Justice- 22	204	Proposal to increase the power of District Judges to hear Civil appeals up to Rs. 15,000 in order to reduce the work and number of the Judges of the High Courts.
71	22 Jails and Convict	24	Recommendation regarding diet money of wit nesses.
74	Settlements- 25	215	Reversion to the old system of appointing Super-
78	25	215	intendents of District Jails. Suggested means of decreasing the number of
79	25	215	prisoners in jails. Suggested means of decreasing the expenditure
. 81	25	. 228	on conveyance of prisoners. Suggested means of increasing the sale and profit
	Police-	•	on jail manufactures.
36 and 91	26	229-248	Endorsement of proposal of Sources of Revenue Committee to recover (a) part of the cost of police employed in watch and ward in munici- palities from local bodies and (b) part of the cost of Railway Police from the North-Western Railway.
	Medical and Public Health—		
109 109	82 and 83 82 and 83	269	Closing of certain adjacent rural dispensaries. Handing over of rural dispensaries to private
110	83-A (establish- ment).	269-803	practitioners. Concentration of all well-boring and drainage work under one department.
111	88-B	800	Examine certain grants and revise the conditions of the grant to Lahore Municipality.
112	89-E	808	Charge fees at the Lahore anti-rabic centre from those who can afford to pay.
118	82-A (2)	274	Consider replacing Civil Surgeons in certain dis- triots by Assistant Surgeons.
116	82-D	285	Close down within three years the Medical School, Amritsar.
117	82-E	287	Examine the grant to the Ranchi Mental Hospi- tal.
	Agriculture		•• ••
126	84-A	811-2	Reduction of net expenditure on well-boring.
121	94-A	907—8	Handing over seed farms to private persons.
189	Veterinary	000 0	
133	84-B 84-B	322—8 825—7	Gradual closing down of the Veterinary College. Appointment of a Committee to examine the affiars of the Hissar Cattle Farm and to report whether it can be handed over to private agency.
1	Co-operative	1	
100	Credit-		
136	84-C	829— 30	Closing down within two years all societies other than A class societies and withdrawing for the most part Government financial support from the movement.

1	2		8	4			
Para- graph of the Report.	Budget Head.		Page of the Budget.	Recommendation.			
140	Industries— 85-A.	••	\$85—845 '	Transfer of Industrial Education to Department of Education.			
145 147	Miscellaneous 47 R. G. 47		865 872	Guarantee of loss only on consolidated account of guaranteed telephone and telegraph lines. Examination of the justification for the grant to Kasumpti Municipal Committee.			
150	Hydro-Electri XXX-A. Buildings and		413—424	Recommendation that Hydro-Electric Depart- ment should not remain outside the scope of Retrenchment.			
157	41 41-A. (3)	•••	3 85 890	Extension of the system of road monopolies under District Boards. Handing over of electrical work in Government			
151		2),	390 888—898	buildings to private firms. Reduce cost of Buildings and Roads permanent staff as soon as possible to an amount re- presenting 8-10 per cent. of the value of works			
158 160	41-A (7) 41	••	895—6 	likely to be undertaken. Appointment of a Committee to examine expen- diture on Rasul School of Engineering. (a) Handing over of annual repairs to Heads of			
161	41	•••		Departments. (b) Handing over special repairs and works to Irrigation Department. Recommendation that grants from Central Road Fund should be devoted to maintenance of			
162	41			arterial roads. Recommendation that Buildings and Roads Branch instead of being an executive agency			
167-168 & Appendix E.	General	-	· ••	should be merely an inspectorate. Abolition of or reduction in certain special pays and compensatory allowances.			
170 172-177	Ditto			Revision of the rules regulating rent free ac- commodation and allowances in lieu.			
and Ap- pendix C. E	Dirto ,			Substitution of new scales of pay for all Govern- ment servants.			
179 180	Ditto			Revision of the pension rules. Revision of the leave rules.			

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List of recommendations the financial effect, &c.--concluded.

APPENDIX C.

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Proposed new scales of pay for services under the Punjab Government :---

- (1) Superior Services-
- (a) EDUCATIONAL SERVICE-

				Rs.
(Men's Branch) Time-scale			••	150—600 ז in א
(Women's Branch) Time-scale	••	••	••	175-500 yea
Director of Public Instruction	••	••	••	1,000
(b) IRRIGATION SERVICE-				• • •
Time scale			••	150-600
Executive Engineers in charge	of Headwor	ks		750
Superintending Engineers	••	••	••	8001,000
Deputy Chief Engineers	••		1	,000-1,250
Chief Engineers	••	••	••	1,500
(c) MEDICAL SERVICE-				
(Men's Branch) Time-scale	• •	••	••	175—600
(Women's Branch) Time scale	••	••	••	175500
Inspector-General of Civil Hosp	pitals	••	••	1,000
(Note,-All officers in the Medical Departm	nent should ha	ve the right	of private p	ractice).
(d) Agricultural Service—		2		
Pay should be the same as in th	he Education	n Departm	ent.	
(e) CO-OPERATIVE SERVICE-				
Pay should be the same as in the	he Education	n Departm	ent.	
f) FOREST SERVICE-	•	-		
				Rs.
Time-scale	••	••		200-600
Conservators	••	••	••	600—750
Chief Conservator '	••	••	••.	1,000
(Norm.—Majority of the appointments of Co from outside the ranks of the Provincial Service).	nservators and	Chief Conserv	vator will pr	obably have to be star
TOUR ORONICE AND LANKS OF AND X TO AND DELAYOF.				Rs.
(g) VETERINARY SERVICE-				Tro.
	١			150_600
Time-scale	•	••	• =	150—600 750
Time-scale	 lege and Resea	 	••• •• f required.	750
Time-scale	'. lege and Resea	 urch Officer, i	f required,	750
Time-scale Director (NorgPrincipal of the Veterinary Col recruited from outside the service).	 lege and Resea	 .roh Officer, i	f required,	750
Time-scale Director	 lege and Resse	 .rch Officer, i	f required,	750 will probably have to
Time-scale Director (NorgPrincipal of the Veterinary Col recruited from outside the service).	 lege and Resea	 urch Officer, i	 f required,	750 will probably have to
Time-scale Director (Norg.—Principal of the Veterinary Col recruited from outside the service). (h) CIVIL SERVICE Executive Branch Time-scale		 urch Officer, i	 f required,	750 will probably have to
Time-scale Director (NorgPrincipal of the Veterinary Col recordited from outside the service). (h) CIVIL SERVICE <i>Executive Branch</i> Time-scale Deputy Commissioners	iege and Resea		 f required,	750 will probably have to Rs.
Time-scale Director (NorgPrincipal of the Veterinary Col recordited from outside the service). (h) CIVIL SERVICE <i>Executive Branch</i> Time-scale Deputy Commissioners Judicial Branch	· · ·	 	••	750 will probably have to Rs. 150600 1,000
Time-scale Director (NorgPrincipal of the Veterinary Col recruited from outside the service). (h) CIVIL SERVICE Executive Branch Time-scale Deputy Commissioners Judicial Branch There should be no new entrant	· · ·	 	••	750 will probably have to Rs. 150600 1,000
Time-scale Director (NorgPrincipal of the Veterinary Col recordited from outside the service). (h) CIVIL SERVICE <i>Executive Branch</i> Time-scale Deputy Commissioners Judicial Branch	· · ·	 	••	750 will probably have to Rs. 150600 1,000 hould be appoint
Time-scale Director (NOTE.—Principal of the Veterinary Col recruited from outside the service). (h) CIVIL SERVICE Executive Branch— Time-scale Deputy Commissioners Judicial Branch— There should be no new entrant from the Bar.	s; and all ne	 	••	750 will probably have to Rs. 150—600 1,000 hould be appoint Rs.
Time-scale Director (NorgPrincipal of the Veterinary Col recruited from outside the service). (h) CIVIL SERVICE Executive Branch Time-scale Deputy Commissioners Judicial Branch There should be no new entrant	s; and all ne	 	••	750 will probably have to Rs. 150600 1,000 hould be appoint

(i) POLICE SERVICE-

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J

					Rs.
Time-scale	••	••	••	••	150-600
Superintendents of o	ordinary di	stricts	••		750
Superintendents, Mu	ltan, Feroz	epore, Siall	tot and Rav	valpindi 1	,000-1,200
Commissioners of Po				· .	1,500
Deputy Inspectors-G	Jeneral of H	Ranges and	Criminal In	vestiga-	
tion Departm			••		1,500
Inspector-General	• •		••	•••	2,000

(Norm.-Mr. Owen Roberts dimented as he did not wish to make any recommendation as regards pay of the Police).

(2) Clerical Establishment.

(a) SUPERINTENDENTS— Time-scale Rs. 200—350 in all offices with a selection grade of Rs. 350—450 for not more than 50 per cent. of the total number of Superintendents in the Secretariat.
Rs.

						TrD.	
(b)	Absistants						
	Time-scale	• •	••	••	••	75 - 200	
(c)	1st Grade Clerks-						
•••	Time-scale	••	••	••	••	60 - 5 - 125	
(đ)	2nd Grade Clerks-		•				
• •	Time-scale	••	••	••	••	40—2—90	
(e)	VERNAOULAR CLERKS						
	Time-scale	• •	••	••		3060	
(f)	STENOGRAPHERS						
	Secretariat	••	• • •	••	1	00-10-250	
	Other offices	••	••	.• •	••	75-5-125	
(g)	PERSONAL ASSISTANTS TO	Hon'ble	MEMBERS,	MINISTERS	AND		
	CHIEF SECRETARY	•					
	Fixed pay of	• • •	••	• •	••	800	
(h)	TRANSLATORS						
• •	Minimum		••	• •	••	60	
	Maximum, not more t	han	••			200	

(3) General recommendations of the Committee as regards subordinate and Miscellaneous Staff.

- (a) Where the existing pay of a post is Rs. 40 or below, no reduction is called for.
- (b) There should be a reduction of 15 per cent. in the minimum and maximum salaries of posts ranging between Rs. 40 and Rs. 200 per mensem.
- (c) There should be a reduction of 20 per cent. in the minimum and maximum salaries of posts above Rs. 200 per mensem.
- (d) Temporary and quasi-temporary posts should not be on an incremental scale of pay.

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APPENDIX D.

STATEMENT SHOWING TOTAL PAY DRAWN BY VARIOUS CLASSES OF GOVERNMENT SERVANTS, PERCENTAGE PAID IN INCOME-TAX, ORIGINAL RECOMMENDATION OF THE COMMITTEE FOR A GRADED SCALE OF CUT, FINANCIAL EFFECT OF THAT RECOMMENDATION AND THE FINANCIAL EFFECT OF A 10 PER CENT. ALL ROUND CUT.

1	2	· 3	4	5	6	7
Class.	Pay drawn,	Total pay (in lakhs).	Percentage of income- tex.	Recommendation of the Re- trenchment Committee.	Effect of the Recom- mendation of the Com- mittee.	Effect of 10 per cent. al round cut.
	Rs.	· <u> </u>	····· · · · · · · · · · · · · · · · ·	<u> </u>	Rs.	Rs.
I	1—35	1,24		A cut of 6 pies in the rupes	3,87,500	12,40,000
п	36—83	. 80		A cut of 9 pies in the rupes	3,75,000	8,00,000
, ш	84168	66	• ••	A cut of one anna in the rupee	4,12,500	6,60,000
IV	167-416	57	8	Ditto ditto	3,58,250	5,70,000
v	417—832	65	4.7	A cut of one anna and 3 pies in	5,07,812	6,50,000
VI	8331,250	19	· 6•3	the rupee. A cut of one anna and 6 pies in	1,78,125	1,90,000
VII	1,251— 1,666	20	8.3	the rupee. A cut of 10 per cent	2,00,000	2,00,000
VIII	1,6672,500	-28	9.9	Ditto	2,80,000	2,80,000
IX	2,501—3,333	6	12-0	Ditto	60,000	60,000
. X	3,334—8,333	18	13	Ditto	1,30,000	1,30,000
XI	8,333	1	13.5	Ditto	10,000	10,000
	Overseas Pay	8		Ditto	••	80,000
Total		4,87	••	-	27,97,287	48,70,000

NOTE.-(a) The total of pay drawn by menials is Rs. 14,00,000.

(b) The total of pay drawn by all non-gazetted ranks of Police is Rs. 78,00,000.

(c) Figures in columns 3, 6 and 7 include All-India Services.

(d) Overseas Pay, amounting to 8 lakhs, has not been distributed by classes; the amount of cut will be regulated by the class in which each officer drawing Overseas Pay is included.

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APPENDIX E.

This appendix contains a statement of all "Special Pays" and "Allowances" as communicated to the Retrenchment Committee. The list of allowances, both voted and non-voted, in the Medical Department was not received in time for the Committee to make any recommendations. Elsewhere the Committee has made definite recommendations for each allowance, except where the information at its disposal was not sufficient for it to come to a conclusion. In these cases the entry "No recommendation" will be found. The Committee came to the following general conclusion regarding "Allowances" and "Special Pays":—

- (i) In the case of an officer holding charge of two posts he should draw the Dual charge allowance. the fixed pay of that post), whatever his substantive pay, provided that for periods of less than one month he should not be entitled to anything beyond the pay of his substantive appointment.
- (ii) Special allowances, compensatory allowances, special pay, etc., should, as a general rule, disappear, but where in exceptional circumstances the duties and responsibility of a particular post are held to justify the holder of this post receiving higher remuneration than the ordinary time-scale, the Committee think that it would be better, when such a course is feasible, to fix consolidated pay for the post and that any one acting in that post should draw the consolidated pay.
- (iii) Officers put on special duty for short periods and other officers holding tem-Relaxation of Travelling Allowance porary posts have previously been given Rules in favour of Officers on compensatory allowances. In future Special Duty. such compensatory allowance should be
 replaced by permission to draw the lower rate of halting allowance up to a maximum of 6 months. The Travelling Allowance Rules should, if necessary, be altered so as to make this possible.
 - (iv) Ordinarily, no one should draw any officiating allowance unless the period for which he officiates is more than fifteen days. When an officiating appointment of less than fifteen days involves a change of stations the officer should draw halting allowance for the whole period instead of officiating allowance.

xi∀

Designation of Serial No. Recommendation of the Government Classification. Amount. Committee. servant. FOREST DEPARTMENT. Rs. 1 Conservator 100 per Special pay Should be abolished. • • mensem. Assistant and Deputy 2 Conservators-(i) when serving as Working Plan Offi-100 per mensem. Working Ditto. cers. Plan Allowance.

List of Non-Voted Allowances peculiar to the various Departments of the Punjab Government.

. 8	Conservators and Chief Conservator.	900 per mensem.	Additional psy for hold- ing charge of two Circles.	Dealt with under "Dual Charge Allowances " above.
4	Assistant and Deputy Conservators.	100 per mensem.	Addition al pay for hold- ing charge of two Divisions.	Ditto.

50 per

(ii) when serving as

Plan Officers.

Assistant Working | mensem.

LAND REVENUE DEPARTMENT.

	1 r	Rs.	1	[
1	Settlement Officers (I.C.S.).	150 per mensem.	Special pay	
2	Colonization Officer (Nili Bar Colony).	150 per mensem.	Ditto	
8	Colonization Officer (Pir Mahal and other areas).	150 per mensem.	Ditto	Should be abolished.
4	Assistant Colonization Officer (Nili Bar Colony).	100 per mensem.	Ditto	
		-		

XV

	•	.			
Serial No.	Designation of Government servant.	Amount.	Classification.	- Recommendation of the Committee.	
	PUBLIC WORKS I AND I	EPART RRIGA	MENT, BUI FION BRAS	LDINGS AND ROADS NCHES.	
		Rs.			
ĺ	Secretaries to Gov- ernment, Punjab.	250 per mensem	Special pay	As for other Secretaries and Under-Secretaries to Govern-	
2	Under-Secretaries	200 per mensem.	Ditto	ment.	
9	Officer on Special Duty (Executive Engineer), Haveli Project, Irrigation Department.	200 per mensem.	Ditto	Dealt with under "Relaxation of T. A. Rules "above.	
4	Executive Engineers, Irrigation Department.	100 per mensem.	Jungle al- Jowance	No recommendation.	
	Sub-Divisional Officers, Irrigation Department.	50 per mensem	(Compen-	Should be abolished.	
5	Executive Engineers Assistant Executive Engineers.	100 50	Language pay. Do.	} Ditto.	
	Dual Charge Allowance.				
6	For a Superintending Engineer holding current charge of a Second Circle in	400	Special pay.		
7	addition. For a Superintending Engineer holding current charge of a Division in addition to his Circle.	<u>800</u>	Ditto		
8	For a Divisional Officer holding current charge of a Circle in addition to his Division.	3 00	Ditto		
9	For a Divisional Officer holding current charge of two Divi- sions.	400	Ditto	Dealt with under "Dual Charge Allowance "above.	
10	For a Divisional Officer holding current charge of a Sub-Division in addition to his Divi- sion.	150	Ditto		
11	For a Sub-Divisional Officer holding current charge of a Division in addition to his Sub-Division.	100	Ditto		
12	For a Sub-Divisional Officer holding current charge of two Sub-Divisions.	150	Ditto -		

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Serial No.	Government servant.	Amount.	Classification.	Recommendation of the Committee.
	GENE	RAL A	DMINISTRA	TION.
		Rs.		
.1	Secretaries to Govern- ment, Panjab.	250 per mensem.	Special pay	Should be retained.
2	Under-Secretaries to Government, Punjab.	200 per mensem.	Ditto	Should be reduced to Rs. 15 per mensem.
8	Deputy Commissioner, - Lahore.	150	Ditto	
4	Two Secretaries, Fin- ancial_Commissioners.	150 per mensem.	Ditto	Should be retained.
5	Two Indian Civil Ser- vice Officers.	50 per mensem.	Language Pay	Should be abolished.
6	Deputy Commissioner, Rawalpindi.	150	Compensatory allowance.	Ditto.
7	Sub-Divisional Officer, Kasur.	200—50— 300.	Sub-Divisional allowance Special Pay.	The salary of Sub-Divisiona Officer, Kasur, should be the minimum pay of an I.C.S Deputy Commissioner, i.e. Rs. 1,000, and the special pay should be abolished.
8	Sub-Divisional Officer, Kulu.	100	Ditto	
9	Sub-Divisional Officer, Rajanpur.	75	Ditto	Should be abolished.
10	Sub-Divisional Officers not mentioned above other than Sub-Divi- sional Officers, Murree and Dalhousie.	50	Sub-Division- al allowance Special pay.	
11	Political Assistant and Commandant, Border Military Police, Dera Ghazi Khan.	100	Special pay	Ditto.
•	JAILS A	ND CO	NVICT SETT	TLEMENT.

		Rs.		
1	Allowances to Medical Officers (I.M.S.).	100 per mensem.	Jail allowance to Medical Officers.	
2	Deputy Inspector- General of Prisons.	100	Compensatory allowance.	No recommendation.
		150	Jail allowance.	
		150	Special pay	

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Serial No.	Designation of Government servant.	Amount.	Classification.	. Recommendation of the Committee.
	P	OLICE	DEPARTME	INT.
		Rs.		
1	Personal Assistant to Inspector-General	200 per mensem.	Special pay	
2	of Police. Assistant Inspector- General, Government Railway Police.	200	Ditto	No recommendation.
8	Superintendent of Police, Rawalpindi.	150	Compensatory allowance.	Should be abolished.
4	Assistant Superintend- ent of Police, Rawal- pindi.	100	Ditto	Ditto.
5	Two Assistant Superin- tendents of Police, Lahore.	100	Ditto	They should get fixed pay of Rs. 600 per mensem.
6	Three Saperintendents	150	Special pay	1
7	of Police, C. I. D. Senior Superintendent	150	Ditto	> No recommendation.
6	of Police, Lahore. Principal, Police Training School, Phillaur.	100	Ditto	
9	Assistant Superintend- ent of Police, Dera Ghazi Khan.	100	Ditto	
10	Assistant Superin- tendent of Police, Railway Police.	100	Ditto	Should be abclished.
11	Assistant to the Inspec- tor-General of Police for the supervision and control of criminal tribes.	150	Special pay	No recommendation.
·	EDU	CATION	DEPARTM	1ENT.
1	Principals, Government Arts Colleges—			
	1	250	Special pay	Should be abolished.
	1 ••	100	Dii to	If this is given for the super- vision of Historical Records in the Secretariat, it should be
				shown as "Honorarium" in the Secretariat budget.
9	Principal, Training College, Lahore.	150	Ditto	Should be abolished.

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	AGRI	CULTU	RE DEPART	IMENT.
		Rs.		
1	Principal, Agricultural College.	150	Special pay	Should be abolished.
2	Superintendent, Law-	80 20	Governm e n t House Allow- ance.	
. 8	Director, Veterinary Services	250 per mensem. 100	Special pay Ditto Personal	Should be retained.
4	Principal, Veterinary { College.	150	Allowance. Special pay	
5	Live Stock Officer and Assistant to the Director, Veterinary Services (for breed- ing).	150 per mensem.	Ditto	Should be abolished.
6	Registrar, Co-oper- ative Societies.	150 per mensem.	Ditto	
7	Deputy Registrar, Co-operative So- cieties.	150	Ditto	

1	Regimental Medical Officer for performing civil medical duties,	100 per mensem.	Special pay.	
2	· Kasauk. Three regimental medi- cal officers for per- forming sivil medical duties at Lahore, Jul- lundur and Ambala.	30 per mensem. each.	Ditto.	
8	Medical Superinten- dent, Mayo Hospital, Lahore.	150 per mensem.	Ditto	For additional work and responsibility.
4	Medical Superinten- dent, Government Hospital for Women and Children, Lahore.	150 per mensem.	Ditto	Ditto ditto.
5	Principal, King Edward Medical College, Lahore.	250 per mensem.	Ditto	Drawn in addition to special pay shown under serial No. 6. For onerous duties which in- volve extra work for several
6	Nine Professors, King Edward Medical Col- lege, Lahore (includ- ing Principal).	250 per mensem.	Ditto.	hours a day which time if available for private consult- ing practice could be more lucratively employed.
7	Chemical Examiner to Government, Punjab.	250 per mensem.	- Ditto.	Addition of the project.
8	Medical Superinten- dent, Punjab Mental Hospital, Lahore.	250 per mensem.	Ditto.	

[•] The Committee did not examine allowances in the Medical Department (vide para, 166).

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Designation of Government servant. Amount. Classification. Recommendation Committee.	of the
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MEDICAL DEPARTMENT-continued.

i		Rs.		
9	Chemical Examiner to	150 per	Special pay	Drawn in addition to special
10	Government, Punjab. Principal, Medical,	mensem. 250 per	Ditto.	pay under serial No. 7 for work done for Excise Depart-
11 -	School, Amritsar. Principal, Medical School, Amritsar.	mensem. 150 per mensem.	Ditto	ment. Drawn in addition to special pay shown under serial No. 10 for performing duties of Prin- cipal in addition to those of Lecturer.
12	Civil Surgeon, Lahore	1,920 per annum.	Ditto	For delivering 60 lectures on Forensic Medicine and Toxi- cology to students of the King Edward Medical College, Lahore, at Rs. 32 per lecture.
18	Civil Surgeon, Amritsar	.1,600 per annum.	Ditto	For delivering lectures on Forensic Medicine and Toxi- logy to students of the Medical School, Amritsar, at Rs. 32 per lecture.
14	Civil Surgeon, Amritsar	1,600 per annum.	Ditto	For delivering 50 lectures to students of the Medical School, Amritsar, on Mid- wifery at Rs. 32 per lecture.
15	Medical Superinten- dent, Punjab Mental Hospital, Lahore.	960 per annum.	Ditto	For delivering 30 lectures on Mental Diseases to students of the King Edward Medical Col- lege, Lahore, at Rs. 32 per lecture.
16	Ditto ditto	320 per annum.	Ditto	For delivering 10 lectures on Mental Diseases to students of the Medical School, Amritsar, at Rs. 82 per lecture.
*17	Ditto ditto	200 per mensem.	Ditto	For performing the duties of Medical Officer for European Officers of the Superior Civil Services and their families stationed in Lahore.
*18	Ditto ditto	75 per mensem.	Conveyance allowance.	For maintenance of a motor-car for performing duties noted against serial No. 17.
† 19	Professor of Physiology, King Edward Medical College, Lahore.	150 • per mensem.	Compensatory allowance.	Allowance granted to compen- sate the officer for the loss of private practice from which he is debarred.
† 20	Professor of Anatomy, King Edward Medical College, Lahore.	150 per mensem.	Ditto	Allowance granted to compen- sate the officer for the loss of private practice from which he is debarred.

* These allowances are drawn by the Medical Superintendent, Punjab Mental Hospital, Lahore (when a European Officer of the Indian Medical Service) only when the Civil Surgeon, Lahore, is not a European Officer of the Indian Medical Service. At present these allowances are personal to Major C. J. Lodge-Patch, and the allowances may be drawn by any European Indian Medical Service Officer in Lahore whom the Local Government may appoint. They are in no sense attached to the post of Medical Superintendent, Punjab Mental Hospital, Lahore. The allowances have been sanctioned temporarily for a period of 2 years at mesent. present.

† These allowances are drawn in addition to the professorial allowances showr under serial No. 6.

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
<u></u>	DEP	ARTME	NT OF AGR	ICULTUR E.
		Rs.		
1	Superinten d e n t, Punjab Agricul- tural College Hostel, Lyallpur.	50	Special pay	Superintendents of boarding houses in educational institutions of all departments should be provided with free quarters only and should get no additional allowance. It is
-				assumed that in return for doing this work they are relieved of extra- mural activities. If no free quar- ters are attached to the boarding house, an allowance in lieu of rent should be admissible which should not be more than 10 per cent. of the Superintendent's salary.
2	Farm Managers, Gurdaspur and Lyallpur.	80	Ditto	
8	Farm Manager, Hansi.	20	Ditto	
4	Farm Managers, Sargodha and Montgomery.	15	Ditto	Should be abolished.
5	Sub-Assistant Sur- geon at Punjab Agricultural Col-	80	Compensatory allowance.	
6	lege, Lyallpur. Veterinary Lec- turer, Punjab Agricultural Col-		Special pay	k
7	lege, Lyallpur. Ditto	10	House rent	Should be retained.
8	Three Laboratory Attendants at the Punjab Agricul- tural College (Chemical, Botan	• -	Special pay	The special pay should be abolished and the scale of Rs. 20-1-30 might be allowed to run on to Rs. 30-85 as a selection grade.
. 9	cal and Entomo logical Sections) Personal Assistant to Director of Ag ri c ul tu re,	100 pe mensem	1	
10	Punjab. One Agricultura Assistant or Rs. 100-10- 200/10-300.	1		> No recommendation.
1 1		. mer	1	•
12		r, <mark>, 8</mark>) Ditto	Should be abolished.
18		la	Compens a tory allow ance.	

List of voted allowances peculiar to the various Departments of the Punjab Government.

	• •		XXII	an a she she was a she was a sa sa sa
Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committ
	DEPARTME	NT OF	AGRICULT	TURE-concluded.
	• •	Rs.		-
14-	Sub-A ss is tan t Surgeon, Hansi.	15	Compensatory allowance.	Should be abolished.
15	Punjab Agricul- tural Service, Class II officers holding posts reserved for All-	50		Should be retained.
16	India Service. Draftsman	50 per	Ditto	Should be abolished.
17	Mukaddams	mensem Up to Rs. 5 per men- sem.	Compensatory (House-rent allowance).	Should be called "House rent all ance."
18	Inferior and Menial Government ser- vants.	Re. 1 per mensem.	Compensatory allowance.	Should be abolished.
19	Clerks	Rs. 5 per mensem.	Ditto	
	1	,	ENCE GABDEN,	LAHORE.
İ	[Rs.	1	
20	Superintend e n t, Lawrence Gar- den, Lahore.	30	Special pay	See under " Non-voted ".
21	Ditto	20	Ditto)
	l T	і Летерт	I NARY DEP.	i A RTMENT
		Rs.		
1	Two Veterinary In spect or s attached to offices of Superin- tendents (North and South), Civil	25 each	Special pay	Should be abolished.
2	Vet e r i n a r y Department. Veterinary Assist-	10 (Subathu)	Compen sa- tory allow-	To be retained.
	ants Subathu and Kotgarh, Simla District.	(Subathu) 15 (Kotgarh)	ance.	
8	Two Veterinary Assistants at Govern m e n t Cattle Farm,	10	Ditto	
4	Hissar. Curator of the Veter in a ry	20	Special pay	Should be abolished.
5	College Museum. Assistant to the Professor of Hygiene, Punjab	20	Ditto .	
	Veterinary College.) · · ·

Serial No.	Designation of Government servant.	Amount.	Cladsification,	Recommendation of the Committee.
	VETE R	INARY	DEPARTM	ENT-concluded.
1	-	Rs.		i e e e e e e e e e e e e e e e e e e e
6	Superintende n t, Punjab Veteri- nary College Hostel.	5 [.])	Special pay	Assuming he gets free quarters, the Special pay should be abolished.
· 7	Head Clerk, Office of Princi- pal, Punjab Vete rinary College, Lahore.	25	Ditto	Should be abolished.
8	Veterinary Assist- ant, Kulu.	10	Winter allowance.	To be retained.
9	Bir Patwari at the Government Cattle Farm, Hissar.	5	Compensa- tory allow- ance.	Should be abolished.
10	Veterinary Assist- ant Surgeon, Incharge Veteri- nary Hospital, Simla. Reserve Veteri- nary Assistant Surgeon, Vete- rinary Hospi- tal, Simla, for seven months.	83 per- cent. of pay. 83 per cent. of pay	<pre>Ditto</pre>	
	 Compounder, Vete rin a ry Hospital, Simla. Menials attach- ed to Veteri- nary Hospital, Simla. Menial for six months for Simla Veterinary Hospital. 	10 5 each 5	<pre>Ditto</pre>	The allowances to remain, but the percentage to be re-examined.
11	l Assistant Super- intendent (Stock) and l Assistant Superintenden t (Fodder), at the Gover n m e n t Cattle Farm, Hissar.	50 each	Motor car allowance.	To be retained, but called "Fixed Conveyance Allowance".
12	Compounder at the Punjab Veterinary College, Lahore.	10	Compensa- tory allow- ance.	Should be abolished.

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
-	PUBLIC WO		PARTMEN ADS BRAN	T, BUILDINGS AND ICH.
		Rs.	•	
1	Assistant Princi- pal, Rasul School.	100	Special pay	
2	Lecturer in Sur- veying and Drawing, Resul School.	100	Ditto	
8	Lecturer in Rein- forced Concrete, Rasul School.	100	Ditto	
4	Practical Engineer- ing Instructor, Rasul School.	50	Ditto	
5	Senior Drawing Instructor, Rasul School.	50	Ditto	Some special pay may be necessary
6	Senior Surveying Instructor, Rasul School.	50	Dit'o	to attract officers of the regular engineering service to these posts. But the Committee would like the
7	Assistant Drawing Instructor, Rasul School.	- 25	Ditto	question to be examined whether these posts cannot be filled by special direct recruitment. This
8	Assistant Survey- ing Instructor, Rasul School.	40	Ditto	would obviate the naccessity for any allowances.
9	Workshop Over- seer, Rasul	50	Ditto	
10	School. Physical Training Instructor, Rasul School.	80	Ditto	
11	Turner Mistri, Rasul School.	10	Allo wan ce	
12	Arsistant Clerk, Rasul School.	80	Ditto	
18	Dispenser, Rasul School.	- 6	Ditto .	j
14	Assistant Profes- sor of Mathe- matics, Maclagan Engineering Col- lege, Moghal- pura.	50	Ditto	Assuming that they are provided with rent-free quarters the
15	Assistant Profes- sor of Applied Mechanics, Mao- lagan Engineer- ing College, Moghalpura.	50	Ditto	allowance should cease to be drawn.
16	Cashier, General Record-Keeper and Head Rou- tine Section, Buildings and Roads Branch Secretariat.	25 each	Special pay	Should be ubolished.

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	PUBLIC WO	RKS D ROADS	EPARTMEN BRANCH-(T, BUILDINGS AND
		Ŗs.		
17	42 Sub-Divisional Clerks as fol- lows : Under Elec- 2 trical En- gineer. IIV Circles 33 Public Health 7 Circle.	15 each	Allowance	Should be abolished.
	Total 42			
	,	EXCIS	E DEPART:	, MENT
)			
		Rs.	~	
1	Distillery Inspect- ors.	80 per mensem each.	Special pay	Lf it is considered absolutely neces
2.	Distillery Sub-In- spectors.	Rs. 20´µer mensem each.	Ditto	sary to have a special rate of pay for these officers, then these allow ances should be consolidated with pay.
8	Excise peons ser- ving at Lahore, Amritsar, Simla, Mianwali and Rawalpindi.	5 5 6 4 4	Compensatory allowance.	The allowance at Simla may continue but should stop at other places.
4 5	Excise Assistant to the Financial Commissione r s, Punjab.	150	Special pay	Should be reduced to Rs. 75 per mensem.
5	Deputy Super- intendent of Police, C. I. D.	75	Ditto	As for other C. I. D. allowances., g
6	Excise Inspector, Bureau.	50	Ditto	To be retained but to be reduced to Rs. 25 as stated by the Depart- ment.
7	Sub-Inspector, Police, C. I. D., Excise.	80 °	Ditto	
8	Foot Constable, C. I. D., Excise.	8	Ditto	
9	Sub-Inspector, Police, C. I. D, Excise.	18	House rent allowance.	As for other C. I. D. allowances.
10	Ditto	15	Conveyance allowance.	
11	Foot Constable	5	Compensatory allowance.	

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Serial No.	Designation of Government servant.	Amount	Classification.	Recommendation of the Committee.
4	EXCI	SE DEH	PARTMENT	CONCLUDED.
		Rs.		1
12	All Excise Officials serving at Murree, Kasauli and Dalhonsie.		Compensatory allowance.	The allowances to remain, but the percentages to be reconsidered.
		and in- feri o r Estab-		
		lishment, with a maximum of Rs. 50	•	
-		and mini- mum of Rs. 10 per men-		
	Dharamsala and Kulu Sub-Divi- sion.	sem. 12 1 per cent. of pay for	Ditto.	
	- S	botb with a maximum of 25		
		and mini- mum of 10 per mensem.		
	Simla ••	For su- perior Es- tabli sh- ment 30		-
		per cent. of the pay, and 33 1 per	•	
		cent. of pay for inferior.		
	DEPARTM	LENT O	г [.] ОО-ОРЕ1 	SATIVE SOCIETIES.
		Rs.		
1	Deputy Registrar, Co-operative Cre- dit Societies.		Special pay	
2			Ditto	Should be abolished.
	ם	EPART	MENT OF	FISHEBIES.
1	8 Sub-Inspectors of Fisheries.	Total	ch. Fish e r i Rs. Allowan per	

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Serial No.	Designation of Government servant.	Amount.	Classification	Recommendation of the Committee.
	DEPA	BTMENT	OF FISHER	LIES-CONCLUDED.
		Rs.		•
2	Inspector of Fisheries Punjab, at Dharmsala.	f 25 per mei , sem.	allowance.	
8	Head Clerk at Dharmsala.	; 16-4-0 pe mensem.	1	
4	Dharmsala.	sem.		
5	Stenographer at Dharmsala.		Ditto Ditto	
·	Fourth Clerk at Dharmsala.	Ditto -		
	LISHMENT.	Rs.		
7	Orderly at Dharmsala.	2-14-0 per mensem.	allowance.	
8	4 Peons at Dharmsala.	per menser		
9	House-rent to one Peon at Dharmsala.	each).	Ditto	Being hill allowances they should remain.
10	1 Keeper at Kulu	2-2-0 per mensem.	, Ditto	
11	1 Peon at Kulu	mensem.		
12	2 Watchers at Kulu.	8-4-0 per mensem (Rs. 1-10-0 each).	L	
18	1 Chaukidar at Dharmsala.	1-10-0 per mensem.		
14	1 Sweeper at Dharmsala.	Ditto	Ditto	
15	House-rent to Chaukidar at Dharmsala.	1 per men- sem.	Ditto) J
16	1 Peon at Lahore	Ditto	Local allow-	
17	1 Peon at Ra- walpindi.	Ditto 2 per men-		 >Should be abolished.
18	2 Chaukidars at Rawalpindi.	sem (Re. 1 each).	Ditto	
,	LA		NUE DEPÁI	RTMENT.
1	Provincial Service Officers holding	Rs. 150 8	pecial pay.	• .
	the posts of Settlement			· · · · ·
. 4	Officers, graded with Deputy		- }s	hould be abolished.
2	Commissioners. Director of I and Records.		ocal allow-	-

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	LAND RE	VENUE	DEPARTM	IENT - CONCLUDED.
8	Extra Assistant Settle m e n t Officers.	100	Special pay	
4	Extra Assistant Coloniz a t i o n Officer, Nili Bar.	100	Ditto	
5	Settlement Head Clerks.	90 and Rs. 40 in the	Ditto	
	•	propor- tion of 2 at Rs. 30 and 1		Should be abolished.
6	Settlement Nazirs	at Rs. 40. 7-8-0	Ditto	
		and Rs. 15 in the propor- tion of 1 to 1.		
7	Cantonment Clerk at Jatogh, in Simla district.	2	Ditto	J
8	Patwari of Dagshai and Sabathu Can- tonments in the		Compensatory allowance.	To be retained.
9	Simla district. Patwaris in the Rawalpindi dis- trict.	29 at 2 2 at 1	Ditto	Should be abolished.
10	4 Patwaris in Mianwali.	5	Special pay.	
11	Second Clerk, Settlement Officer's Office, Lyallpur.	5	Ditto	Should be abolished.
12	Settlement Kanungos.	5 &t 10	Settleme n t and Office allowance.	disappear and should be replaced
18	Settlement Pat- waris.	2	Settleme n t allowance.	pay.
	DI	EPARTM	ENT OF IN	DUSTRIES.
	Government T	echnical Sc	hool and Scho	ol for the Blind, Lahore.
1	ernment Techni	-		To be retained.
5	cal School Labore. Head Clerk, Gov ernment Technical School	- 20	Ditto	Should be abolished.
8	Lahore. Headmaster, Scho for the Blind Lahore.		Duty allow ance.	To be consolidated with pay, if necessary.

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Berial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	DEPARTN	IENT O	F INDUST	RIES-concluded.
				School, Lahore.
		ı Rs.	I	1
4	Lady Superintend- ent, Government Zenans Industrial School, Lahore.	15	Conveyance allowance.	To be retained and called " House- rent allowance."
			+	nstitutes in the Punjab.
5	Staff of the Gov- ernment Indus- trial School, Kulu.			To be retained.
•12	per cent. of pay subject t	o a maximun	n of Rs. 25 and a m	inimum of Rs. 10, Inferior Esta lishment 12;
1	per cent. of the pay.			•
6	Superintendents of boarding houses attached to Gov- ernment Indus- trial Schools and Institutes- When the number of boarders is less		Special pay	As for other Superintendents.
	than 50	10		· •
	From 50 to 90	20		
:	Over 90	' 30	·	
	PUBLIC WORE	KS DEP.	ARTMENT,	IRRIGATION BRANCH.
	1	j Rs.		L
1	Cashier, General Record-keeper, Head of Routine Section and 3 Head Record- keepers of the Irrigation Sec- retariat.	50 re d uc- ed to Rs. 25 in the case of futur e incum-	Special pay	Should be abolished.
2	Circle 2nd Clerks	bents. 20	Ditto	Should be abolished.
4	and Divisional Head Clerk, Central Work- shors Division, Amritsar.	۷	2100	
8	Sub-Divisi o n a l Clerks.	15	Ditto	
4	As:istant Surgeon Incharge of Canal Dispensary at Merala.	50	Compensatory allowance.	
5	Assistant Surgeon Incharge of Cana Dispensary at Rasul.	75	Ditto	> No recommendation.
6	Sub-Assi s t a n t Surgeons in charge of Canal Dispensaries.	15	Special pay or compen- satory al- lowance.	Should be abolished.
7	Gauge Readers, Irrigation Branch.		Special pay Ditto	

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Serial No.	Designation of Gov- ernment servant.	Amount.	Classification.	Recommendation of the Committee
PU	BLIC WORKS		CONCLUDED.	REIGATION BRANCH-
		Rs.		
			~ •	_
8	Gauge Readers, irrigation Branch.	1	Special pay.	
9	Canal Signallers	Not ex-	Ditto	Special pay to be consolidated wit
		ceeding Rs. 2-8-0.		pay.
10	Gauge Readers at Riasi, Aashmir	8	Compensatory allowance.	J
	District.			
11	District Board Gauge Reader at	2	Special pay	Ditto.
	the Kanshela			
	Regulator, West- ern Jumns		-	
	Canal.		-	
10	m) h	0	D:44-	
12	Telegraph peon at Renala Khurd.	2	Ditto	
18	Telegraph peon	· 1	Ditto	
14	at Okara. Chaukidar at	1	Ditto	Should be abolished.
	Yusafwala.			
		יסיאאזא	L ADMINIST	ͻ Β ΔͲΪΩΝ
) Rs.	1 20111101). Thattat
	•			
1	Sub-Divisional	50	Special pay	
	Officers at Fazil- ka, Sirsa, Pakpat-	1		
	tan, Alipur,	1		
	Khanewal, Moga, Sonepat, Palwal,			
	Khushab, Leish,			Should be abolished.
•	Rupar, Kaithal,][
	Bhakkar, Pindi- gheb and Pind			
_	Dadan Khan (15)	•]		
2	Sub-Divisional Officer, Rajanpur		Ditto	
8	Sub-Divisi o n a l		Ditto	J · · ·
4	Officer, Kulu. Sub-Divisi o u a l	200-50	Ditto	Already dealt with under "Non
-	Officer, Kasur.	-800		voted " allowances.
5		200	Special pay	Should be reduced to Rs. 150 p. m.
	the Peputy Commissioner,	100	Compensa-:	Should be reduced to Rs. 75 p. m.
	Lahore.	1 100	tory (con-	
			veyance)	
6	Extra Assistant	50	allowance.	To be retained.
2	Commission e r s	1	allowance.	
7	at Simla. Extra Assistant	10 per	Ditto	Should be abolished.
•	Commissi o n e r	cent. of		
	at Murree.	pay.		

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Berial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	GENERA	L ADM	INISTRAT	IONcontinued.
8	City Magistrate, Lahore.	Rs. 75 25	Special pay	To be retained.
			tory (con- veyan c e) allowance.	TO DE LECENTRED.
·9	Clerk of Court to Financial Com-	50	Special pay	
10	missioners. Excise Superin- tendent.	110	Personal pay	
11	Waterlog g i n g Assistant to the Financial Com- missioners, Punj- ab.	100	Special pay	Should be abolished.
12	Reader to the above.	20	Ditto	
18	Assistant Secretary to Financial Com- missioners.	Subject to a com- bined	• Ditto	
		maximum of Rs.600.	- :	
14	Examiner, Local Fund Accounts.	150	••	To be retained.
15	N a i b-Tahsildar, Dalhousie.	30	Compensatory allowance.	Should be abolished.
16	N a i b-Tahsildar, Simla.	80 per cent. of pay.	Local allow- ance.	
17	N a i b-Tahsildar, Kotkhai.	15 per men- sem.	Ditto	
18	Tahsildar, Kulu	20 per mensem for five months.	1	Being hill allowances they should remain.
19	Naib-Tahsildars Kulu and Seraj.	15 per mensem each.	Com pens a-	
20	N a ib-Tahsildar, Dalhousie.	20 per cent. of	Ditto	.
21	N ai b-Tahsildar, Murree.	pay. Ditto	Ditto	
22	Permanent Tah- sildars employed in settlements,	30 per men- sem.	Special pay	
	colonies or rect- angulation works.			
28	Permanent Naib- Tahsildars em- ployed in settle- ments, colonies • or rectangulation works.	20 per mensem,	Ditto	Should be abolished.
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			XXXII	
Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	GENERA	L ADM	INISTRATI	ON-concluded.
		Rs.		
24	12 Assistants in the Punjab Civil Secretariat.	10 each	Special pay	No case in the Committee's opinion better illustrates how agitation for allowances is created by the more fact that the principle of granting them exists. The Committee refuses to believe that any degree of re- sponsibility can be compensated by Rs. 10 a month. If these men are under-paid, that matter can be enquired into, but it is no function of this Committee to consider salaries from that point of view. From the retrenchment point of view these allowances are not justified and should go.
25	4 Senior clerks in the Punjab Civil Secretariat.	20—10 50	Ditto .	Should be abolished.
26	8 Senior clerks	2010 50	Personal pay	Ditto.
27	Resident Clerk	20	Special pay	To be retained.
28	ants to Hon'ble Members and Ministers. 1 Stenographer to His Excellency the Governor.	75-15-90— 15-165- 10-175.	Ditto	The special pay should stop and these men should draw a fixed pay of Rs. 300 p. m. Has already been decided along with the question of pay of future entrants.
	1 Personal Assist- ant to the Chief Secretary to Gover n m e n t, Punjab.			
29	Private Secretary's		Personal pay	1
80	Office Clerks. Superintendent, Private Secretary's Office.	10. 25	Special pay	Should be abolished.
	ı	POLIC	E DEPART	MENT.
	1.	Rs.	· · · · · ·	1
1	4 Deputy Superin- tendents of the		Special pay	
2	Railway Police. 7 Railway Police	25	Ditto	All Railway Police allowances as suc should be abolished. If an
8	Inspectors. 21 Sergeants serv- ing in the Rail-	15	Ditto	allowances are given to the ordinary police ranks, then the Rail way Police might also get them.
	way Police.	1	1	

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee
•	POLIC	E DEP	ARTMENT-	-CONTINUED.
5 .	95 Head Constables of the Railway	6	Special pay	
6	Police. 200 Constables of the Railway Police.	3	Ditto	All Railway Police allowances s such should be abolished. If an allowances are given to the ord nary police ranks, then the Rai
7	All Constables of the Railway Police.	Re. 1 each.	Compensatory allowance.	
8	All Deputy Super- intendents of C. I. D.	75		
	9 Inspectors of C. I. D. 19 Sub-Inspectors	50 30	Special	
	of C. I. D. 36 Head Constables of C. I. D.		pay.	
. 9	58 Constables of C. I. D. 22 Sub-Inspectors	8 15		> To be retained.
	of the Finger Print Bureau. 1 Inspector of the Finger Print			
10	Bureau. 4 Urdu Shorthand writers of the Cri minal Investiga-		Ditto	
11	tion Department. All Prosecuting Deputy Super- intendents.	75		
	All Prosecuting Inspectors. All Prosecuting	50 80	Ditto	This should be treated as separate cadre on a consolidat scale of pay.
12	Sub-Inspectors. 7 Cantonment In- spectors at Am- bala, Jullundur, Lahore, Sialkot, Ferozepore, Mul- tan and Rawal-	25		
	pindi. 5 Reserve Inspect- ors at Ambala, Amritsar, Lahore	J	} Ditto	
18	Multan and Ra- walpindi. 7 City Inspectors at Lahore, Anar- kali, Naulakha Civil Lines, Am- ritsar, Rawal-	25	Ditto	To be retained.
14	pindi, Multan. 17 Sergeants serv- ing in the Dis	15	Ditto	
15	trict Police. 1 Confidential In- spector at Labore.) Ditto	Should be abolished.

Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
·····	POLI			-CONTINUED.
16	1 Head-quarter Inspector at	Rs. 25	Special pay	Should be abolished.
17	Amritsar. All Constables and Head Con- stables stationed at the Head- quarters of Am-	5	Compen- satory al- lowance.	
18	ritsar and Lahore. All Constables and Head Constables of C. 1. D. at Lahore.	. 5	Ditto	> Ditto.
19	The clerical staff of all English offices of Super- intendents of Police, the Police Training School, Phillaur, and the Finger Print		· ·	
	Bureau Head Clerk Pay Officer Assistant Clerk Typist Assistant Pay Officer. Bill Clerk Head Proficient, Finger	80 2 20 10 10 10	Special pay	To be retained .
	Prints. Special armed guard at Makhad in the Campbell- pur District	10 4	Local allow- ance.	
20	stables. 8 Constables Head Constables and Constables of the Mianwali District serving trans-Indus- Fead Constables	3	Special pay	Should be abolished.
21	Constables Head Constables and Constables of the Dera Ghazi Khan district serving trans-Indus :	4		
2 1(a)	Head Con- stables. Constables Sub-Inspector attached to His Excellency the Governor's Guard.	5 4 2	Compensatory allowance. Ditto	Should be abolished. To be retained.

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	POLI	CE DEI	ARTMENT	-CONTINUED.
	1	Rs.		1
22	 Staff of the Police Training School, Phillaur— 1 Reserve In- spector. 5 Ins p e c t o r s (Law Instruc- tors). 4 Sub-Inspectors (Law Instructors) 	40 50 30	Special pay	To be retained.
28	1 Inspector to control traffic on the Rawalpindi- Murree Road. 1 Sergeant to con- trol traffic on the Rawalpindi-	80	Ditto	
24	Murree Road. Probationers of Police undergoing instruction' at Training School.	25	House-re n t allowance-	These allowances have already dis appeared or will disappear very shortly.
25	Probationary Deputy Superin- tendents of Police while at a Police Training School.	To be fix- ed by the local Govern- ment, but not exceed- ing Rs. 25.		
26	 6 Head Constables and 87 Constables of the Simla district attached to His Excellency the Viceroy's Guard at Viceregal Lodge, Simla. 1 Sub-Inspe c t o r attached to His Excellency the Viceroy's Guard. 	mensem each, 5 per	Compen- satory allowance.	To be retained.
27	 185 Head Constables and Constables employed on traffic duty at Lahore. 48 Head Constables and Constables employed on traffic duty at Rawalpindi. 	8	Special pay Ditto.	The Committee allows these allowance to stand under protest. Traffic dut should be made as quickly as possibl one of the regular duties of the head quarter police.

Serial No.	Designation of Government servant.	Amount.	Classification.	Récommendation of the Committee.
	POL	ICE DE	PARTMEN	T-continued.
		Re.	Į	
28	Inspector attached to His Excellency the Viceroy's Guard.		Special pay	To be retained.
29	Traffic Inspector, Lahore.	25	Ditto	To be retained if it is not in addition to the Rs. 25 allowances given to European Inspectors.
80	Traffic Inspector, Lahore.	50	Ŋ	
	Officers not below the rank of Sub- Inspector employ- ed at Lahore to assist the Traffic Inspector in	. 10	> Ditto	These allowances have already been abolished.
	testing applicants for driving licenses			abolisticu.
	Traffic Inspector or Sergeant at Rawalpindi.	50		
81	Police Staff em- ployed on Range Motor Mobile Patrols			Should be abolished.
	3 Inspectors 3 Sub-Inspectors 6 Foot Constables	30 20 3	} Ditto	
82	Inspector acting during summer as Cantonment Inspector at Dalhousie.	25	Ditto	To be retained.
\$ 3	City Inspector at Multan.	25] [
	Cantonment In- spector at Mul- tan.	25	Ditto	Cantonment allowance to be retained if Sergeant is European. Otherwise both should be abolished.
84	Staff employed as Police Signallers in the Attock and Mianwali districts—			
	Head Constables Foot Constables	5 8	} Ditto	> To be retained.
85	Armourers (Con- stables) in Dis- tricts and Rail-	20	} Ditto	
	way Police Lines. Assistant Armourers ditto.	10	J	

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Serial No.	Designation of Government servant.	Amount.	Classification,	Recommendation of the Committee
	P <b>O</b>	LICE D	EPARTMEN	NT-continued.
	l	Rs.	,  .	1
96 <b>、</b>	Head Clerks of the offices of the Range Deputy Inspectors-Gene- ral of Police and the Assistant Inspector-Gene- ral, Government Railway Police.	30	Spocial pay	Should be abolished.
87	Deputy Superin- tendents of Police in charge, Labore Headquarters.	50	Compensa- tory allow- ance.	Dit <b>to.</b>
	Police Staff em- ployed in the Simla district, including the staff deputed from other dis- tricts in the Punjab, from Delhi and Rail- way Police for duty during the summer season- Inspector Sub-Inspector Assistant Sub- Inspector. Head Constable Constable	75 50 80 15 10 6	Ditto.	
89	Police Staff em- ployed perma- nently or tem- porarily at Murree, Kasauli and Dalhousie Hill Stations— Inspector Sergeant Sub-Inspector Head Constable Constable	45 85 25 8 5	Ditto	To be retained.
<b>40</b>	Police Staff em- ployed perma- nently or tem- porarily at Kulu and Dharamsala Hill Stations- Inspector Sergeant Sub-Inspector Head Constable Foot Constable	25 20 15 7 8	- Ditto	

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-	Şerial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
		POL		PARTMENT	CONTINUED.
	<b>4</b> 1	Police Staff em- ployed at Kotli Police Station and Karor Police Post in the Rawalpindi dis-	Rs.		
		trict— Sub-Inspector Head Constable Foot Constable	25 8 5	Compensa- tory allow- ance.	To be retained.
	42	Sergeants em- ployed during summer on traffic control duty on the Dalhousie- Pathankot Road with headquar- ters at Dunera.	25	Ditto	
	43	Sub-Insp e c t o r Incharge, Murree Police Station.	30	Ditto	<u>}</u>
	44	Head Constables and Constables stationed at the headquarters of Rawalpindi.	4	Ditto	Should be abolished.
	45	Police Staff posted at Balun, Dunera and Chakki in the Gurdaspur district to control traffic on the D a l h o u s i e- Pathankot Road during sum- mer: Head Con- stables. Foot Con- stables.		} Ditto	
	<b>4</b> 6	Railway Police Post at Jogindar Nagar 1 Head Con- stable. 3 Foot Con- stables.	7 8	} Ditto	> Being hill allowances to be retained.
	47	Constables employ- ed as Urdu Typists in the offices of Super- intondents of Police.	7	Ditto	

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	POL	ICE DE	PARTMENT-	-CONCLUDED.
	1	$\mathbf{Rs.}$	<b>x</b>	1
48	Menials and inferior servants serving at Rawalpindi, Sargodha, Lyall- pur, Lahore and Amritsar on pay Rs. 20 and	2	Compensatory allowance.	Should be abolished.
	above. Ditto pay less than Rs. 20.	ι	Ditto	
49	Police Station Clerks who are required to main- tain registers of vital statistics.	1	••	To be retained.
		SI	PECIAL POLI	DE.
			BALUOH LEVY.	
50	School Master, Baluch Levy Educational Class at beadquarters.	Rs. 3	Special pay	To be retained.
	PITR	LICHE		PARTMENT.
ļ	1	DIU HE Rs.		
1	Superintende n t, Punjab Vaccine Institute.	150	Special pay	Should be abolished.
2	Ditto	30 per men- sem for 5 mon- ths in e a c h year.	Ditto	Should cease as "special pay". It is obviously an "Honorarium".
8	Assistant Direct- or of Public Health, Assistant Sanitary Engin- cer and Medical Officer of Health, Lahore.	400 each a year.		Ditto ditto.
4	Assistant Direct- or of Public Health, Assistant Sanitary Engin- eer, and Medical Officer of Health, Lahore.	250 each a year	•••	To be retained.

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	PUBLIC H	EALTH	DEPARTM	ENT-'concluded.
	1	Rs.	•	
5	Vaccinator, Dera Ghazi Khan.	3 per men- sem.	Compensatory allowance.	Should be abolished.
6	Head Vaccinators —Special Vacci- nation Staff.	15	Special pay	Ditto.
7	Two Vaccinators	. 8	Ditto	To be abolished.
8	Two Assistant Vaccinators.	8 permen- sem each for 7		
9	Veterinary Assist- ant at Lahore.	montbs. 20 per mensem for 7 months.	Ditto	To be reduced to Rs. 10 per menser
10	Veterinary Assist- ant, Murree.		Ditto	To be reduced to Rs. 5 per menser
1	Two Laboratory Assistants at- tached to the Malaria Bureau.	8 per mensem each.		To be retained.
. 12	Chaukidar and sweeper of the Malaria Bureau.	2 pe <b>r men</b> - səm əach,		
13	Duftries (5) in the offices of Director of Pub- lic Health and Assistant Direct- or of Public Health.	2 per mensem each.	Compensatory allowance.	Should be abolished.
14	Epidemiologist to Gover n m e n t, Punjab. Superintend e n t, Public Health Equipment Depot	100 per men- sem. 25 per men- sem.	Compensatory	Should be abolished.
` 16	Jullundur City. Assistant Director of Public Health Superintending Engineer, Public Health Circle, and Medical Officer of Health, Lahore.	each.	Honorarium	J To be retained.

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DEFIBILING.	Designation of the Government servant.	Grade pay of the Government ser- vant for receipt of the allowance.		Classification.	Recommendation of the Committee.
,		EDUCATION	DEI	PARTMI	ENT.
		•	Rs.		
	Superintendents of boarding houses attached to Gov- ernment Norma and High Schools and Central Model School, Lahore.	<b>Rs.</b> 35—3—50 55—3—70			
	less than 50 from 50 to 90 over 90	••	10 20 80	<pre>Special     pay.</pre>	
	Superintend e n t, Boarding House, Central Training College, Lahore.	Provincial Educa- tional Service scale Rs. 250— 25/500—25—600.	60	Ditto	This question has already been dealt with. They should
•	Superintendent of the boarding house attached to the Inter- mediate College at				have no special pay, but only free quarters.
	Lyallpur	2502550025 600.	80	Ditto	
	Superintendent of boarding house attached to Gov- ernment High School for Women—				
	Ambala	55 <b></b> 870	10	Special pay.	}
	Superintendent of boarding house, Junior : Anglo- Vernasular Class—			£	
	Lyallpur	1005135	15	Ditto	j
6	Cashier, Office of the Director of Public Instruc- tion.	75 <b>—5</b> —100/5—150	20	Ditto	Should be abolished.

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Serial No.	Designation of the Government servant.	Grade pay of the Government servant for receipt of the allowance.	Amount of allowance.	Classifica- tion.	Recommendation of the Committee.
	EDU	CATION DEPA	ART	MENT-	CONCLUDED
		Rs.	Rs.		
7	Persons employed locally for per- forming the clerical work of Normal Schools for girls at				١
	(1) Multan	100-6-160/8-200	10 each.	Special pay if	
	(2) Rawalpindi	40280/290		the work	
	(3) Jullundur	100 <b>—6</b> —160/8—200		is done by a Gov-	They should cease as "special pay" and should continue as
	(4) Ludhiana	Not known		ernment servant,	"Honorarium" and paid to persons actually doing this
8	vant who does	40—2—80/2—90 75—5—100/5—125	10	otherwise pay. Special pay.	work.
	the clerical work of the Hindu Widows Normal and Industrial				
9	School, Lahore. Assistant District Inspector of Schools at Mul- tan and Lahore.	-	10 each.	Compen- satory _ allowance.	
10	Head master, Central Model School, Lahore.	<b>6</b> 50 <b>308</b> 00	100	Special pay.	
11	Warder Establish- ment of the Reforma tory School, Delhi- Head Warders	25—1—85	5	Compen-	Charly be shell-hed
	Warders, 1st grade , 2nd ,,	21 20	}8	satory allowance.	Should be abolished.
12	,, 8rd ,, Physical Training Supervisors in Gover n m e n t Schools and Col- leges.	19 Teachers of— 55—8—70 80—4—100 110—5—135 140—10—190	8 or 15 each.	Special pay.	
18	Agricultural teach- ers in Govern- ment Schools.		up to 10 each	Special pay.	To be allowed if these teachers teach Agriculture in addition to their normal duties.
14	Teachers of adult elasses at Government High Schools at Bhera and Rajanpur.		6 each	Ditto	To be retained as "Honora- rium".

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee
		JAIL	S DEPARTN	MENT.
		Rs.		
1	P. C. S. Superin- tendents of Dis- trict Jails	100	Special pay	Should be abolished.
2	Non-Medical Superintendent other than P.C.S	150	Ditto	
9	Medical Officers of District Jails where P C. S. and non-Medical Superintendents are holding charge.		Ditto	>To be retained.
4	Medical Superin- tendent of Dis- trict Jails.	50 to 150.	Ditto	J
5	Ditto	60	Compen- satory allow- ance.	
6	Deputy Superin- tendents of all Jails.	40	Ditțo	10 per cent. of pay or Rs. 60, 40 and 80, whichever is less.
7	Assistant Superin- tendents of all Jails.	80	Ditto	
8	Medical Superinten dent, Shahpur Tubercular Jail.	- 50	Special pay.	Fo be retained.
9	Medical Officer, District Jail, Kasur.	50	Ditto	)
10	Sub-Assistant Surgeons of all Central and District Jails.	40	Ditto	
11	Sub-Assistant Surgeons of all Sub-Jails.	15	Ditto	Should be abolished.
12	All Senior Assis- tant Superinten- dents of Central Jails and Borstal Instit u tion, Lahore.	25	Ditto	Ditto
18	Deputy, Senior Assistant and Assistant Su- perintenden ts, Head Warders and Warders establish m e n t and elementary teachers at Borstal Institu- tion, Lahore.	20 per cent. of pay.	Ditto -	To be reduced to 10 per cent. o pay.

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Serial No.	Designation of Government servant.	Amount.	Classification.	Recommendation of the Committee.
	JAI	LS DEF	ARTMENT	-CONTINUED.
1	1	. ·	1	1
14	All Warders and Head Warders at the Female Jail in the Lahore		Compensatory allowance.	
15	(three Jails), both male and female, and Amritsar and Rawalpindi Jails. All Warders and Head Warders in all the three jails at Multan,	ritsar and Rs. 4 at Rawal- pindi. 2	Special pay	
16	Ambala and Lyallpur. All Warders and Head Warders	5	Ditto	Should be abolished
17	at Montgomery. Any clerk of Ins- pector-General of Prisons office or	15	Ditto	
18	another office. Camp clerk of Deputy Inspec- tor-General of	15	Ditto	
-19	Prisons, Punjab. Daftri of Inspector- General of Pris- ons office.	2	Compensatory allowance.	
20	All Head Warders and Warders at Dera Ghazi Khan and	Warders,	Trans-Indus allowance.	
21	Rajanpur. All Head Warders and Warders at Dharamsala.	7/-Head warders, 3/-War- dars.	Hill allw- ance.	To be continued.
22	Assistant Superin- tendent at Dharmsala.	15	Ditto	]
28	Accountants at Central Jails and Borstal Institute, Lahore, except Jails at Multan.		Compensatory allowance.	
24	Accounts clerk at Central Jails and Borstal Institute, Lahore, except		Ditto	
25	Jails at Multan. Store-keepers at Central Jails and Borstal Institute, Lahore, except		Ditto	Should be abolished
26	Jails at Multan. Head Warders and Warders trained as Mali.	5 to 2 per mensem.	Other allow- ances and honorarium.	

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			<b>XIV</b> IV .	
Serial No.	Designation of Government servant.	Amount.	Classification	Recommendation of the Committee.
	REC	LAMAT	TION DEPA	RTMEMT,
	•	Rs.		
1 ]	Probation Officer, į	<b>80</b> ]	Personal	Should be abolished.
2	Knewra. Assistant Surgeon,	25	Allowance. Special Pay	To be retained.
8	Khewra. Sub-Assistant Sur- geon, Burewala	80	Ditto	Should be abolished.
4	Farms. Sub-Assistant Sur- geon, Reforma-	15	Ditto	)
	tory School, Delhi,		-	To be retained.
5	Civil Surgeon, Delhi.	50	Ditto	J
		FORE	ST DEPAR	TMENT.
1 2	Camp Clerks to the Chief Conservator and S Conserva- tors of Forests. Subordinate staff employed on		Special `pay	Should be abolished.
	Patriata Rope- way- Deputy Ranger Deputy Ranger Forester Forest Guard	10 5 2-8-0 each	Special pay	To be reduced to the previous leve if the rates have been raised sinc 1911.
. <b>8</b>	All Guards em- ployed on follow- ing Irrigated Plantations : Miranpur, Arafwala, Dipalpur, Changa- Manga, Shahdara, Terah, Chicha- watni, Khanewal, Phalia.	2 per mensem each.	Compensa- tory allow- ances.	Should be abolished.
_	Daftri in the com- bined office of the Chief Con- servator and Con- servators. Forest subordinates	1	Compensa- tory al- lowance.	Ditto
Ð	not supplied with free quar- ters	4	House ren allowence	
6 7	Sub-Assistant Surgeon, Chunian Provincial Forest	15 100	Special pay Ditto	

Serial No.	Designation of the Government servant.	Amount of the allow- ance sano- tioned.	Classifica- tion.	Authority.	Recommendation of the Committee.					
	CRIMINAL TRIBES DEPARTMENT.									
1	Deputy Commis- sioner for Crimi- nal Tribes, Re- clamation Officer and In- spector-General	Rs. 250	Special pay	Punjab Govern- ment letter No. 11871-Judl., dated 6th April 1931.						
2	of Reformatory Schools, Punjab. General Assistant to the Deputy Commissioner for Criminal Tribes, Punjab.	50	Ditto	Mr. Craik's letter No. 65, dated 16th October 1916, addressed to the Secretary to Government of India and Punjab Govern- ment, No. 806-S Judl., dated 20th June 1925.	To be retained.					
8	Superintend e n t, Reform a t o r y. Sett l e m e n t, Amritsar.	100	Ditto	<ul> <li>(a) No. 19459- Judl., dated 18th April 1926.</li> <li>(b) No. 2888-</li> </ul>	Should be reduced to Rs. 50 per mensem.					
4	23 teachers em- ployed in Settle- ments.	5 each. Payable for ten months in a year.	Special pay for the n i g h t school.	Judl., dated 22nd January 1929. Punjab Govern- ment No. 22767- Judl., dated 20th October 1924, and No. 16755, dated 16th July 1925.	To be retained and					
5	9 teachers employ- ed in Criminal Tribes Settle- ments.	5 each.	Special pay for the Assistant Superin- tendent's work.	Punjab Govern- ment No. 8082- Judl., dated 9th March 1928, and No. 28918- Judl., dated 12th November 1927.	Ditto.					
6	Sub-Assistant Sur- geon, Reforma- tory Settlement, Amritsar.	40	Compen- satory Allowance	Punjab Govern- ment letter No. 1530-S-Judl., dated 25th June 1920.						
7	Sub-Assistaut Sur- geon, Moghal- pura.	40	Ditto	Ditto.	Should be abolished.					
8	Sub-Assistant Sur- geon, Chhanga Manga.	80	Ditto	Punjab Govern- ment letter No. 27511, dated 7th November 1921.						

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Serial No.	G	nation of the overnment servant.	Amount of the allow- ance sanc- tioned.	Classifica- tion.	Authority.	Recommendation of the Committee.
		CRIMI	NAL TR	IBES DE	PARTMENT-c	ONCLUDED.
	1	•	Rs.		-	
9	geo	-Assistant Sur- on, Gambar, Chak 53-5-L.	15	Compen- satory Allowance.	Punjab Govern- ment letter No. 9782, dated 19th March 1921.	
0		Assistant Sur- on, Lyallpur.	20	Ditto	Punjab Govern- ment letter No. 13891, dated 3rd May 1927.	
11	Su	-Assis t a n t rgeon, Chicha- tni.	15	Ditto	Punjab Govern- ment No. 28830, dated 14th November 1922.	Should be abolished.
12		-Assistant Sur- on, Kassowal.	15	Ditto	Punjab Govern- ment letter No. 11778, dated 4th April 1922.	
18	em pe ed	Dispensers ployed in Dis- nsaries attach- to Settle- ents.	5 each	Duty Allowance	Punjab Govern- ment No. 31636, dated 15th De- cember 1921.	
14		cer in charge, brah.	40	Horse Allowance.	Punjab Govern- ment No. 30818, dated 31st Octo- ber 1928.	Should be reduced to Rs. 20 per mensem.
				HIGH	COURT.	
	15	Naib-Nazir,	Dia	Rs.		
		trict Jud Court, Simle	ge's			e abolished.
	16 17	Seven Men High Court. Readers of			al pay	appear as "Compensatory
	71	High Court.		allow	ance. allowance "Conting	" and be debited to
	-	l .	1	LAW DEP	I ARTMENT.	
	`		· .	-	1	
	1		wala 1blic	100 Person	nal pay To be reta	ined.

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Serial No.	Designation of Govern- ment servant.	Amount.	Classification,	Beference.	Remarks.	

## MEDICAL DEPARTMENT*.

## ASSISTANT SURGEONS.

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1		r				I	
1	Assistant Surgeon, Sirsa	Rs. 5 per mensem	••	Special pay	Punjab No. 44, Jannary	Government dated 27th 1903.	For holding additional charge of Judicial Lock- up.
2	Assistant Surgeon, Sonepat	20 ,,	••	Ditto .	Panjab No. 278 16th Dec	Government 93-Jails, dated comber 1919.	Ditto.
8	Assistant Surgeon, Fazilka	10 +	••	Ditto	Panjab No. 365- Ist April	Government M. & S., dated 1912.	Ditto.
4	Assistant Surgeon, Moga	10 "		. Ditto	Punjab No. 88-M March 11	Government Iedl., dated 10th 916.	. Ditto. •
5	Assistant Surgeon, Bhakkar	15 ""	••	Ditto	Punjab No. 65 June 190	Government 0, dated 8th 10.	Ditto.
6	Assistant Surgeon, Rojhan	10 "	  ++" 	Ditto	Punjab No. 947 April 190	Government , dated 22nd )3.	, Ditto.
7	Assistant Surgeon, Chakwal	10 "	••	Ditto	Punjab No. 1896 July 192	Government -S., dated lst 1.	Ditto.
8	Lady Assistant Surgeon, Punjab Mental Hospital, 'Lahora.	50 "	1	Ditto	Punjab No. 2841 July 192	Government -S., dated 31st 6.	Arduous sature of guties.
9	Lady Assistant Surgeon, Government Hospital for Women and Children, Lahore.	50 "		Ditto.			
10	Assistant Surgeon, Rajan- pur.	20 "	••	;• Ditto		<b>.</b> . ·	For holding additional obarge of Judicial Lock- up.
11	Assistant Surgeon, Jaga- dhri.	20 ,,	••	Ditto		•••	j u <b>Ditto.</b>
13	Assistant Surgeon, Ali- pur,	10 #	••	Ditto		-	: Ditta.
13	Assistant Surgeon, Jogin- darnagar.	25 "	••	Ditto 💀		-	
14	Assistant Surgeon, Lyall- pur.	20 "	••	Ditto ⊷	-	-	
15	Assistant Surgeon, Khew-	60 ₁₂	·••	Local altowance		••	
16	Assistant Surgeon, Rasul	80 ,,	••	Conveyance allowan ces.		-	
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• The Committee did not examine allowances in the Medical Department (vide paragraph 166).

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-	1 2	3	4	5	6
Serial No.	Designation of Governmen servant.	t Amount.	Classification.	Reference.	Remarks.
	• •	SUB	ASSISTANT SURGEO	NS.	
		R.,	}	<b>1</b>	1
1	7 Sub-Assistant Surgeon, in charge of Jail and Police Hospital, Hissar.	10 per mensem	Compensatory allow- ance.	Punjab Government letter No. 4638-Medl., dated 2nd October 1922.	tenance of a bioycle,
18	8 Sub-Assistant Surgeon, attached to Ganda Singh- wala Weir Division, Canal Dispensary, Ferozepore.		Ditto	Punjab Government No. 21741, dated 7th Sep tember 1923.	For renting a house.
) <b>9</b>	Sub-Assistant Surgeon, Gugret (Hoshiarpur Dis- triot).	15 " …	Ditto	Punjab Government No. 2573 SMedl, dated 13th August 1924.	For loss of private practice.
20	Sub-Assistant Surgeon, attached to the Indian Private and Family Wards of the Mayo Hospital, Lahore.	rent paid subject	Ditto	Punjab Government No. 24632, dated 5th Nov- ember 1924.	Necessity to reside near the Hospital.
		Rs.			
21	Sub-Assistant Surgeon, Kaithal (Karnal Dis- triot).	10 per mensem	Special pay	Punjab Government No. 70-A B., dated 21st January 1904 (and ).	For holding additional charge of Judicial Lock- up.
22	Sub-Assistant Surgeon, His Excellency the Gov- ernor's Dispensary.	50 ,,	Ditto	Punjab Government No. 20833-Medl., dated 2nd July 1930.	Important and responsi- ble nature of the duties at Government Honse.
23	'ub-Assistant Surgeon, Lalgarh (Ders Ghazi Khan).	16 "	Compensatory allow- ance.	Punjab Government No. 438-M. & S., dated 2nd June 1910.	Isolation and expensive- ness of the locality.
24	Sub-Assistant Surgeon, Civil Dispensery, Lahore.	10 "	Ditto	Punjab Government No. 2608, dated 11th September 1913.	For having to keep a bioyclo.
25	Sub-Assistant Surgeon, Hansi.	15 "	Ditto	Punjab Government No. 12371, dated 10th June 1918.	For visiting the Agricul- tural Farm situated at a distance.
8	Sub-Assistant Surgeon, Khalra (Lahore).	10 . "	Special pay 🛌		For holding additional charge of Judicial Lock- up.
7	Sub-Assistant Surgeon, Kot Adu (Muzaffar- garh).	10 "	Ditto	•••	Ditto.
8	Sub-Assistant Surgeon, Khangarb (Musaffar- garb).	10 "	Ditto		Ditto.
•	Sub-Assistant Surgeon, Ripon Hospital, Simia.	10	Ditto 🛁		Ditto.
	Sub-Amistant Surgeon, Gambar (Montgomery).	15	Ditto.		:

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Serlal No.	Designation of Government servant.	Amount.	Classification.	- ·Reference.	Remarks.

#### SUB-ASSISTANT SURGEONS--CONOLUDED.

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31	Sub-Assistant Surgeon, Reformatory Farms, Burewala.	Rs. 30 per mensem		Special pay		
32	Sub-Assistant Surgeon, Anandpur (Hothiar- pur).	15 1,	••	Compensatory Allow-		
33	Sub-Assistant Surgeon, Waraha (Shahpur).	15 .,	••	Special pay.		
34	Sub-Assistant Surgeon, Shahdara.	15 ,,	•••	Conveyance Allow- ance.	- ,	-
35	Sub-Assistant Surgeon, Brot (Kangra).	30 "	-•	Ditto.	•	
86	Sub-Assistant Surgeon, employed on Canals.	30 ,,	each	Horse Allowance.	• •	
87	Sub-Assistant Surgeon, Serai Sidhu (Multan).	15 "	••	Compensatory Allow- ance (Canal).		

## OTHER OFFICERS.

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<b>3</b> 8	Officer-in-charge, X-Roy and Electrical Depart- ment, Mayo Hospital, Lahore.	16 per demonstration	Honorarium	Punjab Government No. 3726-8., dated 16th August 1927:	The work of lecturing to students is outside the scope of duties of the officer.
89	The Medinal Officer of Health Amritaar.	32 per lecture 'r clinic for de- livering lectures and demonstra- tions in Hygiene to students of the Medical School, Amritsar.	Compensatory al- lowance.	Punjab Government No. 3105-S., dated 9th August 1926.	For performing addition al duties.
<b>4</b> 0	Dispensers admitted ⁻ to the Medical School, Amritzar.	15 per mensem	'Ditto ,	Punjab Government No. 8611, dated 19th' March 1926.	For subsistence.
41	Dispensor, Mashobra Dis- pensary,	5 per mensem (For seven months each year.)	Ditto	Punjab Government No. 2604-S., dated 13th August 1923.	Expensivences of the locality.
42	Laundry Manager, Mayo Hospital, Lahore.	50 per mensem	Special pay	Punjab Government [*] No. 3044, dated 29th Ootober 1928.	For holding additional charge of the Cold Storage Plant at Mayo Hospital, Lahore.
43	Engine Driver, Mayo Hospital, Labore.	40 "	Ditto	Ditto.	
44	Anzsthetists, Mayo Hos- pital, Lahore.	30 ,, each	Ditto.	. 	· · ·
45	Storekceper, Mayo Hos- pital, Lahore.	5 ,, ~	Ditto.		· · · ·

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Serial No.	Designation of Government servant.	Amount.	Classification.	References.	Remarks.

# Local Allowances.

MILITARY ASSISTANT SURGEONS.

	1				
1	Military Assistant Surgeon in charge of dispensary at Mashobra.	Rs 200 per men- sem for 7 months in the summer season.	Compensatory allow- ance.	Punjab Government No. 11751-2 (Medl.), dated 14th April 1920.	For the high cost of living at this place and loss of private practice, of which there is practi- cally none.
2	Military Assistant Sur- geon at Kulu.	Local allowance Rs. 40 per mensem, District Board al- lowance Rs. 20 per mensem,	Ditto	Punjab Government letter No. 60, dated 17th January 1923.	For the high cost of living in Kulu and dearth of private prac- tice.
		CIV	IL ASSISTANT SUR	GEONS.	
3	Assistant Surgeons under- going post-graduate course.	Rs. 50 per men- sem for a period not exceeding 3 months.	Compensatory allow- ance.	Punjab Government Memo No. 21251 (Medl.), dated 14th August 1922.	To compensate for the cost of living in Lahore and for foregoing other allowar.ces.
4	Assistant Surgeon at Rojhan.	Rs. 37-8-0 per men-	Ditto	Ditto	Ditto.
5	Assistant Surgeon at Isa Khel.	Rs. 25 per mensem	, Ditto	Ditto	Ditto.
6	Assistant Surgeon at Fort Munro.	Rs. 50 per mensem during the summer months.	Ditto	Punjab Government letter No. 521 (M. & S.), dated 1st June 1908.	In consideration of the expensiveness of the place and the little scope for private prac- tice.
7	Sub-Assistant Surgeons serving at Kot Khai (Simla).	Rs. 10 per mensem each.	Ditto	Punjab Government letter No. 403 (M. & S.), date l 18th April 1905.	To conpensate to some extent for the loss of social amenities and dearth of private practice.
8	Sub-Assistant Surgeons at Banjar (Kangra).	Rs. 15 per mensem each.	Ditto	Puniab Government letter No. 444 (M. & S.), dated 5th' August 1913. Punjab Government letter No. 473, dated 5th June 1914.	loss of social amenities and dearth of private practice.
9	Sub-Assistant Surgeons at— 1. Kotgarh (Simla). *2. Sakesar (Shahpur). *For summer months only.	esch.	Ditto	Punjab Govornment letter No. 3582 (Medi.), deted 3rd February 1921.	Ditto.
10	Dispensers attached to Fort Munro and Baluch Levy Hospitals.	Rs. 5 per mensem each,	Ditto	Punjab Government letter No. 941 (M. & S.), dated Ist December 1908.	

# **Educational Allowances.**

ASSISTANT SURGEONS.

11	Assistant Surgeon in Medical charge of the Boarding Houses attached to the Govern-	Rs. 50	••	Compensatory Allow- ance.	Punjab Government No. 172-9-2, dated 14th August 1916.	For loss of private prac- tice from which he is debarred.
	ment and Central Colleges and other Government institutions at Lahore.	Rs. 30	en .	Ditto	Punjab Government Resolution No. 28798, dated 15th December 1920.	For keeping a convey- ance.
12	Assistant Surgeon in charge of Casal Dispensary at Rasul.		per reason	Special pay	Punjab Government, Public Works Depart- ment, Buildings and Ruads, No. 511-E. I., dated 11th September 1912.	(Inspector-General of

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<u>*</u>	·····	<u></u>	1	1	· · · · · · · · · · · · · · · · · · ·
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Serial No.	Designation of Government servant.	Amount.	Classification	Reference.	Remarks.
		Education	al Allowances-	-concluded.	
13	Two Dispensers attached to the Lawrence School, Ghoragali.	Rs. 5 per mensem each.	DISPENSERS. Special pay	• • •	For unpopularity of the appointments and to obviate frequent changes of dispensers, which are detrimental to the efficient working of a hospital.
I	ł	Jail	Allowances.		
		•	ASSISTANT SURGE	ONS.	
14	Assistant Surgeons holding collateral or part-time charge of a jail or sub- jail.	Rs. 15 per mensem	Special pay	Punjab Gevennment letter No. 14762 (H	For additional duties performed by them.
15	Assistant Surgeon in charge of Camp Jail, Khewra.	Rs. 25 per mensem	Ditto	Punjab Government endorsement No. 17712. (H.—Jails), dated 22nd September 1917.	For holding the addition- al charge of the Camp Joil at Khewra.
	I I			-	
16			SISTANT SURGEON	S.	
	attached to jails : For whole-time duty	Rs. 40 per mensem	Compensatory allow- ance.	Punjab Government letter No. 4276 (Jails), dated 10th February 1920.	To compensate for the following disadvan tages :
	For collateral or part time of a jail or sub-jail.	Rs. 15 per mensem	Ditto		(a) Loss of private practice.
			- 		<ul> <li>(b) Conduct of work in jails under a certain amount of discipline.</li> <li>(c) Not being able to leave _ jail precinct without permission.</li> </ul>
1	. <b>]</b>	· •	DISPENSERS.	I	
17 ]	Dispensers attached to sub.		Special pay	••	For additional duties
	jails at	each.			in the sab-jails.
	(1) Sargodha,				
ł	(2) Dharamsala.				
	(3) Sheikhupura.			1	
	(4) Muzaffargarh.				
	(5) Karnal.		ł	-	
			e Allowances.	~	
	Assistant Surgeons for holding additional charge of Police Hospitals at-	ASSIS	TANT SURGEONS.		
18	Pind Dadan Khan	Rs. 10 per mensem	Special pay	Punjab Government letter No. 778 (M & S.), dated 20th October 1908.	For specific addition to work and for increased responsibility.
19	Montgomery	Ditto	Ditto	Government of India, Fisance Department, letter No. 604-Ex., dated 5th February	Ditto.
20	Rajanpur	Ditto	Ditta	1894. Ponjab Government	Ditto.
21	Muzaffargarh	Ditto	Ditto	letter No. 200, dated 20th June 1896. Punjab Government letter No. 480, dated 19th April 1901.	Ditto.
22	Karnal	Ditto	Ditto	Punjab Government letter No. 250 (H Jails), dated 5th August 1911.	Ditto.

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Serial No.	Designation of Government servant.	Amount.	Classification.	Roference.	Remarks.	
· · · · · ·		Police A	llowances—cor	icluded.		
		ASSISTA	NI SURGEONS-com	CLUDED.		
23	Assistant Surgeon, Philleur.	Rs. 10 per mensom	Conveyance allossance.		For holding collateral charge of the Charitable Disponsary, Phillaur, and Police Training School Hospital.	
24	Sub-Assistant Surgeons for holding additional charge of the Police Hospitals.	Rs. 10 per mensem each.	Special pay		For specific addition to work and for increased responsibility.	
			DISPENSERS.	_		
25	Dispensers in the Phillaur Police Training School Hospital.	Rs. 10 per mensem	Compensatory allowance.	Recommendation by Inspector-General of Civil Hospitals, Punjab, in his letter No. 1711- E., dated 15th April 1926.	To compensate for the loss of private prac- tice.	
		Criminal	Tribes Depart	ment.		
		CIVIL-4	SSISTANT SURGEO	N		
26	Assistant Surgeon, Palam- pur.	l:s.20 per mensem	Special pay	Punjab Government No. 27927, dated 29th November 1923, and Punish Covernment	For attending upon the inmates of the Criminal Tribes Settlements in addition to his other	
	-	j		Punjab Government No. 2546-S., dated 10th October 1924.	duties.	
		SUB-AS	SISTANT SURGEON	S.		
27	Sub-Assistant Surgeons attached to Criminal Tribes Settlements at	-		Punjab Government letter No. 1530, dated 25th June 1920, unjab Government	loss of private practice and for arduons nature	
	( ³ ) Amritsar (2) Mogbalpura (3) Kacha Khuh	Rs. 40 per mensem Ditto Rs. 30 per mensem	Compensatory allow- ance. Ditto. Ditto.	letter No. 27511, dated 7th November 1921.	ances are given on the	
<b>2</b> 8	(4) Chhanga Manga	Ditto Rs. 15 per mensem	Ditto. Special pay	Punjab Government letter No. 11778-Police, dated 4th April 1922. Punjab Government letter No. 98330, dated 14th November 1922.	ment. For attending upon the inmates of the Settle ment in addition to their duties.	
	1	D	ISPENSERS.	1022.	1	
29	Dispensers stached - to Criminal Tribes Settle- mente-	Rs. 5 per mensem each, except in the following cases :	Special pay	Punjab Government No. 31636, dated 15th December 1921.		
•	Gopal Criminal Tribes Settlement.	Rs. 7 per mensem	Ditto	Punjab Government No. 4243-S., dated 19th September 1922.	To compensate for the	
	Gambar Criminal Tribes Settlement.	· Rs. 10 per mensem	Ditto	Punjab Government No. 15347, dated 9th May 1922.	dressing private cases and for the hard work and constant sttendance at the	
	1	<u>)</u> MILTUA D ማ	 ASSISTANT SURGEO	! -	institutions.	
80	Military or Civil Assistant Surgeon when appointed as Deputy Superintendent, Punjab Mental Hospital.		Special pay	NS. Punjab Government letter No. 32302 (H.— Medl.), dated 22nd December 1922.	For arduous nature of duties and loss of private practice.	
	Scale— For 1—3 years' service in the Punjab Mental Hospital.	Rs. 75 per mensem.	-	270 UD UGE 1748,		
	For 4-6 years' service in the Punjab Mental Hospital.	Rs. 100 per mensem.				
	For 7-9 years' service in the Punjab Mental Hospital. For 10-12 years' service	Rs. 125 per mensem. Rs. 150 per mensem.			•	
	in the Punjab Mental Hospital For 13 years' service or over.	Rs. 200 per mensem.			•	

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Serial No.	Designation of Government servant.	Amount.	Classification.	Reference.	REMARKS.

## Other Allowances.

MILITARY ASSISTANT SURGEONS-continued.

	i	MILITAR	Y ASSISTANT &	UKGļ	EONS-continued.	-
31	Military Assistant Surgeon appointed as Assistant Deputy Superintendent of Punjab Mental Hos- pital.		Special pay	-	Panjab Government letter No 32302 (H.—Medl.), dated 22nd December 1922.	For arduous nature doties and loss private practice.
		Re.				
	Scale-				•	
	For 1-3 years' service in the Punjab Mental Hospital.	50				· ·
	For 4-6 years' service	75			,	
	For 7-9 years' service	100				
	For 10-12 years' service	125				Į
-	13 years and over	150				
32	Military Assistant Surgeon, Simla.	Rs. 50 per mensem	Ditto		Government of India, Home Department, letter No. 567, dated 25th May 1909, and Punjab Government, letter No. 396, dated 19th June 1909.	The Military Assistant Surgeon is in charge of the junior Secretaria establishment of th Government of India and is appointed Med cal Attendent of th Punjab Secretaria olerks in addition to h own duties.
33	Deputy Medical Superin- tendent in charge of Civil Hospital, Amritser.	Rs. 200 per mensem	Ditto	••	Punjab Government letter No. 22367(Medl.), dated 6th September 1922.	For the onerous dutic attached to the pos He is also in charge is the X-Ray Departmer and is Superintenden of the Dispensary. H is debarred from privat practice.
	Ditto ditto	100 or the rent actually paid, whichever is less	Compensatory a	ulio <del>w</del> -	Punjab Government No 19322, dated 12th July 1922.	The appointment is residential one.
84	Military Assistant Surgeon in charge of X-Ray and Electrical Departments, Mayo Hospital, Lahore.	Senior Military Assistant Surgeon, Rs. 150 per men- sem.	Special pay	••	Sanctioned by Punjab Government letter No. 1829-S., dated the 30th Jane 1927.	On account of the onerou and important natur of duties.
		lst Class Military Assistant Surgeon, Rs. 125 per men- sem.	-			
	•	2nd Class Military Assistant Surgeon, Rs. 100 per men- sem. 3rd Class Military Assistant Surgeon, Rs. 75 per mensem. 4th Class Military Assistant Surgeon, Rs. 50 per mensem. Rs. 75 per mensem.	House-rent a	llow-	•	
85	Assistant to the Professor of Midwifery and Deputy Medical Superintendent, Government Hospital for Women and Children, Lahore.	Rs. 200 per mensem as Assistant Pro- fessor of Midwifery and Rs. 50 per mensem as Deputy Medical Superin- tendent.	Special рау		Punjab Government Memo. No. 1548-S (M. & S.), dated 2nd July 1924.	For performing the dual duties of Assistant to the Professor of Mid- wifery, King Edward Medical College, Lahore and those of Deputy Medical Superintendent. Government Hospical for Women and Children, Lahore.

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Cerial No.	Designation of Government servant:	Amount.	Classification.		Reference.	Remarks.
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			ASSISTANT SURGE	ONS.		
<b>96</b>	Deputy Medical Superin- tendent, Mayo Hospital, Lahore.	Rs. 100 per mensen	n Special pay		ecretary of State tele gram, dated 21st May 1919.	For exceptionally onerous and responsible nature of duty. In addition to the ordi- nar hospital duties he has to inspect all hos- pital buildings, some 12 in number, exclusive of menial quarters. He is directly res- ponsible, under the Medical Superintendent, for the efficient ad- ministration and work- ing of the Hospital and for correspondence of Medical Superinten- dent's office.
87	House Surgeon, Albert Victor Hospital, Labore.	Rs. 50	Ditto		Ditto ditto	To compensate for the loss of private practice from which they are debarred and for the onerous and importute nature of their duties.
1		CIV	IL ASSISTANT SUI	RGEO	NS.	l
38	Assistant Surgeons on Plague duty.	Ra, 2 per diem .	. Special pay		Government of India, Finance Department, letter No. 1580-Ex., dated 9th April 1897.	For arduous and exact- ing nature of the duties involved and personal danger to those employ- ed.
<b>89</b>	Assistant Surgeons on Cholers duty.	Ditto	. Ditto	••	Paragraph 159-A., Punj- sb Medical Manual, Punjab Grownmens, No. 2921-M., dated 7th February 1922.	Ditto.
40	Assistant Surgeons on special duty in connection with opidemics of relapsing fever.	Ditto -	. Ditto		Paragraph 159. B., Punj- ab Medical Manual Punjab Government, No. 27619 (M. & S.), dated 9th December	-
41	Superintendent, Medical Sobool, Amritaar,	Rs. 50 per mensen	Ditto		1924.	For holding charge of the Boarding House in addition to his ow duties as a Lecturer.
42	Resident, Medical Officer, Civil Hospital, Amritsar.	Ditto	. Ditto		Punjab Governmen letter No. 303-S. M. & S.), dated 30th May 1910.	tice from which he
43	Assistant to the Professor of Pathology, King Edward Medical College, Lahore.	ľ	m Ditto		Punjab Governmen letter No. 14978(Medl. dated 4th June 1919.	t For performing th duties of the Assistan Baoteriologist to Gov ernment, Punjab, addition to his ow duties
44	<ol> <li>House Surgeon, Tuberould sis Ward, Mayo and Albert Victor Hospitals, Labore.</li> <li>Superintendent, Dispen- sary.</li> </ol>	each,	em Ditto -	••	Secretary of Stat telegram, dated 21s May 1919.	
	1 House Surgeon, Indian Private and Family Ward in the Mayo Hospital, Lahore.	5			Punjab Governmen letter No. 529 (Medl. dated 9th January 192	),

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derial No.	Designation of Government servant.	Amount.	Classification.	Reference,	Remarks.

# Other Allowance-continued.

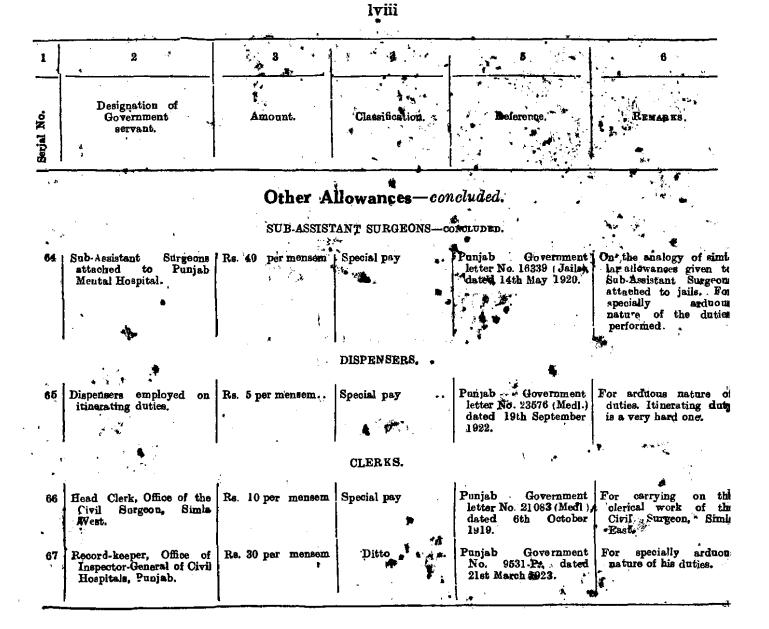
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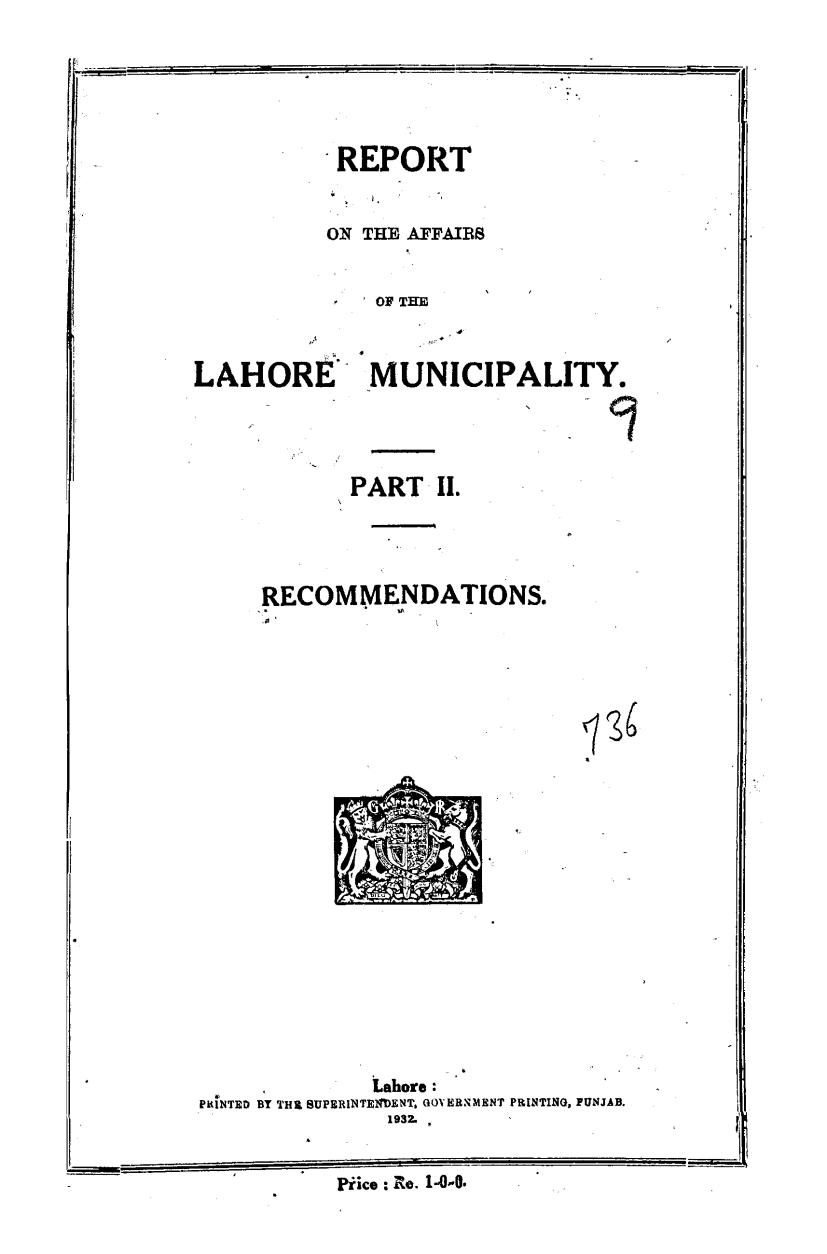
CIVIL ASSISTANT SURGEONS-CONTINUED.

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45	Assistants to the Professors of — Physiology	Rs. 200 per mensem, each.	Special pa	<b>y</b>	Punjab Government letter No. 5149, dated 16th February 1921.	To compensate for th loss of private prac- tice from which the are debarred an
	Pharmacology and Thera- peutics.	6		*		arduous nature o duties.
	Pathology.		•		- - -	
	King Edward Medical Oollege.				, n ,	
46	Demonstrators of	Ra. 150 ", " "	Dițto	• ••	Ditto	Ditto.
	Physiology.					
	Pharmacology and Thera- peutics.					
i	Pathology, and			5 <del>4</del>		
	Anatomy,			<del>.</del>		
•	King Edward Medical College, Labore.		*	1 <b>99</b> 22	23 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 - 1910 -	
7	Clinical Pathologist, Mayo Hospital Lahore.	Rs. 150 per mensem	Ditto	••	Secretary of State telegram, dated 21st May 1919.	For the arduous an important nature of duty.
48	Assistant Surgeons em- ployed in Basteriological Laboratorics.	Rs. 100 per mensem up to 14th year of service and Rs., 160 per mensem thereafter.	Ditto	-#-	Paragraph 140 of Punjab Medical Manual and Government of India, Department of Education, Health and	For service in a specia Sciențific Department.
		•		•	Lands, No. 35, dated 10th January 1922.	
49	Assistant Surgeons em- ployed in the Punjab Chemical Laboratory.	🐡 Ditto.	Dit ⁺ o		Ditto	Ditto.
<b>5</b> 0	Assistant Chemical Exam- incr when officiating as Chemical Examiner.	Rs. 250 per mensem without retaining charge of his own appointment. Rs. 100 per mensem when holding the appointment of Che- mical Examiner in addition to his own duties.	Ditto	e e e e e e e e e e e e e e e e e e e		For acting in a highe appointment.
51	Lecturers on-	Rs. 200 per mensem each	Ditto	* *	Punjab Government No. 24922 Medical, dated 6th November	These men are specially selected for, the appoint ments on account o
	tive Surgery and Surgeon to Hospi- tal.		1		1920. *	qualifications and at tainments in the parts cular branch of medica science on which eac
:	2. Anatomy. 5 8. Physiology. 5	€ 8				has to lecture. Their appointments to th
	<ol> <li>A. Pathology and Bao- teriologist to Hos- pital.</li> <li>Ophthalmic Surgery.</li> </ol>				- -	school are permanen and their claims ar thus often liable to b overlooked for Civi Surgeonoies.
	6. Pharmacology and The rape utics	- <b>- 4</b>				• · · · · · · · · · · · · · · · · · · ·
	Medicine Phar- macy and Hygiene in Medical School, Amritzar,	•			<b>*</b>	<b>♦</b> ¹²

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Serial No.	Designation T of Government sarvant.	Antount.	Classification.	Reference.	REMARKS.
in E		Other A	llowances-con	rtinued.	
	• • • • • • • • • • • • • • • • • • •	CIVIL A\$51	STANT SURGEONS-	Concluded.	•
, <b>52</b>	Assistant Surgeon in- oharge of Civil >Dispens- , ary at Murree.	Rs. 20 per mensem for a period of 7 months each year.	Special pay	Puojab Government No. 17933, dated 2nd August 1919.	work of the office of the Civil Surgeon, 'Murree, a duty which
1	ре — х 				does not belong to his office.
•		SUB-AS	SSISTANT SURGEON	í <b>s</b> .	' 🔶 "
े <b>53</b> 	Sub-Assistant Surgeon, Chhanga Manga.	Rs. 15 per mensem	-Special pay	Conservator's letter No. 1795, dated 10th August 1921, to Divi- sional Forest Officer, Lahore.	For attending on the Forest Establishment at Chhange Mange,
<b>54</b> ≇	Sub-Assistant Surgeon employed as Junior House Surgeon in the Private and Family Wards of the Mayo Hos- pital, Mahore.	Rs. 20 per mensem	Compeñiatory allow- ance.		The appointment is a residential one and the allowance is given for the loss on private practice.
55	Military Sub-Assistant Surgeon, Kasauli.	Rs. 10 per mensem	Special pay	Punjab Government No. 15574 (M. & S.), dated 19th August 1918.	For doing clerical work of the office of the Civil Surgeon, Kasault
56	Sub-Assistant Surgeon attached to the Civil Dis- pensary, Dalhousie	Res ⁴ 10 per mensem for 7 months.	Dibio	Punjab Government No. 17933, dated 2nd August 1919.	For doing clerical work of the office of the Civil Surgeon, Dalhousie.
<b>5</b> 7 *	Sub-Assistant Surgeons, em ployed as Demonstrators in the Medical School at Amritsar,	Rs. 40 per mensem each,	Ditta 🏚 🚥	Punjab Government No. 8220, dated 31st October 1820.	These are special ap- pointments for Sub- Assistant Surgeons and the best men are requir- ed for these posts. In order to keep them contented, it is absolute- ly necessary to give them this allowance.
58	Sub-Assistant Surgeons, em- ployed as House Surgeons and Physicians in the Civil	An ab	Ditto	Ditto	For specially onerous neture of duties. The appointments are resi-
	Hospital, Amritsar.				dential and the incum
59 5	Sub-Assistant Surgeons, employed as House Physi- cian, Tuberculosis Wards, House Surgeon, Septic Ward, and Superintendent of Dispensary.	10 per cent. of pay	Compensatory allow.	Phojab Government Nos. 30526; dated 2nd Decumber 1622, and 7827 (Medl.), dated 13th March 1924.	In lieu of free quarters.
30 7	wo Sub Assistant Surgeons, employed on itinerating duties.	Rs. 25 per mensem each.	Special pay	Punjab Government latter No. 25631-(Medl.), dated 21st October 1922.	For arduous nature of duties. It inerating duty is a very hard duty.
31	Sub-Assistant Surgeons on duty in connection with epidemic of relapsing fever.	Ro. 0-12-0 per diem 8	Special.pay		For arduous and ex- soting nature of the duties involved and personal danger to those employed.
13	Sub-Assistant" Surgeons on plague duty.	Re. 0-12-0 per diem	Ditto	Paragraph 206, Punjab Medical Manual.	Ditto.
13	Sub-Assistant Surgeon on Cholera duty.	Re. 0.8-0 perse dient or Rs. 15 per mensem.#	Ditto 1	Paragraph 205, Punjab Medigal Manual.	* Disto.
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V236CL, 61. N36 G2:2

1. The scheme of this part of the Report on the affairs of the Lahore Municipality is described in paragraph 2 of the Commissioner's report. We may begin by repeating Part III of the terms of reference, which reads as follows :--

"To report what changes, if any, in the law, constitution of the Committee, restriction or extension of the President's powers, delegations of authority or any other measures, are desirable to improve the general efficiency and administration of the Committee."

The recommendations which we propose to make are based on the results of the Commissioner's researches embodied in Part I of the report. As the Commissioner observes in paragraphs 3 and 16° of his report, there was considerable opposition on the part of the Municipal Committee to the Commissioner's association with his two colleagues in this enquiry. Hindrances were placed in the way, which handicapped our labours. We have all of us nevertheless had ample opportunity of studying the details of Municipal government in Lahore. We were therefore in a position to deliberate with confidence on the changes considered desirable to improve the efficiency of the administrative machine.

2. After these preliminary observations, it will be convenient first Summary of the Commissioner's recommendations. Commissioner's attention, in their published order of sequence,

excluding those which involve amendment of the Punjab Municipal Act, as these last will be dealt with later. We may say that none of these proposals were new to us. We have nevertheless examined them with fresh attention, and having done so, concur generally in the recommendations. Where we have suggested any modifications, they are incorporated in the text inder particular items. Subject to these minor alterations, the proposals made by the Commissioner should in our opinion be carried into effect with the least possible delay. We have not regarded it as falling within the scope of our instructions to comment on the various cases of misconduct charged against employees or members of the Committee. We think however that departmental action, or such other action as may be appropriate in the circumstances, should be instituted without delay to secure that these cases are properly investigated and suitably dealt with in order to prevent recurrence in the future.

#### FINANCE.

#### Terminal Tax.

Paragraph	16	••	(1) The assistance of the Police might be enlisted in obtaining information as to evasion of terminal-tax by the offer of pecuniary rewards on a fixed scale.
<b>Par</b> agraph	16	·••	.(2) Terminal tax barriers should be made coterminous with the Municipal limits.
Paragraph	16	••	(3) The question of leasing collections of terminal tax by, con- tract is worthy of consideration.
			Disposal of sullage, night soil and refuse.
Paragraph	17	••	(4) The installation of a second 8-inch suction pump at Rajgarh will result in a great increase of the area irrigable. But even without this addition, the area irrigated could be doubled by economical control of the water available.
Paragraph	17	••	(5) Sullage at present directed into," canal watercourses should be diverted into sewers and utilized for purposes of irrigation as such.
Paragraph	17	••	(6) The area irrigated by sullage from the Shish Mahal pumping station could be greatly increased by the construction of extra channels and better management.

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Paragraph	17	•••	(7) The pumping plant which the Railway department propose to construct on the Chota Ravi, might take the form of two small installations, one on each side of the river. In other respects this scheme is strongly recommended.
Paragraph	17	••	(8) The Amritsar system of auctioning sullage supply by outlets or plots of land appears worthy of adoption.
Paragraph	17	••	(9) Supervision of the Municipal patwari by the Tahsildar or Circle Kanungo is recommended.
Paragraph	17	••	(10) The maintenance of iron conservancy carts for the removal of sullage from Government and private institutions is recommended in preference to the contract system, and vigorous action should be taken to recover the arrears of demand for sanitary services rendered, especially in respect of Government institutions.
			NOTE.—The income from night soil and refuse could probably be doubled by efficient management.
			Dog tax.
Pa <b>ra</b> graph	18	••	(11) The dog tax should be enforced by impounding all dogs unregistered after a certain date.
4 ⁸ 4			Wheel tax.
Paragraph	<b>19</b> ,	••	(12) Rules should be framed to impose a penalty on persons who use motor cars without payment of wheel tax.
Paragraph	19	••	(13) All lorries liable to wheel tax should be registered and prosecutions instituted against defaulting or refractory lorrywalas.
Paragraph	19	••	(14) The taxation staff should make house-to-house visits in order to ascertain the names of private owners of horse- drawn vehicles, with a view to assessment of wheel tax.
Paragraph	<b>19</b>	••	(15) Country carts should be licensed on the same lines as hackney carriages, both license fee and wheel tax being made payable in advance. Defaulters found plying their carts without a license should be prosecuted with- out delay.
•			Licensing of offensive and dangerous trades.
Paragraph	20	••	(16) The power to renew licenses should be delegated to the Taxation Officer or the Public Health Sub-Committee, and the General Committee should concern itself only with applications for fresh licenses. The list of trades liable to be taxed should be enlarged so as to include dyers, soap manufacturers and others who at present enjoy immunity.
Paragraph	20	••	(17) The scale of fees for licenses should be graduated accord- ing to the relative importance of the trades or com- modities concerned, and persons trading in more than one commodity, liable to be licensed, should pay a separate license fee in each case.
			Sale of water.
<b>P</b> aragraph	21	••	(18) The registers of connections should be systematically overhauled in order to bring to light unregistered connections, and at the same time to check the capa- city of registered connections.
Paragra <del>p</del> h	21	••	(19) All houses should be assessed annually in order to ascertain variations in renting value. In the event of default in furnishing the necessary returns, the Com- mittee should be at liberty to raise the previous record- ed rental by 25 per cent. In the event of refusal to pay

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water rate lawfully assessed, connections should be closed forthwith, and not re-opened until full payment is made, plus Rs. 10 as re-opening fee. The same sum should be fixed as the charge for re-opening any connection closed for non-payment of dues.

Paragraph 21 ...

(20) The adoption of a rebate system is recommended, and the rate for the Civil Station may be fixed at 6 per cent. with a rebate for prompt payment of 1 per cent. instead of 5 per cent. as heretofore.

Fines.

Paragraph 22 ...

(21) In view of the loss of income under the Municipal and other Acts, which amounted to Rs. 26,478 in 1929-30, Government may be urged to make a grant-in-aid of Rs. 20,000 a year to the Committee by way of compensation.

Compounding of offences.

Paragraph 25 ..

(22) It is estimated that the income of the Committee could be increased by Rs. 20,000 per annum, if Building Inspectors can be made to report deviations from sanctioned plans as promptly as possible and the cases are compounded according to the rules and rates sanctioned by the Committee.

Proposals for fresh taxation.

27 ... Paragraph

Paragraph

Paragraph 41 ..

(23) A Quit tax is recommended of one anna on each Railway ticket issued from Lahore, the proceeds being estimated at Rs. 1,10,000.

- (24) A graduated Entertainment tax is recommended on all tickets issued for cinemas, theatres, race meetings and 27 . . the like, the proceeds being estimated at Rs. 1,50,000 per annum.
- Paragraph 27 ... (25) It is believed that a House tax will be necessary in addition to the above.
- (26) The Water Works Re-organisation and Drainage schemes Paragraph 28.. will be best financed by a loan of about Rs. 65.30.650. to be repaid by 21 equal annual instalments of Bs. 5 lakhs each.

#### Audit of accounts.

(27) The Committee are advised to accept without hesitation Paragraph 29 .. the scheme put forward by the Examiner, Local Fund Accounts, for the continuous audit of Municipal accounts, now under consideration.

#### CONTRACTS.

Paragraph 36 .. (28) The Commissioner and Deputy Commissioner should be given specific powers to cancel a contract sanctioned contrary to the rules.

#### CUSTODY OF PUBLIC PROPERTY.

Tharras.

Paragraph 41 ... (29) The Committee should lose no time in giving effect to their new set of tharra bye-laws.

> (30) It is suggested that both on financial grounds and in the interests of the public who use the thoroughfares, the following proposals made in 1923 by Mr. R. B. Beckett, I.C.S., then Secretary of the Municipal Committee, may be carried into effect without delay :

A systematic survey of existing tharras may be made and for this purpose one street should be taken up at a time, beginning with those where congestion is worst. Notices under Section 175 may be served on all tharra owners for removal, with an offer of compensation, or in the alternative an agreement to allow the thair a subject to the payment of rent.

#### Malba.

Paragraph	44	(31) Tax Inspectors should be supplied with lists of building plans, and the Building Inspectors should intimate the date of commencement and completion to the Tax In-
		spectors, who will then become responsible for the realizations of <i>malba</i> .

Paragraph 50 .. (32) It is recommended that Government may resume sites which bring in no income to the Committee and are adversely possessed by unauthorized encroachment. Certain specified sites are not required as open spaces, and could be sold advantageously by Government.

The Fasil.

(33) Authority may be granted to the Committee to proceed Paragraph 52 experimentally with a small stretch of the Fasil on the following conditions :-

- (i) that the necessary alignment of the road is first determined;
- (ii) that encroachments standing in the way of the road be removed without fear or favour;
- (iii) that portions of the Fasil bordering on the road may be sold at the market price to those who desire to purchase them, provided that all buildings already erected or hereafter to be erected are subjected to the Committee's regulations governing new construction ; and
- (iv) that the existence of windows, doors, ventilators, etc., which abut on the proposed road, may be condoned, unless their closure is necessary on sanitary grounds.
- .. (34) As an auxiliary to the proposals regarding the future Paragraph 52 disposal of this Fasil, the City sewer may be covered, but on this point the opinion of sanitary experts will be necessary.
  - .. (35) It is suggested that the cost of these developments may be met from the sale of Fasil sites, as the scheme proceeds.

## BUILDINGS AND ROADS.

- (36) The Municipal Works Rules should be amended, and pro-Paragraph 54 .... vision included to the effect that any Municipal building, towards the construction of which Government have contributed, must be built by Government agency.
- (37) It is recommended that the Circular Road below the Fort Paragraph 56 from the Railway underbridge to the new Maternity Hospital may be classed as an arterial road and taken over by the Public Works Department.
- (38) It is suggested that the ownership of the Shalamar Road, Paragraph 56 linking up Mayo Road and the Grand Trunk Road, may be transferred to the Railway administration, who, it is understood, would be glad to maintain it at their own expense.
- ., (39) Road repair and consolidation should be done according Paragraph 59 to programme, spread over a term of years.

## BUILDING APPLICATIONS.

.. (40) The qualifications of Building Inspectors should be pres-Paragraph 71 cribed in consultation with the Chief Engineer, Public Works Department, Buildings and Roads Branch, and the Committee should be obliged to employ qualified Inspectors only,

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- Paragraph 52

Para. 2]	5
Paragraph 71	(41) All superfluous intervention by unqualified Municipal employees and Ward Members should be eliminated from the procedure relating to building applications.
Paragraph 71	(42) No building plan should be accepted, unless it is drawn by a competent surveyor. Lists of such should be maintained in the Municipal office.
Paragraph 71	(43) A definite limit should be fixed, say 15 days, for prelim- inary scrutiny of plans by the Building Inspector, with similar limits for all other officers and the Sub- Committee through whose hands the case is to pass. The City and Civil Station Sub-Committees should have power to dispose finally of all building applications, and reference should be made to the General Committee only in cases of special importance. An appeal should lie direct to the Commissioner from a final order passed by the Sub-Committee and provision be made accordingly in the Act.
	TOWN PLANNING.
Paragraph 78	(44) In new <i>abadis</i> , as soon as applications to build are received and sanctioned, the Committee should start the con- struction, first of drains and outfalls for storm water, and afterwards when a sufficient number of houses have been built, of roads, metalled or unmetalled according to circumstances.
Paragraph 79	(45) It is suggested that a Committee may be appointed to advise the Commissioner on layout plans, consisting of the Superintending Architect or other officer nominated by the Chief Engineer, the Director of Public Health, the Superintending Engineer, Public Health Circle, and the President of the Municipal Committee, or at least that the Commissioner may not sanction layout plans without the concurrence of the two first-named officers.
Paragraph 81	(46) It is suggested that milch cattle may be removed from the town to land leased or acquired elsewhere, and that grain markets may be established on the Grand Trunk Road outside Municipal limits.
· ·	Nore.—This proposal only applies to Gujars and other professional keepers of cows and buffaloes.
Paragraph 82	(47) A skilled Town-Planning Advisor may be made avail- able permanently by the Government, his services be- ing paid for, if desired, by the local bodies which he ad- vises.
	PUBLIC HEALTH AND SANITATION.
	Infectious diseases.
Paragraph 87	(48) Private practitioners may be encouraged to furnish re- ports of infectious outbreaks by the payment of a fee of Re. 0-8-0 for each case, towards the cost of which Government might contribute half.
Paragraph 90	(49) It is recommended that the Jail Road Hospital may be overhauled at once and put in proper repair, pending the construction of a new hospital for Europeans and Indians of superior status.
Paragraph 90	(50), The combination of the two Infectious Diseases Hospitals is strongly deprecated.
Paragraph 91	(51) The Medical Officer in charge of the Infectious Diseases Hospitals should be an authority on infectious diseases up to the standard of the professional staff at the King Edward Medical College.

Paragraph 91	• •	(52) The administration of the Infectious Diseases Hospitals may be placed directly under the Director of Public Health, with powers analogous to those of the Inspector General of Civil Hospitals in regard to those hospi- tals. Markets and slaughter houses.
Paragraph 92	••	
Paragraph 92	••	(54) The poultry stalls in the Tollinton Market should be re- built on sanitary and humane lines.
Paragraph 92	••	(55) The extension of Municipal markets is strongly advocated. A number of compact and well-built markets of the latest type might be provided, especially in the newly developed areas.
Paragraph 93	••	(56) Steps should be taken to establish one or more reliable working dairies in the outskirts of the City.
		Latrines and wash-houses.
Paragraph 94	••	(57) The necessity for public latrines, wash-houses and <i>dhobi ghats</i> of modern type is urgently demonstrated.
		Filth dep ⁶ ls.
Paragraph 95	••	(58) It is suggested that the present type of filth depôt may be replaced by a more sanitary arrangement, such as an elevated covered receptacle into which sweepers, ascend- ing by steps, will deposit night soil and other rubbish. The carts will be placed below and filled by gravitation. In addition, for the contractors' buffalo cart a smaller iron bullock cart may be substituted.
Paragraph 95	••	(59) The contract system should be entirely abandoned in favour of departmental management for the removal of night soil.
Paragraph 96	• •	. (60) There is an urgent necessity for the appointment of an Assistant Medical Officer of Health.
		A Boavengers' Corps.
Paregraph 97	-	(61) It is here proposed to divide the entire Municipal area into 17 wards and assign each to a Sanitary Inspector. He will be provided with a depôt, where he can keep his register and attend to complaints from the public. The depôts will serve as Public Health and Vaccination centres as well. As an auxiliary to the scheme a Scavengers' Corps of whole-time sweepers is proposed, with a unit stationed at each depôt. The corps would be provided with housing, distinctive uniform, and a number assigned to each recruit on a metal badge.
		General.
Paragraph 98	••	(62) It is recommended that the annual Government grant may be increased, subject to the proviso that the execution of important works financed therefrom should be en- trusted to the Superintending Engineer, Public Health Circle, Punjab.
Paragraph 98	••	(63) The list of works executed against the Government grant should be prepared at the beginning, rather than the end, of each financial year.
Peragroph 99	••	(64) The number of sweepers and <i>Jemadars</i> should be greatly increased and stiffer control established over the entire sanitary staff.
Paragreph 99	••	(65) The extended use of mechanical transport is recommended for all sanitary purposes.

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## WATER SUPPLY AND DRAINAGE.

- Paragraph 106 .. (66) It is suggested that the leading Insurance Companies might be prevailed upon to contribute to the cost of the Fire Brigade.
- Paragraph 109 .. (67) The only possible remedy for the existing insufficiency of water supply is immediate adoption of the new reorganization scheme.
- Paragraph 113 .. (68) The decisions of the conference between the Railway authorities and the Committee regarding the drainage of Garhi Shahu area should be carried into effect with the least possible delay as a matter of urgent public policy.
- Paragraph 114 .. (69) Some of the evils connected with watercourses can be repaired by resort to rule 15 (a) under section 32 (a) of the Northern India Canal and Drainage Act, section 18 of the Act, and section 70 (5) of the Act. It is also suggested that the Municipal Committee should take over the entire distribution system of watercourses.
- Paragraph 118 .. (70) The execution of the new Sewerage Scheme is a matter of urgent necessity, and Rs. 82,00,000 odd should be provided immediately to meet the cost of this and the Waterworks Reorganization Scheme, or Rs. 65,30,650 net, if a 7 per cent. reduction is allowed in the departmental charges and the contribution, including interest, of Rs. 10,94,261-8-6 recently withdrawn by Government, is restored to the Committee, vide paragraph 28.

## RELATIONS OF THE MUNICIPAL COMMITTEE WITH THE POLICE.

- Paragraph 120 .. (71) The Committee might signalize their appreciation of the services rendered by the Police in the matter of traffic control by an annual grant of Rs. 2,000 towards their equipment.
- Paragraph 120 .. (72) The Committee should in all cases consult the Police in regard to the erection of new buildings at road corners and in other places where traffic conditions are likely to be interfered with.
- Paragraph 121 .. (73) Certain improvements should be carried out in the matter of street crossings at points indicated.
- Paragraph 122 .. (74) Special attention should be paid to the illumination of particular crossings where constables are stationed; this could be done either by flood lights' suspended across the road over the head of the constable, or by a search-light from a neighbouring post.

## STREET LIGHTING.

- Paragraph 126 .. (75) 40-watt lamps may be substituted for the existing 30-watt lamps and they should be placed on alternate poles, where this can be done without detriment to the public convenience.
- **Paragraph 126** .. (76) It is proposed to have alternate lights only after the first six hours.
- Paragraph 126 .. (77) It is suggested that the control of electrical street lighting on the Committee's part may be placed under the Water Works Engineer.
- **Paragraph** 126 .. (78) The Municipal Committee might retard the rate of extension of street lighting, unless the Lahore Electric Supply Company agree to give them better terms.
- **Peragraph** 127 .. (79) It is suggested that 25 lamplighters may be reduced, which will result in a saving of Rs. 5,400 a year.

#### MEDICAL RELIEF.

Paragraph 130 ...

130 .. (80) It is suggested that the powers of control of Municipal hospitals and dispensaries enjoyed by the Civil Surgeon under the Punjab Medical Manual, 1911, may be formally delegated to him by the Municipal Committee.

#### EDUCATION.

- Paragraph 132 .. (81) The Superintendent may be empowered under Section 33 of the Municipal Act to deal with appointments, transfers and punishment of the staff with which he is concerned. The same remarks apply in the case of the Inspector of Schools, Lahore division, and the Municipal Board High School, Mozang.
- Paragraph 133 .. (82) The Committee might adopt the proposal of the Inspector of Schools regarding a building programme for Primary Schools, extending over five years.
- Paragraph 134 .. (83) It is suggested that the Attendance Officers may be reduced to two and their peons abolished.
- Paragraph 135 .. (84) All round improvement is called for in the arrangements for female education, and closer co-operation between the Deputy Directress and Municipal Lady Superintendent.
- Paragraph 137 ... (85) The existing system of purchase of furniture from the bazar should be replaced by the tender system.
- **Paragraph 137** .. (86) It is suggested that the Juvenile Library may be abolished and the books distributed amongst the various schools.
- Paragraph 137 .. (87) If possible, every school should be equipped with a small library.
- Paragraph 137 .. (88) It is suggested that the Mozang High School may be provincialized.
- Paragraph 137 .. (89) Sundry other minor improvements and economies are also detailed in this chapter.
- **Paragraph 138** .. (90) Changes in the clerical staff of the Municipal Education Department should not be made except after consultation with the Superintendent.
- **Paragraph** 138 .. (91) It is suggested that the medical examination of school children may be supplemented by medical treatment.

#### PUBLIC GARDENS.

- Paragraph 140 .. (92) The system of fencing may be completed, as entry is thereby limited to particular points, and the risk of wanton damage eliminated to a great extent.
- Paragraph 140 .. (93) It is suggested that, for the prevention of mischief and nuisances, a special staff of Wardens may be engaged and that in this connection a small force of Police might be secured and paid for from Municipal funds.
- Paragraph 140 .. (94) The Irrigation Department might look into the supply of canal water for the Municipal gardens and meet any reasonable demands of the Committee.
- Paragraph 140 .. (95) It is suggested that space may be allotted to Girls' Schools for enclosed recreation grounds.
- Paragraph 141 .. (96) Certain proposals for retrenchment of staff are here discussed and may in general be recommended.

## CONDUCT OF CIVIL AND CRIMINAL CASES.

Paragraph 142 .. (97) The employment of practitioners, other than the Legal Advisor, in the conduct of municipal cases, should not be permitted.

## Para. 2]

- Paragraph 143 .. (98) The powers of the Secretary in the matter of instituting civil actions should be properly defined, and greater care exercised in order to see that the Legal Advisor is supplied with necessary instructions and relevant documents.
- Paragraph 143 .. (99) The Committee should not embark on expensive litigation or dubious executive action without first consulting their Legal Advisor.
- Paragraph 145 .. (100) The whole machinery for the institution and conduct of prosecutions and infringement of byelaws should be radically reformed.

#### ESTABLISHMENTS.

- Paragraph 150.. (101) It is recommended that the Government may be pleased to direct by executive order that no advance increment or revision of grade be permitted without the sanction of the Deputy Commissioner, or it may be in certain prescribed cases, of the Commissioner.
- Paragraph 151.. (102) The qualifications and method of recruitment, especially of clerical establishments, leave much to be desired and radical reform is indicated in these respects.

#### CONDUCT OF BUSINESS.

#### Contracts.

Paragraphs 172, 173 (103) Contracts for material and stores should be placed by the Committee formally with reliable merchants. The President should be precluded from granting advances of money to the Municipal Engineer for these purposes under Section 35, and the latter should not be permitted to make contracts on his own responsibility.

Constitution of Sub-Committees.

- Paragraph 175 .. (104) (i) Attention should be given to the aptitude and qualifications of members in selecting Sub-Committees.
  - (ii) The practice of nomination to Sub-Committees by the President should be discontinued.
  - (iii) Chairmen of Sub-Committees should hold office for three vears.
  - (iv) The President should be granted powers to remove a recalcitrant or absentee member from any Sub-Committee.
  - (v) A rule or convention should be established whereby the recommendations of Sub-Committees, if confined to their own department, and establishing no precedent. are accepted by the General Committee as a matter of course.
  - (vi) The power of a Standing Sub-Committee to sanction expenditure should be increased from Rs. 1,000 to Rs. 3,000 and the emergent power of Chairmen and Vice-Presidents to Rs. 2,000, the President being invested with like authority. In the matter of refunds, the power of Sub-Committees should be reduced to Rs. 100.
  - (vii) The membership of a Standing Sub-Committee, except in the case of the Garden Sub-Committee, should not be less than 12, or a quorum less than 5.

#### **Proceedings** of the General Committee.

Paragraph 176 .. (105) The proceedings of the General Committee should be made more detailed, e.g., by inclusion of extracts from speeches, grounds of dissent, and figures of voting.

Paragraph 177 .. (106) The Committee's annual reports should be prepared with due regard to proportion, importance of subject matter, critical analysis, accuracy and methodical arrangements of contents. A model table of contents is recommended.

#### Departmental enquiries.

Paragraph 179

- 107 (i) The appointment of an Establishment Sub-Committee is advocated to deal with the appointment, punishment and dismissal of all employees; also
- (ii) A time limit for all departmental enquiries and all orders of suspension; and
- (iii) Quarterly returns to be furnished to the Commissioner of all cases under departmental enquiry and all officials under suspension, with full explanation.
- Note.-We would confer on the Establishment Sub-Committee power to make appointments and promotions in the Municipal service, with an appeal directly to the Commissioner, and power to dismiss a Municipal employee, subject to an appeal to the General Committee. This appears to be permissible under Sections 33 and 39 of the Punjab Municipal Act; if not, it may be secured by statutory enactment.

3. In the course of his Report the Commissioner has indicated under particular heads of enquiry certain Amendment of the Municipal Act. necessary changes which require amendment of the Punjab Municipal Act, 1911. We concur generally in these proposals, which may be summarized as follows :--

## BUILDINGS AND ROADS.

It is suggested that the enlarged powers proposed for Paragraph 54 ... the Director of Public Health in paragraph 84 may also be conferred upon the Superintending Engineer, Public Works Department, Buildings and Roads Branch.

Paragraph 62

- The Executive Engineer may be empowered to take . . steps under the Act to deal with encroachments on Government land, or the Deputy Commissioner may be empowered to function in like manner at the request of the Executive Engineer.
  - Note.--Somewhat similar proposals have been made in paragraph 114, relating to the Irrigation Department, but the proposal put forward by the Superintending Engineer, Public Works Department, Buildings and Roads Branch, goes considerably further. It will probably be best to confine action of this sort to the Deputy Commissioner, as we are not hopeful either that departmental action would be effective, or that the Municipal Committee would take the requisite steps on behalf of a Department with any promptitude.
    - It is also suggested that a statutory obligation be imposed upon the Committee to provide water-supply and drainage, especially in newly deve-loped areas. The effect would be to strengthen the hands of the Commissioner in ordering fulfilment of these obligations under Section 234.

#### BUILDING APPLICATIONS.

Paragraph 65

- The misuse of Section 35 is here discussed at length ... and necessity for amendment demonstrated.
- It is proposed to amend Section 193, so as to make it Paragraph 71 ... clear that the Committee is bound to give reasons for refusing a building application.

It is proposed to amend Section 195 so as to restrict Paragraph 71 .. the power of demolition to those cases only where there is an encroachment, or the building is so dangerous or so insanitary that demolition is the only remedy. In all other cases the Committee should have the power of imposing a penalty only.

- Paragraph 71 The Sub-Committee concerned should have power to • • dispose finally of building applications, and a statutory appeal should be provided to the Commissioner against such final order passed by the Sub-Committee.
- The effect of the Executive Officer Bill, which is dis-Paragraph 72 ... cussed in this paragraph, is of interest in considering amendments to the Act.

## TOWN PLANNING.

- Paragraph 78 .... It is suggested that statutory powers be conferred on the Municipal Committee to take up land included in a new layout plan which may be required for roads and drains, on payment of appropriate compensation, and that Section 171 may be enlarged so as to enable a Committee to levy upon the owners of property who benefit by the new layout, a charge sufficient to pay for the cost of roads, drains, lighting and other necessary amenities for the development of the locality.
- It is suggested that Explanation (ii) to Section 193 Paragraph 79 may be expanded, so as to enable the Commis-sioner to compel a Municipal Committee to frame layout plans within a specified period for certain areas, or for all areas likely to be built upon in the near future, or for any area in respect of which notice to build has been given.
- Paragraph 80 🔔 It is suggested that the Lahore Improvement Committee, or other body constituted for the purpose, may be granted statutory powers to deal with the development of new areas, including the provision of roads, drains and lighting, and to perform all the duties hitherto assigned to the Lahore Improvement Committee.

## PUBLIC HEALTH AND SANITATION.

Paragraph 84

The Director of Public Health should be invested within his own sphere with the powers of the Deputy Commissioner under Sections 231 foll., and perhaps also Sections 41 and 42, so 28 to enable him to enter and inspect Municipal offices, institutions or other properties and call for papers, to summon before him any Municipal employee and receive explanations, to order the carrying out of any emergent work at the cost of the Committee and, in the last resort, to bring about the dismissal of an incompetent Municipal official.

## WATER SUPPLY AND DRAINAGE.

Paragraph 105 - It is suggested that the enlarged powers proposed for the Director of Public Health in paragraph 84 may be also conferred upon the Superintending Engineer, Public Health Circle.

Paragraph 114 ...

It is proposed that Sections 106, 127, 129, 156, 172 and 173 may be so amended as to include within their purview "Irrigation channels", which phrase would cover distributaries as well as watercourses. Provision is also suggested, requiring the Municipal Committee to take action in regard to these sections on the written requisition of the Sub-Divisional Officer or Executive Engineer of the Irrigation Department.

Note.—We have suggested above against paragraph 62 that action of this sort would probably be best confined to the Deputy Commissioner.

## CONDUCT OF BUSINESS.

Paragraph 173 ... Drastic amendment is proposed to Section 35, so as to limit the powers of the President to cases of real emergency. The wording for sub-section (1) proposed by the Select Committee on the Punjab Municipal (Executive Officer) Bill will go far to meet the case.

Paragraph 179 ... It is proposed to grant the Commissioner complete authority to review, revise, modify or set aside any disciplinary order passed by the Committee or to remand the case for further enquiry. Provision for appeals against an order of dismissal is made under Rule IV, Part II, Municipal Committees, of the Rules under the Local Self-Government Acts, 1928. No appeal is provided against an order of punishment short of dismissal, and if the officer is dismissed by a 2/3rds majority, there is no appeal even against an order of dismissal. It seems desirable to enlarge these rules in the manner proposed above. Moreover the authority conferred upon the Commissioner might be statutory and included in the Act itself.

4. As regards the Act generally, we have received a learned note Note by Sir Zafar Ali. From our colleague, Sir Zafar Ali, in the preparation of which he tells us that he obtained valuable assistance from Khan Bahadur Malik Muhammad Hussain, Advocate, formerly President of the Municipal Committee, Lahore. We desire to endorse Sir Zafar Ali's commendation of the assistance rendered by Khan Bahadur Malik Muhammad Hussain in this connection. In the note itself, which is based on case law and the working of the Act in practice, we have not found it necessary to suggest any material alteration and have therefore practically accepted it *in toto*, with a few minor corrections.

"Buildings": Section 3, clause 2.—" Building" is defined in Section 3, Clause 2. In the case of Nandu Mal versus Municipal Committee, Simla (5 Lahore 543-1925 Lahore 252), it was held by a single Judge that a wooden structure having a tin sheeting roof, with floor measuring 10'×8' and 8' in height, though mounted upon wheels and moveable from one place to another, was a "building". In support of this view some old English cases were cited, *i.e.* 8 W. R. 85 (1859) and 49 J. P. 661. The present definition of "building" is wide enough, and it does not appear necessary to make it cover a moveable structure. Some people buy old railway carriages and house them on their premises. They would not be able to do so if

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ALE ALE AND A - 11 + 14 E the definition of a building were to apply to a moveable structure. An explanation may therefore be added to say that " moveable structure is not a building ". A building must be a permanent fixture.

" Street " and " Public Street ": Section 3 (13), Clauses (a) and (b).-Some difficulty has arisen in interpreting the definition of "street." In the case of Abdul Hassan Municipal Committee, Delhi versus Khan (1923 Lahore 417), it was held by Shadi Laland Fforde JJ, that "accessible to the public" in the definition of "street" means open to all the public in fact, whether by right or permission. This is a very important interpretation of the definition of "street"; accordingly, "in fact" should be added after the word " public." The words "whether permanently or temporarily " may be omitted, as serving no practical purpose.

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- Further, the term " lane " is not defined anywhere in the Act, but in 1930 Lahore, page 547, a Division Bench (Shadi Lal and Broadway JJ) held that it signifies a narrow road or street. The word " lane " may therefore be added in the definition of "public street." In (b) (iii) the words " or under any other provision of this Act becomes" seem to be superfluous and may be omitted, because there is no other provision of the Act under which a street can become a public street.
- At present an elected Municipal Commissioner who resigns his seat can stand for re-election to it. He should not be allowed to do somuless he had good reasons to resign, and in that case instead of re-election he should be allowed to withdraw his resignation within a period of, say, one month. The authority to judge whether he had satisfactory reasons for tendering his resignation should be the Commissioner.
  - The period of office of the President should be coterminous with the period of office of the Committee. Otherwise the President would have to vacate his office at the expiry of three years or the residue of his term of office as member, if the Committee's term is extended beyond that period.
  - A proviso should be added to say that no member shall move a vote of censure or want of confidence against the President. This is a rule of English Law, and as there is a provision for the removal of the President, no motion for censure need be brought in against him.
  - Section 29 lays down that "all questions *** shall be decided by a majority of the votes of the members present * * *." But it not infrequently happens that some of the members present refrain from voting. This section might therefore be amended to read thus :-
    - "All questions shall be decided by a majority of the votes of the members voting, provided that no motion shall be deemed to be carried unless the members voting for it constitute a majority of the quorum required by law."

Section 17 (1)

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Section 21 (2)• •

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Section 29

In connection with this point the following two paragraphs, which appear at the bottom of page 82 of the Punjab Municipal Act by Hari Chand, may be read with advantage :-

"(1) Majority of those present.

If a quorum is present, then the major portion of those present should vote in favour of a particular motion before it can be regarded as carried. Those who refuse to vote should not be counted. If out of a quorum of seven, three vote in favour of a particular motion and two against and two refuse, then the motion is not carried.

(2) Effect of refusal to vote.

As long as the members are present in the council chamber and have an opportunity to act and vote with others they will be regarded as present for the purpose of quorum. The question is to be decided by majority of those voting ".

. A new clause should be added to this section in order to provide that all municipal files, with the exception of the personal files of municipal employees, shall be open to inspection by the public. As all the acts of a Municipal Committee are of a public nature, no record of those acts need be kept secret. Rules may be framed on the analogy of the rules framed by the Financial Commissioners or the High Court for inspection of the municipal records and for supplying copies of orders, notes, opinions etc., which those records might contain

Appointment and removal of Secretary, Section 38.—The Secretaries of 2nd Olass Municipalities have submitted a printed petition, praying inter alis for an amendment of Section 38 as follows :—

> (1) Every Committee shall appoint a Secretary and fix his pay and grade at a special meeting and with the previous sanction of the Commissioner, obtained in accordance with the rules and regulations issued from time to time by the Government in this behalf.

> (2) 'The dismissal, degradation, reduction or suspension of such Secretary shall be brought about only at a special meeting in pursuance of a resolution to that effect passed by 2/3rds of the members of the Committee, and with the previous sanction of the Commissioner obtained in accordance with the rules and regulations issued from time to time by the Government in this behalf.

> The effect of amendment (2) would be to take away the power of removal, etc., from the hands of the members of the majority community. This would be objectionable on principle. If a resolution of the majority of the members would not be carried out unless sanctioned by the Commissioner, that would be a sufficient safeguard against wrongful removal or punishment. So the only amendment that seems necessary is to add the following words at the end of Clause (1) of Section 38 :—

"But the removal shall not take effect until sanctioned by the Commissioner."

Section 30

- .. Municipalities of the first class generally require the services of well-qualified engineers for their waterworks, roads and buildings, electrical plant, etc. As a Municipal Committee in the absence of expert advice cannot be the best judge of the qualifications of an engineer, the Chief Engineer to the Local Government should be consulted and the appointment of an engineer should be made subject to his approval. In view of this a proviso may be added to Section 39 to the following effect :-
  - "Provided that an appointment to the post of Engineer shall be made in consultation with the Chief Engineer to the Local Government and subject to his approval."
  - The Commissioner was led to the conclusion that expenditure from the Municipal fund on roads. buildings, drains, etc., could be very much curtailed if some agency were employed to check and supervise the work of the Municipal Engineer. At present he has a free hand and his work is not checked and scrutinised by any one possessing technical knowledge. Having heard complaints that Municipal roads were not properly metalled and tarred, he asked the Chief Engineer to have them examined by one of his subordinates. Accordingly Mr. J. B. Vesugar, Executive Engineer, has given his opinion on a number of roads which had recently been consolidated or tarred or remetalled by the Municipal Engineer, vide in this connection paragraphs 35, 56 and 57. Mr. Vesugar's report is to the effect that these roads had been badly done, and that the expenditure incurred thereon was much in excess of what the Government spends on similar roads. The Chief Engineer, Mr. E. L. Crawford, assured us that any proposal aiming at the promulgation of a statutory rule that in the case of the first class Municipalities the appointment of the Municipal Engineer should be made with the sanction of the Superintending Engineer would have his energetic support. (We think ourselves the proper authority for approving such an appointment would be the Chief Engineer, and have worded our recommendation in the preceding paragraph accordingly). He further stated that he would welcome a statutory safeguard to the effect that any Municipal building, towards the construction of which the Government had made any contribution, must be built by Government agency. It is therefore necessary that the following provisions should be inserted in the Punjab Municipal Act :

"Section 39 A.

- The Muncipal Engineer so appointed shall be subject to the control and supervision of the Superintending Engineer, who shall record his opinion on each work completed by the Municipal Engineer.
- (2) The Superintending Engineer's opinion shall be final and the Committee shall be bound to accept it.

## Section 39 B.

If Government shall undertake to pay a portion of the cost of a Municipal building or road or any other work, it shall be constructed under the supervision of the local Executive Engineer."

Sections 41 and 42 S

- Section 41 is practically a dead letter and so is Section 42. Executive directions might be issued to ensure that proper use is made of them.
- (a) The rule embodied in this section has its parallel in Section 45 of the Madras District Municipalities Act (IV of 1884) or the Madras Act (III of 1871), and there is a corresponding rule of English law, according to which a contract with a corporate body requires for its validity the seal of that body. Section 40 of the North-Western Provinces and Oudh Municipalities Act (XV of 1883) and Section 47 of the Local Act (I of 1900), contain similar provisions. In the case of Municipal Committee, Gujranwala, versus Fazal Din (11 L. 121), all the conflicting Indian and English cases on this rule were reviewed, and it was decided that notwithstanding the imperative provision of Section 47 of the Punjab Municipal Act, 1911, if the defendant had derived benefit from the contract at the expense of the Committee, he must pay for what he had actually received and enjoyed, as if there were an implied contract between the parties; and the absence of a contract under the seal of the corporation was therefore no answer to action brought by the Committee. To set the controversy at rest, the section may be amended by adding the following proviso at the end of it :-
  - "Provided that if one party has derived benefit from the contract, he must pay to the other for what he has actually received, although the contract should be invalid and unenforceable."
- (b) It may be observed here that there is no provision in the Municipal Act empowering a Committee to delegate its power of expenditure to one of its members or Sub-Committees or servants. But by Rule 37 of its Conduct of Business Bules the Lahore Municipal Committee has delegated certain powers of expenditure to the Sub-Committees, and also in cases of emergency to the Vice-President and Chairmen of the Sub-Committees. Similarly the Secretary, Health Officer and Municipal Engineer have each been given power to expend Rs. 50 on any piece of work ; and the President entrusts thousands of rupees to the Municipal Engineer (Roads and Buildings) to be spent by him. This latter practice seems contrary to the spirit of the Act as well as the bye-laws framed under the Act. Provision should be made in the Act to restrict the Committee's power to authorise its Sub-Committees, members or servants to expend its funds, and the President's power to spend money through the Municipal Engineer or any other servant should be clearly withdrawn. The following clause may be added to Section 47-
  - "The Committee shall not delegate its power of expenditure to one of its members or Sub-Committees or

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Soction 47

servants save to the extent provided for by its bye-' laws."

Section 56

Section 61

effect should be added to Section 56. Two more taxes may be added in this section, namely Entertainment Tax and Building Application Tax. The former would be payable by persons visiting theatres, cinemas, horse-races, etc. They will find no difficulty in paying an anna or so in addition to what they have to pay for a ticket of admission.

The Committee should keep and maintain a register of all its immoveable properties in the form of a Revenue Record of Rights, and a clause to this

- As regards building applications, it is in the interests of builders that the Committee should employ well-qualified Building Inspectors, who will only be attracted by adequate salaries. At present the Committee employs as Building Inspectors men of poor qualifications who accept small pay. The builder would not mind paying a small fee on the value of the property proposed to be built, say 2 annas per cent. of the value. By levying this fee on building applications the Committee will get sufficient money for increasing the pay, as well as the number, of the Building Inspectors. Having regard to the number of building applications received every month, the number of Building Inspectors at Lahore appears to be inadequate.
- The main source of the income of the Lahore Municipality is the Terminal Tax, and the greater portion of that tax is paid by the community which has the largest population, because Terminal Tax is levied on almost every article which is brought within the Octroi limits of the Municipality, and it is the consumer who ultimately pays the tax, not the merchant who imports the articles. The only other tax levied by the Lahore Municipality is the Wheel Tax, the income from which is extremely small as compared with other taxes.

No time limit is prescribed for the recovery of arrears of taxes, etc., under this section. Ordinarily money due for over three years is not recoverable through a Civil Court, and nobody is bound to preserve proof of payment for more than three years. If a municipality claims a sum due more than three years before application to the Magisthat application should be rejected as trate. time-barred. A Municipality should be as vigilant to recover its dues as private individuals or corporations are expected to be. The need for fixing this time limit appears to be great in view of the fact that the Magistrate has no power to give a decision on the merits, his duty only being to recover whatever a Municipality claims. So the following proviso should be added to Section 81 :--

> "Provided that arrears or money which fell due more than three years before the application to the Magistrate shall not be recoverable under this section."

Section 81

Sections 84 and 86.

- It was pointed out in 1924 Lahore 619 that "the procedure prescribed by Sections 84 and 86 relates only to appeals against the assessment or levy of a tax under the law and did not provide a remedy for what might be done in violation of that law. The special Act does not oust the jurisdiction of the Civil Court to relieve one subject of the Crown against an illegality imposed upon him by any other subject. A Civil Court can try a suit to recover a tax illegally levied by a Municipality, though the plaintiff do not first take action under Section 84 of the Municipal Act."
- In view of the above ruling, Section 86 may be amend-🗆 ed thus :—
  - " No objection shall be taken to any valuation or assessment which is valid according to this Act, nor shall the liability of any person to be assessed or taxed be questioned in any other manner or by any other authority than is provided in this Act.
  - According to this section an application for supply of water can only be made by the owner of a building, and not by the tenant. In some cases it may be desirable to allow the tenant to apply for, and obtain, a water connection. In this case a water connection may be allowed on condition of payment of water rate in advance for a period of not less than six months, and this section may be amended accordingly by adding a proviso to the the Act.
- In the case of Abdul Aziz, Petitioner, versus the Crown, Respondents, Punjab Record 1916 Cr., the petitioner Abdul Aziz was convicted under Section 219 of the Punjab Municipal Act for disobeying a written notice under Section 141. The notice, after mentioning the building, called upon the petitioner to remove it or to execute "sufficient " repairs to such portion of the building as was in a ruinous or dangerous condition. It was held that the notice under Section 114 was bad, as it did not specify the portion of the building which in the opinion of the Committee was in a dangerous condition, or the nature of repairs required to be made, and that this defect vitiated the conviction under Section 219. In view of the above judicial pronouncement it is necessary to add a clause to Section 114 to the following effect :-

"A notice under this section must specify the portion of the building which is considered to be in a dangerous condition and the nature of the repairs required to be made ".

- In the last line of this section, for the words " public use " the words " human consumption " may be substituted.
  - The Local Government may take action under this section on the basis of a certificate of the Medical Officer of Health. The section leaves the Committee out of consideration. The Local Government's action should follow a recommendation by the Committee based upon a certificate of the Medical Officer of Health, and for obvious reasons this section should be amended accordingly.

Section 97

Section 114

Section 118

Section 120

## Para. 4]

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Section 121	In clause (1) of this section, "charcoal-kiln" should be added to "brick-kiln".
Section 125	The Vice-President of Dalhousie Municipal Committee suggests that this section should be so amended that the owner of an estate may be compelled to carry a drain beyond the boundaries of his estate. No person, however, has any power to construct a drain, etc., in land not his own property. The proposed amendment cannot therefore be accept- ed.
Section 129	The words "or irrigation channel" should be added after the word "any sewer or drain" in the last line but one of this section, for the reasons given against Section 156.
Section 132	Section 132 is badly drafted and requires re-drafting.
Section 136	In order that the power given by this section may not be abused by the Committee, the following may be inserted after the word "time" in the first line: "if necessary in the interests of the public or the residents of the locality."
Section 141	"Medical Practitioner" should be defined so as to include Vaias and Hakims. This section is silent as to the duty of the Health Officer on receiving the prescribed information. The Health Officer should have in readiness printed directions in respect of each infectious disease separately, and on receiv- ing information that a person is suffering from such disease, he should send a Sanitary Inspector to him to give him the printed directions and to see that his abode is in a sanitary condition. If the infectious disease should be such as is likely to spread in the locality, the Health Officer must visit the spot immediately to take steps to pre- vent its spreading. Instructions on this point for the guidance of the Health Officer should be embodied in bye-laws, or the section may be amended.
Sections 152 at	<ul> <li>nd 153 The term "brothel" is not defined. "Public prostitute" was defined in A. I. R. 1930 Lahore, page 824, where it was held that a prostitute who lives as the mistress of one man only, is not a public prostitute. In 11 Lahore, page 235, it was held that a person accused of prostitution in a prohibited area cannot be punished for disobeying an order of the Municipal Committee under section 152 of the Municipal Act, unless notice of such order has been served upon the accused personally. This principle should be embodied in Section 152 by adding in Clause 2 of that section between the words "Sub-Section (1)" and "shall " in line 2, " and served upon her personally."</li> <li>While a Municipal Committee can prohibit public prostitutes from residing in a specified area within</li> </ul>

prostitutes from residing in a specified area within the Municipality, it has no power to specify and allot an area for their residence,—vide in this connection the observations in paragraph 123 of the Commissioner's report. This power should be given by adding the following Clause (3) to Section 152 :—

"The Committee may by notice in writing specify an area within a Municipality for the residence of

public prostitutes, and after the publication of that notice, public prostitutes shall not reside anywhere except in such area."

The words "or irrigation channel" should be added after the words "into any public sewer or drain." This amendment is necessary to prevent people from polluting canal distributaries and watercourses.

. According to Clause (c) of this section, the Committee may close temporarily any public street or any part thereof for any public purpose; and under Clause (d) the Committee may turn, divert, discontinue or close any public street so vested. In this Clause (d) the words "for any public purpose" do not occur. It seems necessary that these words should be repeated in Clause (d) also.

People generally deposit building materials on public streets without first obtaining permission in writing from the Committee to do so. No provision is made for dealing with such persons. The result is that public streets are badly obstructed, and there is dislocation of the traffic. Fublic streets are also obstructed by persons who load and unload bullock carts. It is difficult to provide against this latter sort of obstruction, but for those who deposit building materials, power should be given to the Committee to impose a penalty in cases where no permission is obtained, or the Committee may make a rule to the effect that the scale of fees for persons who deposit building materials without permission will be double of that prescribed for those who do so with permission.

- On the analogy of Section 195 and 195 A a time limit of six months should be fixed for action in the matter of a street made without sanction.
- After this section a new section should be added to achieve the following two objects, (1) that no Committee should have power to sanction new buildings in areas for which no layout plans have been sanctioned, and (2) the Committee must be placed nuder a statutory obligation to 'get drains and roads made in new areas before sanctioning building plans therein. At present a town is allowed to expand in all directions without making provision for roads, drains, etc. The result is that many new suburbs are in a bighly insanitary condition. In Lahore, Prem Gali, Raj Garh and several other places may be mentioned as examples. The new section might run thus :—

"(1) No Committee shall sanction the erection of a building in a new area, of which a layout plan has not already been sanctioned by the Commissioner.

(2) The Committee shall not sanction the erection of a building in a new area of which a layout plan has been sanctioned, unless roads and drains have been constructed therein."

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Section 156

Section 169

Section 170

Section 170 A to 170 G.

Section 171

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The provision suggested in paragraph 3 above with reference to paragraph 79 of the Commissioner's report could be combined with these suggestions in a single new section.

- A very important case on the interpretation of this section is that of Municipal Committee, Delhi, versus Mt. Chambeli (1930 Lahore, page 246). The Committee granted permission to build a verandah subject to certain conditions. It was held that, the Committee had no power to impose any conditions. In view of this ruling either section 172 should be amended or bye-laws should be framed under Section 188, clause (u), to enable a Committee to impose conditions to a permission granted under this section. Another important ruling on this section is Punjab Record No. 2 of 1915 Cr., according to which this section refers to encroachments made newly and without permission, and is not applicable to structures or encroachments which have been existing for a considerable time. In such cases Section 175 is applicable, but "newly-made" has nowhere been defined, so a time limit of three years from the date of encroachment should be fixed for the purpose of this section, and in clause (2) between the words " the Committee may " and " by notice " the words "within three years from the date of encroachment " may be inserted.
- According to Clause (2) of this section the Committee or the Secretary of the Committee may remove or cause to be removed any moveable encroachments, etc., but it is nowhere stated how the articles removed are to be disposed of. Supposing chairs, benches, etc., are removed by the Secretary, where should he take them i The section should be amended to provide for this difficulty. Such articles may either be removed to the godown of the Municipality or deposited in some other place for safe custody. The owner shall be entitled to receive them back on payment of the expenses incurred by the Committee.
- This section has seldom been acted upon, though it arms the Committee with a weapon for widening narrow streets. A list of narrow bazars should be kept in the Municipal Office, and a building bye-law should be framed to the effect that no house shall be allowed to be erected in any one of those bazars, except on the condition that it will be set back to the extent determined by the Committee in each case, the necessary compensation being paid for disturbance.

The offer to pay compensation is a condition precedent to a notice under this section, but no time or stage is specified for fixing the amount of compensation, vide Section 224 in this connection. This section requires amendment on the point. Further, it is a question whether the section is applicable where an encroachment has ripened into ownership by lapse of 30 years. According to Section 28 and Article 146-A of the Limitation Act, the right of ownership becomes absolute by

Section 173

Section 175

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Section 174

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in	prescription. The case law on this point is con- flicting. In order to settle the point, the follow- ing words should be inserted in the second line of this section after the words "do not apply", "and the encroachment is less than 30 years old".
Section 177	In this section after the word "disturbs" in the second line, "or destroys" should be added.
Section 179	No road should be named after a sitting member.
Section 192	This section encourages violation of bye-laws, which the Committee are apt to disregard. Though the section is never mentioned, the Lahore Municipal Committee not infrequently sanction plans which contravene certain bye-laws. Four such cases have been brought to notice. Either therefore the section should be omitted, or the power con- ferred by it should be restricted to specified conditions and circumstances.
Section 193	This section should be amended so as to make it clear that the imposition of any condition not authorised by the bye-laws framed under Clause (3) of Section 189 would be void.
	Secondly, the Committee must record the reasons for which it refuses a plan and should communicate those reasons to the applicant.
	In 100 I. C. 183 it was held that sanction once given is irrevocable. This should be made clear in the Act itself.
	Tacit sanction or sanction by lapse of time pertains only to a building on private land. It cannot be deemed to cover projections overhanging, or structures on, public streets or Municipal land. An explanation should be added to show that sanction by lapse of time would not authorise building on Municipal land or a public street.
Section 194	This section is defective, inasmuch as it provides no remedy against a person who commences a build- ing within the prescribed period and then leaves it for any length of time without completing it. Further, the expression "commencing the building" is very vague. The digging or filling up of any portion of the foundations may be said to amount to the commencement of a building. Thus if a building were designed to consist of 10 rooms, the digging of the foundations of one room, or of one wall of a room, would be the commence- ment of the building. After doing this the owner may remain inactive for any length of time. A period should be fixed for completing a building after the date of commencement, and that period should be given by the builder himself. If a person should commence a building and then stop, building operations for over six months, no action would be possible against him under Section 195 or 195-(A), if he were to erect an objectionable building afterwards. So a proviso should be added to this section to the following effect :

"Provided that the building if once commenced shull be completed within a period to be men-tioned by the builder in his application."

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1.1.1.1.1.1.1.1.1. A distinction should be made in this section between buildings which must be demolished and those which need not be demolished. If the building erected without sanction or in contravention of the sanction is dangerous or insanitary, so as to be unfit for human habitation, or involves an encroachment on Municipal or Government land, the Committee shall require its demolition within 30 days from the date of service of the notice In other cases of unauthorised to demolish. construction the Committee shall levy a penalty, if the structure does not contravene any of the building bye-laws. And where it does, the Committee may order alteration thereof to make it conformable to the byelaws. For that purpose a reasonable period should be fixed in each case. Thirty days may sometimes be insufficient to effect alteration. This section therefore should be amended to embody these suggestions.

The first proviso to the section must be omitted, if Section 192 is omitted.

In the case of Mula and others versus the Crown (11 Labore 24), a Division Bench decided that under clause (a) of Section 197 of the Punjab Municipal Act, 1911 (as amended by Punjab Act II of 1923), all that the Committee can do is to require licenses to be taken for manufacture, sale, etc., of articles of food and drink and to prohibit manufacture or sale in premises for which no license is taken. And, although the Committee has the power to refuse a license for any premises, this power can only be exercised, not arbitrarily, but on reasonable grounds such as those based on considerations of public health, sanitation, etc. In the case of Ghanya Lal and other versus the Municipal Committee, Montgomery, (1928 Lahore 540), it was decided by the Chief Justice that clause (a) of Section 197, as amended by the Municipal Act of 1923, does not authorise a Municipal Committee to frame a bye-law prohibiting the sale by auction of fresh fruits and vegetables at any place other than a particular place. In view of the first decision a proviso should be added to clause (a) to the following effect :-

> " Provided that the prohibition shall be based on reasonable grounds and on considerations of public health or sanitation."

The second ruling points out a distinction between "prohibiting the manufacture, etc., of any article in any premises not licensed by the Committee" and "the sale by auction of any fruits at any place other than a particular place for the sale, etc., of such articles," though the Committee may refuse a license for sale, etc., at any specified place. This distinction would not be easy for a Committee to comprehend, and an illustration should therefore be added to clause (a) to make clear what the Committee can do under the clause and what it is not authorised to do.

Section 197

- The explanation added to this section admits of two interpretations, as is evidenced by the fact that it was interpreted in one way in 4 Lahore, page 120, and in a contrary way in 8 Lahore 613, which is a Division Bench case and overrules the previous Single Bench Judgment. Though the point is settled for the present, the explanation should be so altered as to make two conflicting interpretations of it impossible.
- This section is very important for Municipal administration. The Lahore Municipal Committee has authorised the President, Vice-Presidents, Secretary, Medical Officer of Health and Sub-Committees to compound offences. The concurrent jurisdiction of so many officers is a frequent cause of trouble, because if an offender does not succeed with one of them, he approaches others one by one till he succeeds. It happens also that if the President has refused to compound, the offer for composition is accepted by one of the rest. To remedy this defect, the offences should be divided into classes, and each officer should be allowed to take cognizance only of that class of offences with which he is specially authorised by the Committee to deal. For instance, the Medical Officer of Health may be given jurisdiction over offences against the public health to the exclusion of all other officers.
- It is stated that, at the suggestion of the District Magistrate of Lahore, it is the Committee who make an offer to the offender to attend for the purpose of composition, and printed forms of notice are used calling upon him to come and get the offence compounded on payment of a penalty. According to Section 229, it is the offender who should make an offer, and not the Committee. The result is that an impression has been created that composition follows as a matter of course. This has produced a bad effect, because it does not discourage people from breaking Municipal bye-laws. Further, to pay a fine by order of a Magistrate, even if the amount of the fine be small, has a much more deterrent effect than the payment of a penalty to effect composition. Moreover it is necessary that the officer who allows composition should give reasons for doing so and for fixing the amount of penalty. This would have the effect of a check on any tendency in the officer to be arbitrary.
- In the case of Municipal Committee, Multan, versus Moti Ram, a single Judge of the Lahore High Court decided that "an encroachment upon a public street which is punishable under Section 172 of the Punjab Municipal Act was not a compoundable offence." With all deference to the opinion of the learned Judge, this view does not seem to be correct, because Section 229 is wide enough to apply to all offences under the Municipal Act. But it seems necessary that some of the offences should be declared by the Act to be not compoundable, and one of them should be the offence of encroachment upon a public street.

Section 229

• •

Similarly, an act which is an offence because it endangers human life should not be compoundable.

- Experience has shown that this section is defective and requires amendment. In the first place a new clause should be inserted between Clauses (c) and (d) of sub-section (1) to the following effect :--
- "By order in writing call upon any servant of the Committee to appear before him to be examined on ony subject, or to give an explanation of any matter upon which the Commissioner may deem fit to make an enquiry. "
- Further, a new section should be added after Section 236 to enable the Local Government to appoint a committee of enquiry. This section should be to the following effect :---
  - "The Local Government may appoint a committee. consisting of Government officers or private persons or of both to enquire into the working of any Municipal Committee and to take such action on the report thereof as it may deem fit. The Chairman and every member of such Committee shall have all the powers of a Com-missioner under section 231."

5.

Municipal Boundaries.

We have next to consider the constitution of the Committee, but before doing so we think it desirable to say a few words about the area

The boundaries of the Municipality of Lahore under their jurisdiction. were first determined in Punjab Government notification No. 138, dated the 21st March 1885. They were enlarged by notification No. 3934, dated the 19th February 1918, and again by notification No. 21498, dated the 5th September 1923. By notification No. 25019, dated the 3rd October 1927, certain additions were made in order to include the new Indian clerks' quarters. We have had no occasion to criticize these dispositions, as the entire area at present within the municipal limits is rapidly developing and should certainly be under the same local authority. We would only remark that the control of so heavy a charge imposes a burden upon the Municipal Committee, which strengthens the case for strict control over their income and expenditure. We also support the Commissioner's recommendation in paragraph 16 that the terminal tax limits should be made coterminous with those of the municipality. We have not been able to discover any good reason for the present anomalous arrangement. The former were apparently last fixed by notification No. 21849, dated the 29th September 1924, as a result of complaints that important firms established themselves outside the limit and took advantage of their position to avoid taxation of consignments sent into the City. So far as our information extends, this complaint still prevails, and will not be eliminated by any adjustment of boundaries. The case for a common boundary rests on the more solid argument that those living within municipal, but outside terminal tax, limits enjoy such amonities as the Municipal Committee can afford without making a proper return. Subject to these observations, we have no recommendations to make regarding the municipal boundaries.

6. Prior to 1927 the number of elected members was as follows :---Constitution of the Committee. •

## 17 Muslims.

- 11 Hindus.
- .2 Sikhs.

32

- 1 European.
- 1 other, i.e., Christian, Jew or Parsi.

Total ... The remaining seats, 9 in number, were filled by nomination with the appointment of 3 Europeans, 3 Muhammadans and 3 Hindus or Sikhs. As a result of agitation against this constitution, it was decided in letter No. 27983-L.-S. G./Committees, dated the 4th November 1927, from the Secretary, Transferred Departments, Lahore, to the Deputy Commissioner, Lahore, to create 4 new seats, to be assigned to Hindus and Muslims in equal proportions. The result would have been as follows :--

- 19 Muslims
- 13 Hindus.
  - 2 Sikhs.
  - 1 European.
  - 1 other, i.e., Christian, Jew or Parsi.
  - 9 nominated.
- Total .. 45

As, however, the wards could not be conveniently reconstituted at that time, the new seats were filled by nomination. The election of 1927 therefore resulted as follows :--

Elected-

- 17 Muslims
- 11 Hindus
  - 2 Sikhs
  - 1 European
  - 1 other, i.e., Christian, Jew or Parsi.
- Nominated—
  - 3 Europeans
  - 5 Muhammadans
  - 5 Hindus
- Total ... 45

The revision of wards was then taken in hand, but there was an unfortunate delay in the submission of proposals, and it was not till the 5th of August 1930 that they reached any measure of maturity. Even then objections were raised to the Committee's proposals, and in October 1930, Mr. D. Falshaw, I.C.S., Assistant Commissioner, was deputed to revise the wards afresh. Mr. Falshaw's report reached Government on the 15th January 1931, and it was then apparent that his proposals were no more acceptable in many quarters than the last. In any case they would require more consideration than Government could give them at short notice. It was accordingly decided not to defer the elections any longer, and orders were accordingly issued in notification No. 7849-L.-S. G.—Committees, dated the 10th March 1931, that the number of members would be fixed at 45, of whom 32 were to be elected and 13 appointed by name. The effect of this decision, which was fully explained by the Hon'ble Minister for Local Self-Government, Dr. Gokal Chand, in reply to Council Question No. 497, dated 24th March 1931, was to postpone the addition of 4 elected members to the previous quota and leave *in statu quo* the question of ward revision.

Since then the census figures of 1931 have become available, and the population within the municipal area is now as follows :—

		•. •		¥	
<b>Muslims</b>	•••	238,027	or	59.5	per cent.
Hindus	<b>* ***</b>	127,887	or	32	"
Sikhs		21,052	or	5.3	<b>))</b>
Christians and	others	13,108	or	3.5	•
Total	••	400,074			

## Para 6]

In view of the recent municipal elections, voters' registers have also been revised, with the following results :--

			,			, ;			 }		Total	
- - 		Ward	Ward 2	Aard 3	Ward 4	Ward 5	Ward 6	Ward 7	Ward 8	Ward 9	No. of Votera	Ward.
•		-								i		
Mualims (City)	:	6,200	5,146	2,200	3,677	1,864	5,466	2,492	8,635	5,280	35,020	3,900
Muslims (Civil Station)	*	1,881	4,697	3,367	2,966	6,045	3,292	6,732	8,425	1	30,305	3,800
Hindus (City)	:	3,378	4,117	3,129	3,680	4,112	1,394	:	ł	:	19,810	3,300
Hindus (Civil Station)	:	5,833	6,148	4,366	1,285	1,682	i	į	•	ŧ	18,312	3,600
Sikhs (City) -		2,397		:	ł	÷	:	:	. :	:	2,307	:
Sikhs (Civil Station)	:	8,752	ŧ	•	ŧ	ė		i	•	:	3,752	:
Christians	÷	1,098		;	į				:	4	1,698	:
Europeans	:	1,198	. `	÷	:	• •	Ŧ	I	÷	÷	1,198	:
GRAND TOTAL	1	;	:	:	:		:		:	:	111,892	

These figures entirely neutralize Mr. Falshaw's careful findings, which were based on the voters' registers of 1927, and it would appear in consequence that the 36 elected seats should now be distributed as follows :—

Muslims		21
Hindus	• •	1,2
Sikhs	••	2
Others	• •	1
		<u></u>
Total	- ••	36

We consider that in the face of these figures the decision of 1927 above-mentioned calls for reconsideration.

Now as to the question of nomination, we have consulted both Nomination by Government. the President and two Vice-Presidents on the subject. There will be for the present 13 seats under consideration, of which no doubt the greater number will

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Ŕ,

be assigned to the major communities. In making these appointments we presume that as usual the weightage of minority communities will be duly considered, without at the same time depriving the majority community of its advantage, since it is obvious that the Committee must continue to have a clear Muhammadan majority. We are struck in considering this question by the necessity for increased representation of particular interests. So far, we understand, three seats have been assigned to the Punjab Chamber of Commerce, the Anglo-Indian community and the European community respectively. We are surprised to observe that the Government have not appointed a representative to watch their own interests in the Capital of the Province, and there are other bodies whom we consider worthy of notice in this connection, for example the Railway department, Clerical Services of Government, the Indian Medical Association, University and Industries generally We have been impressed by the quantity of intelligent criticism which has reached us from some of these bodies. The Clerical Services attached to various Government Departments mostly inhabit the area extending from the Government College to the new Estate on the Multan Road. That estate is a model residential area of its class and we had evidence that the clerical population are among the loudest dissentients from the existing order of things. The Indian Medical Association, again, furnished us with a searching critique of the Committee's administration in senitary matters, from which we gather that they are advocates of thoroughgoing improvement and reform. The Railway Department bulk large in the life of the place and occupy by far the most considerable area of any Government Department. Without therefore disturbing the arrangement by which the Punjab Chamber of Commerce, Anglo-Indian community and European community receive three nominations we are strongly of opinion that the bodies aforesaid deserve also to be considered. The result will be to reduce the extent of nomination on a communal basis, for we presume that representatives of particular bodies and interests would be chosen, for their personal qualities, among which we should look for a genuine interest in nunicipal affairs, the will and ability to attend regularly and capacity to express sound views with emphasis and effect. Our purpose in making this recommendation will not be served, if it results merely in the selection of chronic absentees, however distinguished or influential. At the same time we consider that the proper proportions of communal representation should be borne in mind in making these nominations, in order to guard against undue weightage of a particular community not so entitled on the basis of voting registers or census figures.

Local Self-Government Department Notification No. 23740-Committees, dated 11th October 1923, prescribes in

Qualifications of members. paragraph 4 the following conditions precedent to candidature for election, in addition of course to the communal qualification :--

- (a) an income of not less than Rs. 75 per mensem; or
- (b) immoveable property of not less than Rs. 1,500 in the Lahore Tahsil ; or
- (c) the payment, or receipt of an assignment, of land revenue amounting to not less than Rs. 15 in the Lahore Tahsil; or
- (d) having passed the intermediate or higher examination of a recognised University.

It has been represented to us that all these qualifications are too low. Some knowledge of English is essential in the deliberations of the Committee, and the property qualification should be raised so as to place members, as far as may be, above temptation. We therefore propose that the qualifications above mentioned should be revised as follows :--

- (a) an income of not less than Rs. 200 per mensem; or
- (b) immoveable property of not less than Rs. 10,000 in the Lahore Tahsil; or

- (c) payment, or receipt of an assignment, of land revenue amounting to not less than Rs. 100 in the Lahore Tahsil; or
- (d) possession of academic qualification not less than that of a graduate of a recognised University.

We also agree with the suggestion that Matriculation should be a compulsory qualification for every candidate, excepting those who have already served a term as members of the Committee. We do not support the proposals submitted to us that Public Prosecutors should be regarded as whole-time salaried Government officials and that Honorary Magistrates and Sub-Registrars should be excluded as such from election, but not from nomination. We recommend a reduction in the deposit of Rs. 300 demanded from each candidate seeking membership, of which Rs. 200 is returnable. The deposit for a candidate seeking election to the Punjab. Legislative Council is Rs. 250, and the whole sum is returnable. We think that in the case of the Lahore Municipality a deposit of Rs. 150 will suffice, out of which Rs. 100 should be returned, if the candidate succeeds or obtains the prescribed percentage of votes.

We think the Commissioner has said enough to demonstrate the 7. serious condition into which the affairs of Necessity for radical organizathe Lahore Municipality have . fallen, and we tion. have indicated in the last paragraph the means by which the Committee might be reconstituted on its present basis. No mere redistribution of seats, however, will eliminate the canker of communalism, which is at the root of the trouble. We have tried to envisage a system of wholesale nomination, whereby all vested interests, including communities, would be represented without election. Nomination is certainly a sort of safeguard against the uncontrolled despotism of an elected majority, but we fear the communal spirit would win through, and the members, howsoever appointed, merely range themselves into opposing forces on a communa basis in the present temper of the age. We cannot ourselves hope for drastic reform without some other administrative changes.

8. We here invite the attention of Government to paragraph 44 The Audit Note of 1930-31. The Audit Note of 1930-31. Fund Accounts, Labore, for the period May 1930 to April 1931, which reads as follows:—

"The last audit note was not considered by the Committee." The repetition of defects pointed out therein could have been avoided, if it had taken suitable action promptly. The remarks contained in paragraph 44 of the last year's audit note still apply regarding the accounts, for the period under audit. Terminal tax is not charged on many articles, according to the rates given in the sanctioned schedule (paragraph 5). Wheel tax was not imposed properly. It was not recovered from owners of many vehicles kept in the Municipality [paragraph 6 (a) to (d)]. The loss of revenue on this account was very heavy. The Committee was losing much revenue on account of water rate, for not making assessment properly [paragraph 8 (a)]. Dog tax realizations were much less than the expected income under this head. No arrangements have so for been made for the assessment of this tax (paragraph 10). About Rs. 80,000 were short assessed on account of license fee (paragraph 11). Register of immovable property was not yet prepared. Private encroachments on Municipal land could not therefore be checked [paragraph 13 (1)]. Temporary misappropriation of copying fee was again brought to notice (paragraph 14). Boys' funds collected by the Head Master of the High School, were not credited to Municipal fund (paragraph 15). Some demands on account of penalty were either not entered in the demand register or were not realised at all. In many cases the penalty imposed for encroachment on land was much less than the amount of rent involved (paragraph 16). Full quantity of city sweepings was not daily accounted for. Many carts and vehicles kept for removal of filth did not appear to have been employed for the specified object [paragraph 18 (e) ]. The recovery of previous years arrears of taxes and other demands did not receive adequate attention. Many of them were time-barred, apparently due to timely action not being taken for the recovery (paragraph 19). Many payments were made with-out specific sanctions (paragraph 20). Printing of forms was done at a very high rate (paragraph 26). Tenders were not called for, for purchase of big supplies (paragraph 27). Higher rates for such articles had to be paid, because payments were not made promptly. Public Works rules, as given in the Code, were not

observed at all. Works were got done at higher than the prevailing rates (para graph 30). There was a deficit of about Rs. 11,000 in the Provident fund accounts [paragraph 31 (b)]. A large number of receipt books were not properly accounted for [paragraph 32 (a)]. Temporary advances were not adjusted promptly, and the unspent balance with the Superintendent of Police was also refunded after about a year [paragraph 33 (d) & (b)]. To judge from this slackness in safeguarding the interests of the Committee, there is perhaps still considerable leakage in the collection of the Committee's dues."

In paragraph 2 of his letter No. L.A.D.-2-5130, dated the 15th September 1931, the Accountant-General comments as follows :---

"A glance at the previous Audit notes will show that the objections raised are very serious and that no action has been taken to remove irregularities which have been pointed out again and again by this Department. The expenditure on audit is wasted if the reports are treated with such scant courtesy. The fact that the Municipality has no machinery for watching the disposal of the objections taken by audit makes audit ineffective. I therefore ask Government to consider whether any useful purpose will be served by auditing the accounts of the Municipal Committee again, unless and until there is a substantial improvement in the disposal of audit objections. I ask that the Local Government will communicate to me their views on this point at a very early date."

We think this correspondence, which reached us after the Commissioner had reported, affords very significant corroboration of his findings.

9. The logical effect of those findings, in which we all concur, would be to lead us to recommend the super-

session of the Lahore Municipal Committee under section 238 of the Punjab Municipal Act. Large issues are at stake, new taxes have to be imposed and provision must be made for the Water Works and Drainage Schemes, which cannot be subjected to further delay. We were assured by well informed persons that no elected majority would ever face these issues, and we are constrained to admit the force of the contention. We doubt however whether it lies within our terms of reference to make this recommendation : apart from which, there are some other considerations. A new Municipal Committee has just taken office. There will be advocates of a fair trial for the new We feel we ought to take the risk of agreeing with them, members. • rather than expose this untried body to the ignominy of supersession, which would be a retrograde and unprecedented step. But we do not minimise the risk. Perhaps the Commissioner's report has had not minimise the risk. some effect already. If so, and if after a full year, calculated say from the 1st April 1932, it can be proved that the Committee have shown themselves able and willing to carry out a substantial measure of the reforms herein set out, it might be possible to maintain the status quo. We could recommend postponement on these terms of a course of action amply justified by the evidence.

Short of this extreme measure, there are sundry alternative The Executive Officer Act. We should welcome wholeheartedly the appointment of an Executive Officer. The Commissioner has already, in paragraph 72, pointed out some of the salutary features of the Executive Officer Act. Since it is already on the statute book, and the discussions which preceded its passage through the Punjab Legislative Council will be fresh in the mind of Government, we have not thought it necessary to subject its provisions to any closer analysis.

We do not doubt that the appointment of an Executive Officer would effect an all-round improvement in the routine of Municipal administration. But he will have no power to impose taxation or stimulate in the Committee itself a spirit large-minded enough to overcome the perversity, the hesitancy and the prejudices, which have so far proved a bar to progress. We fear that the Executive Officer, unless he be no

# Para 9-10]

ordinary mortal, will be a victim of the old evil influences. Nevertheless we strongly advocate the appointment and have for this reason proposed no particular change in the office and statue of the Secretary. The Committee have, we believe, for some time been endeavouring without success to secure an officer of the Indian Civil Service' for this post. The present incumbent, Bakhshi Harbhajan Dass, is nearing retirement and has no particular attainments to his credit. But his, conduct of the Committee's correspondence, is, up to a point, adequate, and if he were not burdened in addition with a great many extraneous responsibilities, which he does not discharge very efficiently, we should be disposed to think well of him. Normally, however, this post should be held by a better man, and unless we anticipated the appointment of an 'Executive Officer, we should favour a considerable improvement in the status and qualifications of the Secretary. As it is, if an Executive Officer is appointed, we think the Committee must be satisfied with an officer of . Provincial Civil Service or outside candidate of like standing and competence.

We think it will be evident that neither the Commissioner nor Official control. Deputy Commissioner is able to give to the control of this Committee anything like the

time and attention which it requires. Paragraphs 78, 79, 178 and 179 are some of the passages in the Commissioner's report, which point unmistakably to this conclusion. If the constitution of the Committee is to remain on its present footing, there must clearly be some change in the machinery of official control. There might be a Joint Commissioner, or Joint Deputy Commissioner, and he could be charged with other duties in addition, although we think he would find the control of the Lahore Municipality sufficient in itself for some time to come. We believe also that this suggestion would find favour with the Committee, who, though somewhat impatient of official control and not infrequently inattentive to the mandates of "official authority, are happy in their personal relations with the Commissioner and Deputy Commissioner. But we doubt whether this proposal would ultimately produce the desired result. We therefore favour the withdrawal of control over Municipal affairs from the hands of the Commissioner and Deputy Commissioner altogether, and the substitution of an inspectorate directly under the Ministry of Local Self-Government. This staff should be controlled by a Commissioner appointed ad hoc and enjoying all the powers of a Commissioner under the Punjab Municipal Act.

10. As already remarked, we were confronted at the outset by a strong body of opposition within the Com-Future commissions of enquiry. mittee itself, supported by a majority of members and culminating in two resolutions of non-co-operation. The Committee's recent resolution, admitting the error of their former policy, is hardly an extenuating circumstance. The mischief was already done and no subsequent overtures could undo its evil results. The object of these demonstrations was to cripple the enquiry and discredit the gentlemen authorized by Government to conduct it. Despite con-ciliatory communiqués and every friendly gesture on our part, this attitude continued. A condition of affairs, in which two members of a Government Committee, out of three, received no official recognition Municipal Committee into whose administration they were from the charged to enquire, could not be otherwise than unsatisfactory. That we were able to function at all, was due primarily to the strength of public feeling on the conduct of Municipal affairs, and after that to the cordial co-operation of Government department and officials, anxious to · improve their relations with the Municipality.

We do not wish to elaborate these reflexions, but we think it our duty to point out certain logical conclusions. Our enquiry was not paralysed by the tactics of the Municipal Committee, but the prestige of Government suffered considerably from their exertions against us. An embargo was placed upon all direct contact with the Committee's officers in the initial stages. We were driven ourselves to indirect methods of inspection and investigation. The Commissioner asked

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at the outset for a list of files known to be missing. He has not yet received it; nor do we know how many more disappeared after our enquiry began. Throughout the Commissioner's report there are numerous instances of incomplete records, and many lines of enquiry had to be abandoned for want of material which ought to have been forthcoming from the Municipal files. It is indeed a feature common to all enquiries like ours that incriminating documents tend to disappear at the opening, and the fact supplies a conclusive answer to those who argued that such an enquiry should be preceded by preliminary dis-cussions and the consent of all parties involved. So far from holding any such opinion, we would go further and propose that no important enquiry into the affairs of a local body should in future be conducted without first suspending its constitution. We see nothing repugnant to this suggestion in the wording of section 238 of the Punjab Municipal Act, because the Local Government should be in possession of prima facie evidence of incompetence or default before the subject of an enquiry is mooted or decided. At any rate, in order to prevent the suppression of hecessary information, to be forearmed against a recalcitrant or hostile staff, and to avoid placing the members of the Enquiry Committee' in an undignified position, this would appear to be the only course possible.

11. We were fortunate in the staff engaged for the work of the Enquiry Committee. Our Secretary, Mr. Notice of the staff. P. C. Bhandari, B.A. (Cantab), F. R. Econ. S., Barrister at-Law, had already made extensive researches into Municipal organization in various European countries. Since his return to India he has published a study of administrative problems in the Amritsar Municipality, to which we have referred with profit in our investigations. He applied bimself with conspicuous success to the unaccustomed duties of Secretary to an Official Committee, and showed in the discharge of his duties quite exceptional industry and ability. We desire, collectively and individually, to acknowledge our debt to Mr. Bhandari in the conduct of this enquiry. The Office Superintendent was Lala Daulat Ram, previously Head Assistant in charge of the Local Self-Government Branch of the Commissioner's office, Lahore. Lala Daulat Ram came to us with a considerable knowledge of the working of the Lahore Municipal Committee, which proved of great advantage. In the detailed control of a voluminous correspondence and the preparation of notes and précis on particular subjects of enquiry, he showed that he possessed good abilities, as well as capacity to command a wide range of subjects in a limited time. S. Fazl-i-Hussain, M.A., LL.B., was an Assistant drawn from the Punjab Civil Secretariat, with high educational qualifi-cations: He justified his appointment by industrious application to his duties, and displayed both competence and efficiency. Upon Mr. R. K. Bhatia, the Stenographer, fell the burden of taking down to dictation a number of long and elaborate drafts. He was an indefatigable worker, with an adequate knowledge of his duties. Chaudhri Muhammad Anwar, a Naib-Tahsildar, was attached to us for a time, and rendered valuable * service in conducting special enquiries, for example, into the assessment of sullage water charges and tehbazari. Two typists were attached to the office, namely Pandit Kali Dass and M. Fazal Ahmed, both of whom proved fully equal to their duties.

In all these cases we should like to draw attention to the exceptional strain under which the office worked: for four months in succession there was hardly a day on which they were not obliged to exceed the normal office hours. Our tribute to the office staff is therefore a testimonial to the diligence and perseverance, no less than the competence and aptitude, with which they pursued their labours.

HARI KISHAN KAUL Members.

# B. H. DOBSON,

# CHAIRMAN,

M. ZAFAR ALI

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Lahore Municipal Enquiry Committee.

Deted 31st December 1931.

# REPORT

OF THE ·

# PUNJAB EROSION COMMITTEE,

# 1932.



Lahore : PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRINTING, PUNJAB. 1934.

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# Report of the Punjab Erosion Committee, 1932.

1. The Afforestation of denuded hill sides and the reclamation and protection of agricultural lands, damaged or threatened by hill torrents, specially in the Hoshiarpur district, has for many years attracted the attention of Government. No general survey, however, of the state of erosion and denudation throughout the province has been made until <u>1927</u> when Mr. L. B. Holland, Deputy Conservator of Forests, was placed on special duty and submitted a report in the following year. -04

This report, confirmed by the Deputy Commissioners of the districts affected, and by all Forest Officers, showed that denudation, erosion and the destruction of forests and shamilat in the low hills throughout the Punjab was extremely serious and that action was urgently called for.

distant date covered in forest admits of no doubt, for the remains of the forests are to be seen on every side; but to-day only the reserved, protected and unclassed forests under the control of the Forest department remain, and of these it may be said without any hesitation that many are deteriorating and disappearing, while some have been already entirely destroyed."

"The remain of former olive and phulai forests can be seen on the lower slopes of the Murree hills, while at higher elevations the oak and other broadleaf forests, particularly at Charihan, Patriata and Bhurban, are rapidly disappearing owing, to the excessive lopping for fodder. In the Attock district, the Kala Chitta hill forests of olive and phulai are deteriorating owing to denudation, and it is now impossible to obtain natural regeneration. Whether this is due to present excessive grazing or to denudation as a result of past grazing is immaterial, the fact remains that these forests must disappear if no seedlings can be obtained to replace dying trees."

" The forests which once clothed the Pabbi hills have gone and the tract is now so cut up by ravines that many parts can never be afforested."

" In the Rawalpindi district between Mandra and Kaliam Awan railway stations a new Pabbi hill tract can be seen in the very earliest stage of formation. The cultivation is being destroyed and no steps are being taken to stop the evil."

the evil." "The Harro valley between Hasan Abdal and Lawrencepur is utterly denuded and the ravines are yearly eating away more and more cultivation. The Sil and Soan valleys, also in the Attock district, are heavily overgrazed, the shamilat and unclassed forests ruined "

"The Gurgaon hills are almost naked, and herdsmen can still be seen not merely lopping trees for their goats to feed on but actually cutting them down. There is still one forest, the Jhir, in Gurgaon near Ferozepur, but this is year by year being more and more encroached on as the surrounding shamilat is destroyed."

" The low hills of Gurdaspur and Kangra have barely enough fodder to support the local cattle and goats; every tree which these animals will eat and there are very few they refuse, is lopped to the very top to supplement the scanty grass. Here in addition to local animals, every winter nomad sheep and goats from the high hills are let lose on these districts not merely in thousands but in hundreds of thousands. Last year over three lakhs of sheep and goats wandered over the Kangra district and between fifty and seventy thousands over the Shahpur Kandi tract in Gurdaspur."

"In every district denudation of the soil, disappearance of the tree growth, deterioration of the grasses and the subsequent erosion is slow and so insidious that it is to the untrained eye scarcely noticeable. The Salt range villager, for example, may complain that he can only keep five cattle, whereas his grandfather kept more than double that number; but the average district official, in the multiplicity of his duties, in his short period of service

in a district, with an eye untrained to notice the processes of destruction, seldom realizes that the vegetation on which the very life of the people depends is disappearing under his very eyes."

"In the Siwalik hills the destruction of the forests was due in the first instance to the increase of cultivation in the plains below, to the cultivation of the friable hill slopes, to the firewood demand of cantonments, such as Hoshiarpur, Hajipur, Budhipind and Jullundur and to the construction of the Sind-Punjab-Delhi railway and the Sirhind Canal. Hundreds of acres were sold with the right of digging up the roots of trees and it is reported that during the construction of the Sirhind canal between two and three hundred boat-loads of firewood were daily taken across the Sutlej to Rupar."

"Great though the damage was from the above causes, far greater was that caused by the ever increasing herds of goats, sheep and cattle till in 1879 Mr. Baden Powell, the Conservator of Forests, wrote "One may march for miles and miles with nothing in view but bare mud-coloured crests and rugged slopes, rarely dotted with greyish browsed down bushes, while an occasional *kikar* bush that has sprung up out of reach is alone green and flourishing."

"Even to-day this is still the condition of the hills above the town of Jejon and in the Manaswal jagir, and it exactly describes the Ambala-Siwaliks as the writer first saw them in 1914 and as the greater part is still to-day."

"In every district visited the excessive and unregulated grazing of goats, sheep and cattle is destroying the country-side. It has been recognized in the great cattle ranches of America that to graze pasture lands to their very maximum year after year can produce only one result—a sharp decline in their carrying capacity; while to allow grass to be regularly grazed just after growth has started weakens the plant and immediately reduces its fodder capacity."

"Good fodder grasses are weakened and finally destroyed; to be replaced, if at all, by inferior species. Both in the Siwaliks and the Pabbi considerable areas are met with covered with the worthless lambh grass (Aristida species). Trees and shrubs, except the few species which eattle do not ordinarily eat, are destroyed; hardly a seedling has a chance of surviving. In Gurgaon small trees are cut down to feed the goats. In the Salt range the destruction of the *shamilat* is absolute; the soil which formerly overlay the rocks has been almost entirely washed away, the hillsides are naked but for a few stunted bushes, and even the bushes are cut to provide inadequate fencing round the valley cultivation."

"The Agricultural Commission in its report just issued notes the overstocked condition of the village grazing grounds in Hoshiarpur, Ambala and Sil and Sohan and Harro valleys of the Attock district speak for themselves.

		DISTRICT.						
Acres per head of cattle	. 4	Hock.	Hoshiarpur:	Ambala.				
	Harro valley.	Sil and Soan valleys.	Siwalike.	Siwaliks.	Morni.			
Less than pne 1·1 to 2 acres 2·1 to 2 acres 3·1 to 4 acres 4·1 to 5 acres More than 5	··· 1 ·· 3 ·· 2 ·· 2 ·· 1	7 6 6 1 1 5	10 24 35 21 16 14	5 6 9 8 4 3	 1 3 2 2			
Total		26	120	\$5	8			

The figures are given in number of villages.

Norm.—There is not one village in Hoshiarpur with 8 acres per head, nor one in Ambala with 7 acres.

It must be remembered that the Attock and Morni villages keep goats as well as cattle."

"The destruction of the country by the excessive and unregulated grazing of herds of goats, sheep and cattle has been pointed out before, but no steps have even been taken; and Forest Officers have had to stand by and watch the destruction of their forests owing to the refusal of Government to insist on the closures necessary for their preservation. With the destruction of the village waste by overgrazing the demand on the forests becomes heavier and heavier until the forests too are utterly destroyed."

" In reviewing the Forest report for the year 1881-82 the Government of India remarked upon the small area closed against grazing, and expressed a hope that it would be found possible to increase this area as otherwise in a dry climate like the Punjab, forest conservancy was unlikely to be In reply to this comment Mr. Ribbentrop, the Conservator of successful. Forests, pointed out that the immense flocks and herds were almost entirely dependent on the spontaneous growth of the village waste lands, and stated that unrestricted grazing was destroying the trees which furnish and shelter. "The lower hills," he wrote, " are the necessary hot weather pasture. probably the most important forest areas in the province, their influence on the agriculture wealth of the country would be considerable, but from the Peshawar frontier to the Kalesar Doon we find, with few exceptions, overgrazed almost barren hillsides, cut up by steep ravines forming torrents while the rain lasts, and almost dry immediately afterwards.'

He called attention to the results of similar overgrazing and destruction of forest lands in Europe. "The destruction of forests in Spain..... has in spite of the richness of the soil retarded and prevented its development as an agricultural and consequently civilized country. The Tyrol lost in one century a third of its cultivated land by the destruction of forests; sterile pastures were created in the countries of Osnabruck and West Holstein by the destruction of forests made over to the free management of village communities. Forests together with cultivation are still lost year by year in the south of Russia and Hungary and the devastation of forests in the Bavarian highlands ruined first vinegrowing, then agriculture and finally grazing itself.".

itself.". "With this statement compare the conditions in the Siwaliks and Salt range, where the destruction of the forests has ruined cultivation and finally grazing itself; while the persistent refusal of public opinion to agree to take the necessary steps to afforest the hills still further extends the ruin of cultivation in the plains below.

Mr. Ribbentrop continues:. "Apart from the mischief done to the wooded lands, the right to graze unrestrictedly over all the waste area is an evil for the population which enjoys this right. The largest stock the land can support in ordinary years is produced. As the quality of the grazing deteriorates and the supply falls off animals have to seek their food over a larger area, and as a consequence a greater number of inferior animals are bred. This stock, ill-fed at all times and more than half-starved during each recurring hot weather, produces a feeble offspring which is unable to survive years of exceptional severity and which consumes what would serve to support a less number of more valuable animals."

"The Chief Conservator comments in the Annual Report (1928). It is the absence of any organized pasture management, particularly in village lands, to regulate the number of animals grazed and to provide for rotational closures which is resulting in the gradual denudation of the hills of their soil and vegetation."

"Even with this large proportion of forest open to grazing, the burden on forests due to the deterioration of *shamilat*, excessive and unregulated grazing, is shown by the fact that in the Rawalpindi West Forest division along the following illicit grazing, grass cutting and lopping cases were reported :--

						1926-27.	1927-28.
Illicit grazing	••	•			••	2,037	2,195
Illicit grass outting	••	••	-	••	••	16	111
Illicit lopping	••	••		••	• •	586	911

"From personal knowledge of the division it can be confidently stated that for every case reported ten at least are either not reported by the Forest guards owing to connivance, or escape detection. Conditions in other lowhill divisions are almost certainly quite as bad."

"No one, says Mr. Ribbentrop," who reads the exhaustive correspondence regarding forest settlements in the Punjab can fail to be struck with the minute attention which the authorities have given and the infinite pains with which Settlement Officers have considered the claims, the customs, and the wants of the people. But unfortunately the officers charged with the settlement of the claims in the forest reserves have not always possessed a practical knowledge of the methods by which forest lands are improved, nor have they sufficiently appreciated the idea of national importance of forests and of the claims which the general public have on them, to be able to overcome their vory natural sympathy with the few whose immediate interests are threatened. The existing forests are not preserved nor are others created, for although the trees may not be removed bodily, still, as reproduction is impossible, their extinction is merely a matter of time."

"It might be added, nor have they shown any appreciation of the fact that if village waste is over-grazed as at present it must deteriorate to such an extent as finally to be unable to support the village animals. Such deterioration can be seen everywhere.

"No country can stand with impunity the treatment which the *shamilat* and forests receive under this overcareful protection of the peoples' rights. Any interference with rights is at once greeted with the outcry that rights are being taken away. So scared are rights that they must not be curtailed in any way!

In the Hoshiarpur and Ambala Siwaliks, for example, the destruction of the vegetation on the hill-sides caused by 155 villages is directly responsible for the ruin of the cultivated lands of more than a thousand villages in the plains below. But so scared are rights that it is highly improbable that any Legislative Council would agree to legislation to prevent the destruction which^{*} is increasing year by year. Better than the country should be destroyed rather than the rights of the people should be interfered with in the least degree!

It is this reluctance to interfere with village rights which has led some to urge the erection of engineering works in the Hoshiarpur and Ambala Siwaliks. Proposals have been made to dam the chos by costly masonry embankments, thereby storing water for irrigation, or to canalise the cho beds, closing the end with a bund."

"They do not realize, that until the rush of water and sand is stopped, or at least very considerably diminished, the problem of how to dispose of the sand remains unsettled. Bunds and canals would be silted up as soon as constructed. The cost of such works is prohibitive. The volume of water pouring down with its load of sand every year must be seen to be appreciated. Readings taken at the Budki superpassage over the Sirhind canal, some five miles out in the plains below the cho's point of debouchment, show that in 1916 a flood *eleven and a half feet deep* passed over the superpassage which is one hundred and thirty-two yards wide. This flood was admittedly exceptional, but the record of readings given as an appendix to the special report on Ambala shows that every year a flood of from six to nine feet deep may be expected.

Engineering works are not a practical proposition. There is only one way of stopping the rush of water and sand on to the plains, and that is by afforesting the hills.

Nature has designed that certain localities should be clothed in forest and interference by man with this provision is invariably punished. One has only to remember the present state of parts of Persia, Iraq, Palestine, southern Europe, the frequent disasterous floods in China, the terrible state of erosion at Etawah in the United Provinces among many others, all of which are due to the destruction of the forests and vegetation. Has it ever been considered what effect destruction of the low hill vegetation will have on the cold weather supply of the Punjab canals?

The only river coming within the view of the writer during this tour has been the Beas; here as pointed out in the reports on Kangra and Shahpur Kandi attached. the vegetation is steadily disappearing, the Chamba State hills which drain towards the Beas, are already naked, the conditions in Mandi and Suket States are believed to be bad; and if the vegetation is insufficient to retain the monsoon rains it is inevitable that the cold weather supplies in the rivers will decrease. With regard to other Punjab rivers the writer can offer no opinion, but the Poonch State hills and the Rawalpindi hills draining to the Jhelum are being steadily denuded, the Simla hill ' dihat ' forests are almost ruined in the Sutlei and Jumna basins. All such destruction is progressive, for as the village waste is destroved the demand on the forests increases and it is the writer's opinion that a general survey of the low hill portions of the catchment areas of all the Punjab rivers would disclose the fact that conditions are everywhere threatening the safety of the canals.

That destruction is not confined to the low hills is borne out by an article entitled "Denudation of the Punjab Hills " by Mr. B. O. Coventry, Conservator of Forests."

3. The report held that the chief cause of destruction was the unrestricted grazing of excessive numbers of sheep, goats and cattle. It expressed the fear that continued destruction of the vegetation would affect the cold weather supplies in the canals and must result in increasing floods during the monsoons. Its publication was followed by the destructive floods in 1928 and record floods in the next year.

Referring to these floods Sir Henry Craik, speaking in the Puniab Legislative Council said: "The expenditure on floods incurred during 1929-30 that is to say, on repairing head-works and canals damaged, renairing the roads and bridges and so on washed away by floods was no less than 73 lakhs of rupees."

4. That denudation and erosion are quite as bad in the adjoining Indian States is shown by the following extract from the Kashmir State Annual Forest Administration Report for the year 1930.

"The deplorable condition of the low hills of the Jammu Province where forests have been devastated and erosion has set in, is not fully realized outside the department as it has been for many years within it. Those who are versed in the history of forest denudation in other parts of the world are able to visualise the disastrons results that must follow on the steady deterioration that is taking place Forests have been ruined and bare hillsides and nortions now remain to aggravate the barrenness of the Kandi tract The ruin of forests is in itself so great a loss that it is difficult to understand how it has been tolerated. Every bare hill means in the rainv season, not one but hundreds of torrents fiercely cutting their way through soil rohbed of its natural protection, the trees and the grass. Every torrent as it reaches a valley adds its fury to the raging stream rolling its burden of devastation to the fields on its banks and the cultivation lower down. The flood rages for a day, the min remains for generations. Forests have been neglected and are taking their revenge on cultivation. The conservation of forests growth in the lower hills of Jammu is a crying need and no time should be lost in entrusting these denuded tracts to the care of the Forest department for their preservation and further improvement by offerestation."

5. Among the Puniab districts seriously affected by over-grazing was Kangra, a part of the catchment area, of the Beas river and thus a feeder of the Sutlei Valley Canal scheme. Into this district, in addition to the already too large number of local animals there descend every winter from the high hills of Kulu, Kangra and Chamba State vast herds of nomadic sheep and goats. These nomadic animals have paid a grazing tax for many years but in 1916 the local sheep and goats began for the first time to be taxed with a view to reducing their numbers. This tax is known as the Cattle Tax and is distinct from the grazing tax or tirni paid by nomadic herds. The Cattle Tax is assessed under the Kangra Settlement, the amount paid to-day being two annas per goat and nine pies per sheep. The grazing tax or Tirni paid by the nomadic Gaddis is as follows:—A Chamba Gaddi pays (a) on entering the district Rs. 12-8-0 per hundred goats and Rs. 4-11-0 per hundred sheep, (b) Later in February he pays again the above tax when grazing in his recorded run and (c) again should he halt more than a day between entering the district and reaching his run. The Kangra Gaddi pays the same tax when descending from the hills, (b) a revenue tax of the same amount if his flocks are still in the villages in February and (c) a similar tax in his recorded run.

The Cattle tax was naturally unpopular and in 1927 Government gave an understanding that the whole question of the Kangra Cattle tax should be reconsidered at the end of three years. Two years later Chaudhry Ram Singh, the Kangra representative of the Punjab Legislative Council moved a resolution on the subject. His Excellency having in view, the erosion throughout the province and its effect on. or threat to the plain below, suggested that when the Cattle tax was reconsidered in 1930, some non-officials should be associated to represent the interest of cultivators in the riverain, in the canal irrigated tracts and in the plains below the hills.

6. This suggestion led to the formation of the present committee which was entrusted with the duty of—

- (1) Examining the whole problem of denudation and erosion and suggesting remedies and means to meet the danger.
- (2) Enquiring into the incidence and working of the Cattle tax in Kangra.

7. A committee was appointed in April 1931 with the following membership—

C. A. H. Townsend, Esquire, C.I.E., I.C.S., -President.

Rai Bahadur Lala Mohan Lal, M. L. C.-Member.

Khan Bahadur Sardar Habib Ullah Khan, M. L. C.-Member.

Pandit Nanak Chand, M. L. C.-Member.

Khan Bahadur Chaudhri Fazl Ali, O.B.E.. M. L. C.-Member.

Sardar Sampuran Singh, M. L. C.-Member.

Chaudhri Muhammad Yasin Khan, M. L. C.-Member.

L. B. Holland, Esquire, I. E. S., -Secretary.

Miles Irving, Esquire. O.B.E., C.I.E., I.C.S., replaced Mr. Townsend as President in November 1931.

# Terms of reference.

8. I. To enquire into the extent and causes of denudation and erosion in the low hills of the Punjab: its effect on the economic and agricultural life of the Province, both in the hills and in the plains, and in particular its effect on the water supplies of the rivers and of the canals which take off from them, and on the level of the sub-soil water table in the submontane tracts

II. If such denudation and erosion have reached a point at which action by Government is clearly necessary, to consider what form that action should take and to make detailed proposals to give effect to it.

III. In particular to consider the recommendations of the Committee which reported on the Cattle tax in the Kangra district in 1927, and to make such further recommendations as appear desirable in view of the later information now available.

9. The Committee held their first meeting on the 17th April 1931 when the following were present:---

Mr. Townsend .--- President.

Rhi Bahadur Lala Mohan Lal.

Khan Bahadur Sardar Habib Ullah Khan.

Khan Bahadur Chaudhri Fazl Ali.

Mr. L. B. Holland,--Secretary.

The President read the terms of reference and the following questionnaire was agreed to. It is divided into two parts. General and Particular, the latter being sent only to those districts specially concerned.

# General.

10. The questionnaire.

::

I. In view of the serious destruction in the low hills of the Punjab, the following questionnaire is issued—

- (a) Would you recommend that steps be taken to reduce the number of animals grazing in those hills?
  - (b) If so, what steps do you recommend? In particular do you recommend a tax on those animals? if so, what?
  - (c) Can any steps be taken to improve the existing grazing grounds or to restore those deteriorated by denudation?
- (d) Do you recommend that steps be taken to prevent the incursion of nomadic or non-resident animals into those hills?

II. Have you any other suggestions to make on any of the matters dealt with in the terms of reference?

# PARTICULAR.

- The Ambala District.
- (a) Would you recommend that the whole of the upper slopes of the Siwaliks hills be placed under section 5 of the Chos Act and so closed to all animals?

(b) What action, if any, would you recommend to be taken in the Morni ilaqa to improve the already denuded lower slopes and to prevent the upper slopes being denuded?

# Gurgaon District.

- (a) What have been the effects of the present closures made in the Gurgaon hills?
- (b) Are any changes in the rules necessary?
- (c) Do you recommend that further closures be made?

# Hoshiarpur District.

- (a) Would you recommend any further application of section 5 of the Cnos Act to the upper slopes of the Siwaliks in order to close the upper slopes to all animals?
  - (b) If so, to what villages would you apply section 5?
  - (c) Would you recommend that the Chos Act be applied to those parts of the Una tehsil which are on the western slope of the Siwaliks, *i.e.*, the slope which drains towards the plains?
  - (d) Would you recommend that the whole or any part of the Chos Act be applied to any part of the eastern slopes of the Siwaliks!
  - (e) Would you recommend that the catchment area of one Cho be entirely closed to all animals as a demonstration area?

# Kangra District.

A statement showing the number of sheep and goats grazing in the Kangra district since 1921 is attached—

- (a) Is the diminution in numbers in the last two or three years due to the Cattle Tax or to a decrease in the areas of the grazing grounds?
- (b) Is the grazing incidence to-day heavier than it was before the Cattle Tax was imposed? If it is not heavier, is it still heavier than the grazing grounds and forests can bear without deterioration?

- (c) If the existing tax is continued is it likely to result in a further decrease in the number of animals?
- (d) Have the forests and village grazing grounds improved during the last fifteen years, *i.e.*, since the introduction of the Cattle Tax?
- (e) If no improvement is apparent, what additional or alternative measures do you recommend?
- (f) If the damage done by nomadic flocks is more destructive than that done by local flocks?
- (g) If the damage done by nomadic flocks is more destructive than that done by local flocks, do you recommend that the former flocks should be taxed more heavily than the latter?

STATEMENT SHOWING THE NUMBER OF SHEEP AND GOATS GRAZING IN KANGRA SINCE 1921.

	Ye	3 <b>81.</b>		Sheep.	Goats.	Total sheep and goats.
1921				60,419	126,528•	186,947
1924	••	• •	••	69,168	216,390 -	285,553
1925	••	••	•••	68,801	215,821	- 282,622
1927	••	••		67,586	214,901	282,787
1928	<b>T</b> •	••		59,431	214,901	274,352
1929		••	••	04,664	180,132	234,796
1950	**	••		54,508	180,231	254,734
1981	••	••		48,748	178,779	227,527

11. It was decided to circulate copies of the Terms of Reference and the Questionnaire to the following :—

- (1) The Deputy Commissioners of Gurgaon, Ambala, Hoshiarpur, Kangra, Gurdaspur, Jhelum, Shahpur, Rawalpindi and Attock districts and to every District Board in the Province asking for a considered reply. The above Deputy Commissioners were asked to circulate the questionnaire to all persons in their districts who, in their opinion, would be likely to be able to give useful opinions and replies.
- (2) The Chief Engineer, Irrigation Works, Punjab, asking him to collect information, if available, showing any decrease in rabi supplies in canals, and for his opinion whether the safety and usefulness of canals was likely to be affected by destruction of the vegetation in the low hills.
- (3) The Agent to the Governor-General, Punjab States, enquiring what steps, if any, were being taken in the States in his jurisdiction to prevent destruction. of the vegetation. Further, whether any restriction was imposed on the numbers of sheep and goats in the hills, to what extent the people had rights in forests, and generally for any information calculated to assist the Committee in its enquiries.
- (4) A similar letter to the above was sent to the Commissioner of Ambala with reference to Kalsia State and the Superintendent, Simla Hill States, with regard to the states in his political charge.
- (5) The terms of reference and the questionnaire were sent to the Director of Public Information for transmission to the newspapers with the request that anyone interested should be asked to communicate with the Committee.

The Committee then dispersed for the hot weather and reassembled in November 1931.

Date.	Place,	Membørs present.	Persons examined.	
26th November 1931	Lahore	The President Rai Bahadur Lala Mohan Lal. Khan Sahib S. Habib Ullah Khan. The Secretary.		
l6th December 1931 17th December 1931.	Hoshiarpur	As above	Mr. N. C. Bakhle, Deputy Com- missioner. Residents of Una Tahsil. Residents of the western slopes of the Siwaliks. Mian Mehr Chand and other pleaders.	
19th December 1931 20th December 1931.	Dharmsala,	As above Thakur Pancham Chand, M.L.C., was co-opted.	Mr. P. N. Thapar, Deputy Commissioner. Raja Baldev Singh of Goler, Raja Wali Muhammad Khan of Rahlu. Mr. M. L. Kaishta, Pleader. A group of five pleaders from Dharmsala. Zamindars of Hamirpur, Dehra and Palampur Tahsils. A part of Gaddis.	
Srd January 1932	Lahore	The President Rai Bahadur Lala Mohan Lal. Khan Bahadur S. Habib Ullah Khan. The Secretary. The President and the Secre-	Mr. Brayne, I.C.S.	
2th March 1932	Chandigarh	tary. The President Rai Bahadur Lala Mohan Lal. The Scoretary.	Mr. Macdonald, the Deputy Commissioner, Ambala. Residents of Kharar and Rupar tahsils, residing in Siwaliks. Two representatives of the Mir of Garhi Kotaha. Residents of the Morni IIaqa.	
9th August 1932	Simla	All members except Pandit Nanak Chand, M.L.C.	••	
1th October 1932	Lahore .	Ditto	••	

12. The attached statement shows the dates of subsequent meetings, the place, names of members present and the persons examined :---

13. At the close of the Chandigarh meeting as only two of the six non-official members had been able to attend the meetings it was decided not to proceed further in examining other districts, but to report to Government on the Hoshiarpur, Ambala and Kangra districts only.

The Committee met in Simla to discuss their Resolutions on the 19th August 1932 when the following members were present :----

Mr. Miles Irving, C.I.E., O.B.E., I.C.S.,-President.

Rai Bahadur Lala Mohan Lal, M. L. C.

Khan Bahadur Chaudhri Fazl Ali, O.B.E., M. L. C.

Chaudhri Muhammad Yasin Khan, M. L. C.

Khan Bahadur Sardar Habib Ullah Khan, M. L. C.

Sardar Sampuran Singh, M. L. C.

Mr. L. B. Holland, I.F.S.,-Secretary.

14. The Committee unanimously passed the following resolutions at the Lahore meeting on 24th October, 1932.

# RESOLUTIONS.

I. The Committee accept the report on denudation and erosion written by Mr. Holland as presenting an accurate picture of the state of the low hills in the districts visited by the Committee. II. The Committee agree that denudation and erosion in the low hills are chiefly due to the fact that there is not sufficient grazing on these hills to support the animals found there and agree that the grazing should be regulated.

III. The Committee agree that the destruction of the vegetation in the low hills threatens to increase the volume of the floods during the rains, but there is not sufficient evidence before them to show what effect, if any, the destruction may have on rabi supplies in the canals. The Committee draws attention to the report of the second annual meeting of the Central Board of Irrigation held at Delhi on November, the 16th and 17th, 1931, in which the following conclusions were recorded :—

- "During the past 15 years many of the largest rivers in India, e.g., the Ganges, Sarda, Jumna. Chenab, Jhelum and Indus, have exceeded the highest recorded floods. Whereas in some of the above cases it is known definitely that such floods were due to an extreme intensity of rainfall, the Board are of the opinion that the information available is insufficient to reach any final conclusion."
- "Discussion led to the conclusion that if disforestation had any effect on floods, the removal of the undergrowth was of more importance than the cutting of trees and that the removal of undergrowth was largely attributable to the enormous increase in the grazing cattle, particularly goats, of which absolute evidence in the form of statistics was available." The Board recorded the opinion that the evidence of individual members went far to allay the fears expressed at the last annual meeting that rabisupplies on the larger rivers were likely to diminish in the nearfuture as a result of disforestation and denudation."

The Erosion Committee is not in a position to add anything to this report but in view of the dangerous state of supplies thinks that the matter should be further examined by experts.

IV. The Committee draws attention to the Note on the fall in the water table in the Jullundur and Hoshiarour districts by Mr. G. deP. Cotter, Superintendent, Geological Survey of India, in which he says :---

- "(1) The earthquake in April the 4th, 1905 had nothing to do with the fall in the water table in Hoshiarpur and Jullundur.
- (2) The causes of the fall are (a) decrease of rainfall perhaps partly caused by disforestation. (b) increase of wells and of chahi land, and decrease of fallow land, (c) drying up of the Bein, as a result of (a) and also probably through disforestation of Siwaliks...".

V. The Committee agree that denudation and erosion have reached a point at which action by Government is clearly necessary and make the following recommendations:—

# A — Hoshiarpur District.

- (1) That reduction in the number of horned cattle is advisable but they can suggest no practical scheme.
- (2) That section 5 of the Chos Act should be applied to selected villages on the western slores of the Siwaliks, with the proviso that :----
  - (a) the system of A, B and C blocks should be abolished, *i.e.*, blocks A should be retained, but the restrictions imposed in B and C blocks should be removed and section 4 of the Chos Act applied.
  - (b) The cutting of trees should be permitted under suitable restrictions.
- (3) That the whole of the eastern slopes of the Siwaliks should be brought under such restrictions contained in section 4. Chos Act, as may appeal locally necessary, and under section 5 (d) in respect of camels, provided that the cutting of trees for sale may be permitted at stated periods and subject to suitable conditions.

- (4) That powers be granted to local authorities to regulate the lopping of trees, except trees on cultivated lands, the view of the Committee being that lopping should be regulated, not prohibited.
- (5) That the Divisional Forest Officer, Hoshiarpur Forest Division, should be entrusted with the protection and afforestation of the Katardhar as assistant to the Deputy Commissioner, Hoshiarpur.

# B.—Ambala District.

- (1) That the chief objection of the villagers to section 4 Chos Act, appears to be the prohibition of tree cutting. That there is no reason why the cutting of trees on cultivated land should not be permitted.
- (2) Section 5, Chos Act, should be applied to a strip along the Patiala State boundary in the villages of Suketri, Kansal, Karoaran, Nada, Parch, Sunk, Jainta Majri, Nagal and Siswan, but the *abadis* of Kansal, Karoaran and Jainta Majri with their cultivated fields should be exempted from the restrictions imposed by section 5, Chos Act, and should remain under section 4.
- Section 5 should be applied to a wider strip in the villages of Tarapur, Bardar and Kakaut as the village lands here extend up to the watershed, but the *abadis* of these villages should also be exempted from the restriction of section 5 and remain under section 4, Chos Act.
- (3) That the possibility of giving land in the Ambala and Karnal districts in compensation for the imposition of section 5 should be explored.
- (4) That powers be granted to local authorities to regulate the lopping of trees, except trees on cultivated lands. the view of the Committee being that lopping should be regulated, not prohibited.
- (5) That the Divisional Forest Officer, Hoshiarpur Forest Division. should be entrusted with the protection and afforestation of the Ambala Siwaliks as assistant to the Deputy Commissioner, 'Ambala.

#### C.—The Morni Ilaga.

- (1) Nomadic goats and sheep do not appear at present to be doing damage in the upper slopes to which they are reported to be confirmed, and no action is necessary at present.
- (2) The lower slopes are in a very bad state Village animals do not appear to be much in excess of village requirements and the people are dependent on these animals for their livelihood. Every effort should be made by the forest staff to afforest the bare areas by sowing sanatha (Dodonea viscosa) seed during the rains.
- (3) That powers be granted to local authorities to regulate the lopping of trees, except trees on cultivated lands, the view of the Committee being that lopping should be regulated not prohibited.

# D.—Kangra district.

- (1) It appears that the Cattle Tax cannot be altered until the end of the present settlement.
- (2) The Committee agree that no tax should be levied in the 1,405 tikkas which have no forest land (ban sirkar), or own no forest rights in the forests of any other tikkas and the Committee agree that the tax on village sheep should be everywhere remitted.
- (3) In the case of Gaddi flocks the Committee do not think it profitable to pursue the question whether the rights are now being exercised by the successors of the original right-holders.

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- (4) That the tax on the Gaddi goats should be raised 100 per cent. by a sliding scale and the tax on Gaddi sheep should be remitted.
- (5) That no animal below the age of three months should be taxed.
- (6) That the money collected on account of tirni dues in the Kangra district by the civil authorities should be placed at the disposal of the District Board to be spent on veterinary and other improvements.

VI. The attention of the Committee has been drawn to a book by Mr. F. A. Leete, C.I.E., I.F.S., entitled "Regulation of Rivers without Embankments" and recommend that a Forest Officer be placed on special duty as assistant to the Deputy Commissioners of Hoshiarpur and Ambala to experiment in Cho training and reclamation on the lines indicated in this book. That this officer if appointed should also undertake the duties mentioned in Resolution V (5) in Hoshiarpur and Ambala.

VII. The Committee desires to place on record its sense of great obligation to the Secretary. Mr. L. B. Holland, I.F.S., without whose unrivalled knowledge of the subject their task could not have been accomplished.

> MILES IRVING, L. B. HOLLAND, MUHAMMAD YASIN KHAN, `HABIBULLAH, FAZL ALI, MOHAN LAL, SAMPURAN SINGH, AND NANAK CHAND, PANDIT, (subject to a Minute of Dissent),

12

REPLY TO THE QUESTIONNAIRE BY THE DEPUTY COMMISSIONEE OF HOSHIARPER.

#### General.

# (1) (a) Yes to the extent indicated in (b) below.

(b) It would be impossible to reduce the number of animals in a direct manner, e.g., by limiting the numbers to be grazed in any particular village. Indirectly, however, a tax on cattle in excess of a number to be prescribed would help to effect this reduction. It is not possible to put up detailed proposals regarding such a tax, but generally speaking those cattle might be taxed which are in excess of the cattle required tor genuine domestic and agricultural purposes, e.g., mitch kine and buffaloes which are kept only for the production of butter, milk and ghee for sale. Some provision will, however, be necessary to prevent taxation being imposed on all such cattle when they belong to persons who depend for their livelihood merely on the sale of such produce. If the proposal is accepted, detailed enquiries will be necessary in order to adjust taxation to the peculiar circumstances of each village.

(c) Yes. I would propose that in all villages now under section 4 the area within the hatar Duar line should be divided into two equal blocks, separated by a line more or less perpendicular to the Dhar. Each block should be subjected for nye years to the restrictions prevailing in A Blocks of section 5 villages, with the exception (1) that the land already under cultivation may continue to be cultivated; and (2) that grass may be allowed to be cut by the sickle except in the months of July, August and September, when regeneration usually takes place.

On the other hand I would propose that the restrictions now prevailing in A Blocks of section 5 villages should be relaxed to the extent of permitting trees that have dried to be removed for any purpose, provided that the Tahsildar, Matar Dhar, has inspected them and recommended their removal to the Collector, whose sanction would be necessary. It appears that Mr. Fagan contemplated that this facility should be allowed after the Act has been in force for some time.

(d) Grazing leases in favour of persons who are not residents of the village should be prohibited.

(2) No.

#### PARTICULAR.

(a) No. Not yet. (b) Does not arise.

(c) Yes. Section 4 may be applied :----

(1) to those parts of the five marginally-noted villages which are already under section 5 so far as it relates to camels (under notifica-(1) Chalet. tion no. 424, dated the 21st of June 1916).

(2) Daulatpur.
(3) Marwari.
(4) Babehar.

(5) Saghnai.

(2) to the five marginally-noted villages at the head of the Jaijon cho; and

- (1) Gondpur, tarf Bula.
- (2) Gondpur, tarf Jaichand.

(3) Polian. Kuthar, and

(5) Dulehr.

(3) to those parts of the marginally-noted ten villages above the Konail cho, which have already been notified under section (3) (1) Saikhowal. under notification no. 643, dated 12th December, 1902.)

- (2) Herawan.
- (3) Nainowan
- (4) Achalpur.
  (5) Bhawanipur.
  (6) Ratanpur.
- (1) Kot. (3) Padhiar.

(9) Mehandwani, (10) Dallewal.

(d) No final recommendation can be made, but it is possible that some such restrictions as the following could be applied without objection to all the villages adjoining the Katar Dhar on the eastern slope :---

(1) Sheep, goats, and camels should be excluded altogether;

(2) The acts specified in section 4 (c) (cutting of trees or timber. etc.), should be prohibited, with the proviso that those trees which have been marked by the Forest Rangers under the control of the Tahsildar, Katar Dhar, may be cut for sale, or for any other purpose. The system of marking suggested is as follows:--

The whole line of these villages from north to south would be divided into five blocks and the Katar Dhar staff would each year mark all the trees which could be cut without detriment during the next five years on each block. Thus the trees in each village would be marked once in five years. This system would not, however, restrict the right to cut trees for *bonâ fide* domestic or agricultural purposes. This suggestion is made provisionally and more as a basis for enquiry than for adoption.

(e) No. The exclusion of all animals from the catchment area of even one cho would involve considerable hardship and the payment of very heavy compensation. These considerations would be an insuperable obstacle in the way of applying the scheme to the other catchment areas even if the experiment were a success. The only practicable line of advance appears to be that which has been recommended before; *viz.*, reclamation in the plains, combined with reafforestation—though on a limited scale, in the hills.

# N. C. BAKHLE,

14th December, 1931.

# Deputy Commissioner, Hoshiarpur.

Proceedings of the meeting of the Punjab Erosion Committee, held in the District Board Hall, Hoshiarpur, at 10-30 a. m. on 16th December, 1931.

THE following were present

1. Mr. MILES IRVING, C.I.E., O.B.E., I.C.S., Financal Commissioner, Revenue, President.

2. Mr. L. B. HOLLAND, Conservator of Forests, Secretary.

- 3. Khan Bahadur Sardar HABIB ULLAH, M.L.C.
- 4. Rai Bahadur Lala MOHAN LAL, M.L.C.

Mr. Bakhle, the Deputy Commissioner of Hoshiarpur, presented a written statement, page i and further deposed as follows:---

I do not recommend that the number of cattle should be reduced as they are purely for domestic and agricultural purposes. It would be a great naruship to reduce the... number of those cathe on which the owners fely for their livenhood, as they get milk, ghee and butter out of them. This factor was also taken into consideration in assessing the land revenue of that tract. The persons who have land must have plough cattle. There are those who possess no land but have cattle and depend on them for their livelihood. The Census of 1928 fixed 1.4 acres as grazing incidence for each animal. In the report prepared by Mr. Jenkyns, he put the amount of compensation between Rs. 55,000 and Rs. 43,000 for section 4 villages. 1 am not in a position to criticize those figures as they were not enquired into but if the compensation were under its. 50 the amount, even then would be enormous for those villages. We must definitely admit that we cannot exclude cattle or even reduce their number. A direct reduction in the number of cattle would not be practical politics, because if the minimum gross incidence per head of cattle were fixed at 12 acres that would not be sufficient as in other countries like America the incidence is 25 acres per head of cattle. As to the question raised by Mr. Holland in his report that Government is losing more in revenue than she is saving in compensation, the fact is that the figures for alluvion and diluvion do not bear out the contention. I cannot say what the effect in plains is, but here the ravages of Chos are no loss in revenue. Owing to the fact that rainfall is comparatively less the Chos have little if at all increased. The rain here has decreased considerably since 1924. It would pay Government to evacuate people on the western slopes, and give them land elsewhere. I will make enquiries (a) whether people can be shifted at any cost, and (b) the cost involved. If the people were convinced that one fat cow is better than three lean cows, they might reduce the number of their surplus cattle. There are occupancy tenants, kamins and Guijars who keep cattle, and I am quite certain that they won't sell them. A large number of Mohammadan Guijars are occupancy tenants who live on their cattle. If anything, the possibility of tax should be explored. I cannot now find papers, but I remember that a reply was given by Mr. Jenkyns, apparently on the report of the old Tahsildar Kishen Singh, that cattle tax would not be successful be-cause it had not been successful in Kangra. What facts he had to go on, I cannot say. We have to guard against cattle being taxed, because there are some persons who have no land and live on their cattle. The enquiry made by Mr. Cotter was with a view to deciding on which Chos they should start reclamation, and it was found that the area in Mangharwal was likely to give good results. I cannot say definitely about the imposi-tion of tax on cattle, but enquiry should be made. I think five year period of restriction in section 4 villages will help to improve the existing grazing grounds, and that might decrease the number of cattle as well. It will not be possible to substitute 10 year period for five year period. I would allow the people to cut grass on the Cho. My reason for not changing five year period to 10 year period is the inconvenience that will be felt by the people, though I thing this inconvenience will be felt temporarily. Section 5 villages find the Katar Dhar Act very unpopular with them. Wherever I went there were complaints, because they said that they had to take their cattle for grazing about 2 miles away from their villages. I would not recommand the emplication grazing about 2 miles away from their villages. I would not recommend the application

of section 5 unless it is possible to reduce the number of cattle. I would apply section 4 to five villages in the Una tahsil.

I have made a provise to section 5 in my proposals to the extent that villages should be allowed to cut trees for sale. It seems rather curious, but that is the main restriction which people find most offensive. They say that their rights have been interfered with.

The following gentlemen of the eastern slopes from Talwara to Rupar on the Una side were present:-

1. Pandit Narain Chand, M.B.E., M.D.B., Honorary Magistrate, Khad.

2. Chaudhri Sant Ram, Zaildar, Dangoh.

3. Chaudhri Nagina Singh, Zaildar, Tatehra, Una

4. Chaudhri Balwant Singh (Sardar Sahib), Sufedposh, Mahilpur.

5. Chaudhri Abdul Haq, Zaildar, Banna.

6. Chaudhri Ahmad Bakhsh, Sarbarah Lambardar, Nara.

7. Chaudhri Jaswant Singh, Rajput, Rail.

8. Chaudhri Jhaudu Khan, Lambardar, Chandiani.

9. Chaudhri Rattan Chand, Sarbrah Zaildar, Janauri.

10. Chaudhri Partap Singh, Rajput, Koi.

11. Chaudhri Dhanni Ram, Zaildar, Karari.

12. Lieutenant Munshi Ram, Zaildar, Kungrit.

13. Chaudhri Natha Singh. Zaildar, Badla.

14. Chaudhri Mehtab-ud-Din, Zaildar. Dhaddar.

15. Chaudhri Dasaundha Singh, Sufedposh, Machhian.

16. Mian Udhe Chand, retired Extra Assistant Commissioner.

Pandit Narain Chand who was spokesman for the above gentlemen deposed as follows :---

In Una we are keeping the cattle for our own use. This is done by the people on the eastern as well as on the western slopes. The Gujjars of Gandi sell their milk. We have no surplus cattle except for agricultural purposes, that is, we use oow dung as manure which is very useful. We cannot make any other arrangements for manure. We use our lean cattle as 'manuring machines'. If animals are taxed the effect would be that the income from fand will decrease and it will affect our healther also. We are using kharkhana to prevent our lands from floods; but we are reclaiming lands that have already been rendered useless by floods. All our Chos have been filled up with kharkhana. We suggest that our animals should not be taxed, nor their number can be reduced. Goats can be reduced in number and they can be taxed as well. Sheep do not cause much damage. Except in the villages where Wajib-ul-arz gives the villagers the rights of grazing we have no objection to reducing the number of cattle and taxing them. Some gaddis bring their cattle for grazing. We will have objection if goats are totally stopped as it will deprive many of us of milk for our children and meat for the martial race. We have no objection if the number is reduced. All our villages extend up to the eastern slopes of Katar Dhar on one side and the Sawan, We cannot say how much tax should be levied, but we will have no objection to it. We suggest that a man with one holding should not keep more than 10 goats, but a man without any holding should not be allowed to keep any goat. Tenants, landlords and tenants-at-will can keep goats, because we want goats for meat' and milk for our shildren. A man having 50 acres would require the same quantity of milk as the man having 10 acres. We suggest that 5 goats per holding will be sufficient. We have no objection if 5 goats are closed and the lower slopes are taxed then the cattle will damage our fields. We now agree that a line should be drawn closing the upper slopes and imposing tax on the lower slopes, but we

Mian Udhe Chand, one of the above witnesses deposed as follows :----

The present arrangement of leaving reserves with the respective owners should be continued. The rights of grazing cattle should be restricted to their own villages. A Katar Dhar Panchayat should be formed, and each village should give three men in the Panchayat. It should keep registers, and plant trees in creeks, channels, etc. A guard should be appointed to lock after the trees that have been planted. Government should provide 2 Naib-Tahsildars over the whole arrangement. (Mian Udhe Chand promised to give a note in writing embodying all his suggestions.) We have no objec-tion if Chos Act where necessary is applied to the 10 villages on the Western slopes. Where malikan fail to make satisfactory arrangement for their own reserves, those villages should be placed under Chos Act, for instance, Polian. Even if other arrangements were made for manure then also very few cattle will be reduced. We have at least to keep two bullocks and two calves, so that when the former grow old they should be replaced by the latter. Our bullocks cannot get more price outside our district. We do not graze our cattle in fields but we cut grass and then feed them. We have separate *chiragahs* for our villages. During rains we send our cattle out in the fields-for airing and for exercise. In the evening we tie them in our fields for manure.

The following witnesses from the western slopes were present :---

- (i) Rai Abdul Haq, Zaildar, Banna, Garhshankar.
- (ii) Chaudhri Jhandu Khan, Lambardar, Chandiani Kalan, Garhshankar.
- (iii) Chaudhri Muhammad Bakhsh, Lambardar, Maili, Garhshankar.
- (iv) Chaudhri Jaswant Singh, Rajput, Rail, Garhshankar.
- (v) Sardar Sahib Balwant Singh, Sufedposh, Mahilpur, Garhshankar.
- · (vi) Chaudhri Aziz Din, Sarbarah Zaildar, Chak Şadu, Hoshiarpur.
  - (vii) Chaudhri Ahmad Bakhsh, Lambardar, Nara, Hoshiarpur.
  - (viii) Chaudhri Charagh Din Ahmad, Pleader, landlord of Broti, Hoshiarpur,
  - (in) Lala Banarsi Das, Pleader, Lambardar, Takhani, Hoshiarpur.
  - (x) Mian Rattan Chand, Sarbrah Zaildar, Janauri, Hoshiarpur.
  - (xi) Sardar Bahadur Subedar-Major M. Narindar Singh, Patiari, Hoshiarpur.
  - (xii) M. Mohammad Hussain, Zaildar, Basi Umar Khan.
- (xiii) Subedar-Major Honorary Lieutenant Chaudhri Nabi Bakhsh of Dada. Hoshiarpur.
- (riv) Chaudhri Partap Singh, Headmaster, M. School, and landlord, Koi, Hoshiarpur.
  - (xr) Khan Sahib Rashid Mohammad Khan, Zaildar, Jahan Khelan, Hoshiarpur.
  - (xvi) Chaudhri Dasondha Singh, Sufedposh, Machhian, Hoshiarpur.
- (xvii) Chaudhri Sadhu Singh, Sufedposh, Pandori Atwalan, Hoshiarpur.
- (*aviii*) Chaudhri Sukhdev Singh, landlord Koi, Hoshiarpur.
  - (vix) Chaudhri Dhani Ram, Zaildar, Karari, Dasuya.
  - (az) Chaudhri Natha Singh, Zaildar, Badla, Dasuya.
  - (azi) Chaudhri Mehtab Din, Zaildar, Dhaddar, Dasuya.

Khan Sahib Rashid Mohammad Khan, acting as their spokesman presented a written statement and deposed as follows :---

We believe that upper slopes of the Siwaliks are sandy, there is no retainingpower in them and thus no vegetation can be grown. If it is true then section 5 is unnecessary. If this belief of mine is wrong then section 5 should be applied after very carefully studying the local conditions. Wherever this section has been applied people have felt much inconvenience. On account of the soil being sandy, all the rain water sinks down leaving no moisture. That is why there are very few trees on the tops while there are good trees in the *khads*. If it rains there is a little vegetation on the tops but when it stops there is no vegetation to be seen. Section 5 should only be applied to the upper slopes after studying local conditions and after enquiring if trees can grow there. Section 5 will cause trouble to the areas where it is applied as there is no demarcation of road and cattle are sure to go astray. If Government

#### Mian Rattan Chand.

can remove this trouble we have no objection to the application of section 5. If instead of two years'

rotation the closure is raised to 10 years we will object to that proposal, because the plot which is open for 10 years will, be totally damaged. We do not agree to upper slopes wholesale being brought under Chos Act. If Government appoints a committee to consider this question we will have no objection to very had areas being brought under *an amended* section 6^{*}. Cattle have so much deteriorated that if the number is reduced, milk will

Khan Sahib Rashid Muhammad Khan.

not be sufficient for our use. As rain is not well distributed throughout the year, grazing is not proper. Cattle are also useful for manure, which is a very

important factor. We have no objection if goats are reduced in number in Katar Dhar and I am of opinion that in Una also this should be done. It would be a great hard-ship for ramindars if any cash expenditure in the shape of a tax were to be imposed on them, and it, would be unpopular. The only way of improving grazing grounds is by

reserving them, and this is already being done. We have no objection if the people of one village are stopped from going to another village for the purpose of grazing cattle. Dhanni breed if introduced in our district will be very useful. The cows of that breed give more milk. If the breed is improved, the number of cattle will decrease and then to meet our demand for manure we will use fertilizer or get manure out of bones.

Proceedings of the second, meeting of the Punjab Erosion Committee held in the -District Board Hall, Hoshiarput at 11 a.m. on the 17th of December, 1931. 

The following members were present: ---

1. Mr Miles Irving, C.I.E., O.B.E., I.C.S., Financial Commissioner, Revenue, Presidents

2. Mr. L. B. Holland, Conservator of Forests, Secretary.

3. Sardar Habib Ullah.

4. Rai Bahadur Lala Mohan Lal.

Mian Mehr Chand, B.A., LL.B., Vakil, Hoshiarpur, put in a written memorandum and further deposed as follows :-

Every proprietor should have a right to sell the trees from his holding after a period of 15 years. Say a man sells trees in 1930, he should be permitted to sell them again in 1945. This should happen in all villages and is case of all proprietors. As regards agricultural and domestic purposes, every proprietor may be permitted to cut any tree from his proprietary holding and any occupancy tenant, for the same needs, from his occupancy holding. The person who wants to cut the trees should apply to the committee of his village, which should look to the *bonâ fides* of his application, and then recommend the cutting of the trees. Then the Officer-in-charge could sanction the trees and then the sanctioned number of trees may be cut. This would not interfere with the daily bond fide use for agricultural and domestic purposes of the proprietors and non-proprietors, while it would guarantee at the same time that trees are not cut indiscriminately and mala fide. All sheep and goats should be prohibited throughout the Siwaliks, both on the eastern and western slopes from the Beas right up to Sutlej. In respect of other cattle, I recommend that they should be allowed to graze on areas which have been specified by judicial decisions in most of the villages, but the area so specified should be divided into two blocks, so that one block may be subject to this user for some period and the other may be allowed to grow grass, and after some specified time the reserved portion may be permitted to this user while the original portion is reserved. It would allow more grass to grow while causing no inconvenience to the daily right of grazing. In case of proprietors. I think there is no harm if they are prevented from grazing their cattle in areas other than those specified by the civil are prevented from grazing their cattle in areas other than those specified by the civil I strongly recommend that section 4 should be extended to all villages of the courts. courts. I strongly recommend that section 4 should be extended to all villages of the Siwalik hills, whether they are to the east or to the west. But there is one defect in this section. There is no provision that the proprietors will have a right to sell their trees after some specified period. The proprietors should be permitted to sell their trees after a period of 15 years. They should make an application to this effect and then certain trees should be ear-marked, and the ear-marked trees only should be cut so as to prevent the indiscriminate felling and selling of trees. The area which is cap-able of cultivation should be allowed to be cultivated. Upper Siwaliks should be closed to all goats and sheep. With the conditions that I have submitted above, section 4 may be applied. In the hills people do not keep unnecessary cattle. I cannot recom-mend any measure for their reduction, with the exception of costs and sheep. There mend any measure for their reduction, with the exception of goats and sheep. There should be small village committees in every village, which should see that trees are cut bona fide for agricultural and domestic purposes. Protective measures are absolutely necessary for the preservation of forests.

Pandit Gurdas Ram, B.A., LL.B., Vakil, Hoshiarpur and Mian Hira Nand, Sufedposh, state :-

We-are in general agreement with Mian Mehr Chand.

N. C. Bakhle, Esquire, I.C.S., Deputy Commissioner, Hoshiarpur, re-examined states :

After hearing the evidence of the persons who have presented themselves before the committee, I am of opinion that the two principal points in which the present Act needs amendment are:-

- (1) that both sections 4 and 5 should contain some provision for permitting trees to be cut for sale. Such cutting should, however, be properly controlled; and
- (2) that the B and C blocks of section 5 villages should be done away with altogether.

With these relaxations, I believe that section 4 could be applied without much objection from the people to all the villages adjoining the *Dhar* on the eastern slope, and section 5 could be applied to those villages which are at the heads of the principal chos.

2. As regards control over fellings, it would be possible to have a system whereby in every village those trees which from the forest point of view can be cut, would be marked once in, say, 15 years, the villagers being allowed to cut down the trees as soon as they have been marked.

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3. I would also suggest that the Forest Department should have more control in the administration of the Katar Dhar. I do not recommend that the Divisional Forest Officer should be put in charge of all arrangements, but I think that in matters of forest conservancy, he should act in an advisory capacity to the Deputy Commissioner who would still remain in charge of the Katar Dhar. At present the only officials with any knowledge of forestry are the two Deputy Rangers, who are subordiuate to the Tahsildar, Katar Dhar, and whose knowledge of forest matters is, at best, elementary.

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# APPENDIX 2-Kangra.

REPLY TO THE QUESTIONNAIRE ISSUED BY THE PUNJAB EROSION COMMITTEE, 1931, BY. THE DEPUTY COMMISSIONER OF KANGRA.

A.-Is the diminution in numbers in the last two or three years due to the Cattle Tax of to a decrease in the areas of the grazing grounds?

Reply.-The Tax on cattle consists of :--

(1) Cattle Tax on zamindars' sheep and goats collected by the Lambardar, and

(2) Grazing Tax on Gaddis' sheep and goats collected by the Forest Ranger.

The Cattle Tax imposed in 1916 has led to a steady decrease in the number of sheep and goats kept by zamindars. In this connection 1 want to point out that without the imposition of any tax at all the number of horned cattle owned by zamindars is smaller to-day than it was in 1914. In 1914 zamindars owned 867,806 horned cattle and in 1930 they owned 736,423. This decrease has taken place without any tax.

Grazing Tax on Gaddis has not led to any apparent decrease in the number of sheep and goats kept by them. I cannot understand why the Cattle 'Lax has led to a steady reduction while the Grazing 'Tax has not resulted in any apparent reduction at all. If anything the Grazing tax should have been more effective as it is charged on three different occasions in one year. Its incidence is three times as much as that of the Cattle Tax. If the Cattle 'Tax has made it uneconomic for zamindars to keep sheep and goats, the Grazing Tax should also have had the same effect. I am led to the irresistable conclusion that the enumeration of zamindars' sheep and goats by the patwaris is done much too leniently and that the number of sheep and goats owned by them is in reality considerably larger than the number shown by our enumeration.

There has been no appreciable decrease in the areas of the grazing grounds which are mainly forests in this district. The decrease is about 80 acres a year, due to the grant of *nautors*. This decrease is negligible when compared to 830,022 acres of forest land.

B.—Is the grazing incidence to-day heavier than it was before the Cattle Tax was imposed? If it is not, is it still heavier than the grazing grounds and forests can bear without deterioration?

*Reply.*—Here again it is necessary to distinguish between the Grazing Tax and the Cattle Tax. The Grazing Tax dates back to the times of the Sikhs. The incidence of grazing at that time was much less than it is to-day. This is so far as Gaddis' cattle are concerned.

The Cattle Tax was imposed in 1916. It was imposed on sheep and goats only. So far as these two animals are concerned the incidence to-day is much lighter than in 1916. But if I take into consideration the fact that the grazing provided by one acre of land to-day is less than the grazing provided by one acre of land in 1916, I can say that actually the incidence to-day is, if anything, heavier than what it was in 1916. It is heavier than what the grazing grounds can bear without deterioration. The grazing in this district, specially in the lower hills, has deteriorated badly and the cattle having eaten up the blades are now taking to the roots.

• C.—If the existing tax is continued, is it likely to result in the further decrease in the number of animals?

*Reply.*—The existing tax is only on sheep and goats. The number of sheep and goats on which the Cattle Tax is imposed, has decreased and it can be presumed that if the Cattle Tax is continued, the number of sheep and goats owned by the zamindars will steadily decrease. When making this remark I presume that the enumeration made by the patwaris is correct.

The number of sheep and goats owned by Gaddis has not decreased and it is difficult to presume that their number will decrease in future if the Grazing Tax remains the same. This question, however, refers not only to sheep and goats but to animals generally. The number of horned cattle owned by zamindars of Kangra proper was in 1892-93, 701,055, in 1914, 867,866, and in 1930, 736,423. The present number is larger than the number in 1893 but smaller than the number in 1914. There has been a gradual decrease since 1914 but it cannot be presumed that this decrease will continue. Out of these cattle only 989 buffaloes, belonging to Ban-Gujars and Sowanedar Gujars, are taxed, namely at Rs. 2 per head per annum.

D.—Have the forests and village grazing grounds improved during the last 15 years, i.e., since the introduction of the Cattle Tax?

Reply.—The village grazing grounds other than forests are negligible in area. The forests have not improved since the introduction of the Cattle Tax in 1916. A Rotational Closure Scheme was introduced in 1919. Under this scheme the scrub forests were closed for 10 years at a time, and the Chil forest for 30 years at a time. This has led to no improvement in scrub forests. Some improvement is likely to be effected in the Chil timber, but this is not likely to improve grazing as the Chil does not encourage the growth of a quality of grass which the cattle like to eat. E.—If no improvement is apparent, what additional or alternative measures do you recommend?

*Reply.*—I have already stated in answer to another question that no improvement is apparent. I make the following suggestions:—

#### (i) Buffaloes.

In 1892-93 the number of buffaloes (of both sexes) was 81,225 in 1914, 120,007 and in 1930, 104,055. Their number has decreased since 1914, and as the supply of milk in this district is wholly dependent on buffaloes, I do not recommend that any tax be imposed on them.

#### (ii) Cows.

In 1892-93 the number of cows was 179,557, in 1914, 239,466 and in 1930, 168,331. Their number has decreased since 1914. They are used for the purposes of manure and for breeding. For religious and social reasons, I do not recommend the taxing of cows. This is a Hindu district and a tax on cows will be strongly opposed.

#### (iii) Bullocks.

Their number was 231,226 in 1892-93, 297,322 in 1914 and 241,702 in 1930. The number of bullocks is decreasing. No tax is necessary or desirable because bullocks are needed for agricultural purposes.

### (iv) Cattle Tax.

This Tax is imposed on sheep and goats belonging to zamindars. Under this tax 2 annas per annum is charged on each goat and 9 pies on each sheep. The present procedure is that sheep are charged 9 pies per annum whereas goats are charged 2 annas per annum in some tikas, and one anna per annum in some other tikas. If the number of goats in a tika has not increased above the number existing in 1915, the tax charged is one anna per goat per annum. If the present number has risen above the number in 1915, the tax is charged at the rate of 2 annas per goat per annum. I cannot see any justification for this distinction. If it was intended to keep the number of goats down to the number in 1915, this distinction could have been justifiable, but it is quite clear that the number even in 1915 was much more than what the grazing in this district could stand. It is now found necessary that measures should be adopted to bring that number down. I, therefore, suggest that a uniform rate of 2 annas per goat per year should be charged irrespective of the fact whether the number in a tika has risen above the number is 1915 or not. The tax on sheep should remain the same.

In this connection I may also point out that so far there has been no check on the enumeration done by patwaris. Hecently it has come to the notice of the Revenue Assistant that in many cases the patwaris have taken the statements from the lambardars without making the slightest effort to check those statements on the spot. I very strongly recommend that a special Naib-Tahsildar should be appointed for 3 months at the time of enumeration to check this work. If the sheep and goats owned by zamindars are correctly enumerated, the Cattle Tax in my opinion would become much more effective than it is to-day:

#### (v) Grazing Tax or Tirni.

This is charged on the sheep and goats belonging to Gaddis of Chamba and the resident Gaddis of this district. The existing procedure is as below:---

#### (1) Gaddis of Chamba State.

- (a). A Gaddi of Chamba State pays to the Forest Department in November on the Dhola Dhar Rs. 4-11-0 per 100 sheep, and Rs. 12-8-0 per 100 goats as Grazing Tax.
- (b) He then pays in February in his recorded run further Grazing Tax of Rs. 4-11-0 per 100 sheep and Rs. 12-8-0 per 100 goats.
- (c) If he halts on the way for more than a day, then he is liable to pay another tax of Rs. 4-11-0 per 100 sheep and Rs. 12-8-0 per 100 goats, known as' Halting Fee:

(2) A Kangra District Gaddi right-holder, whose flocks are grazing in November near the Dhola Dhar outside the forest, in which he has a grazing right as a rightholder, pays:—

- (a) a Forest Department Grazing Tax of Rs. 4-11-0 per 100 sheep and Rs. 12-8-0 per 100 goats.
- (b) In February a Revenue Department Cattle Tax of Rs. 4-11-0 per 100 sheep and Rs. 12-8-0 per 100 goats if his flocks are in the village in February.
- (c) A Forest Department Grazing Tax of Ra. 4-11-0 per 100 sheep and Rs. 12-8-0, per 100 goats in the Spring when his sheep and goats are in his recorded ran.

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Although the damage done by the sheep and goats owned by Gaddis is not morethan the damage done by the sheep and goats owned by zamindars, the former is not entitled to as much consideration as the latter who is a resident of the district and who keeps his sheep and goats for domestic rather than for trade purposes. I suggest that in the case of goats owned by Gaddis the tax should be raised by 25 per cent. I do not suggest any increase on sheep which do much less damage. Also it is not desirable to reduce the number of sheep as a reduction in their number would effect the supply of wool for this district in particular and in the Punjab in general. The climate of the district is very strenuous in winter and it is not desirable to impose a tax which would lead to a rise in the price of warm clothes.

In this connection, I suggest that the additional income from the rise in this tax should be utilized in providing better facilities in this district in the way of Veterinary Dispensaries, etc. The income should be handed over to the District Board which should be required to use it on Veterinary Dispensaries only.

There is another way of reducing the number of sheep and goats brought into this district by Gaddis. These Gaddis have their runs recorded against their names by Mr. Anderson at the time of the Forest Settlement in 1887. The persons whose names were entered in the records prepared at that time, have mostly died, and their rights are now being enjoyed by their descendants. There is, however, no record of these descendants and it is quite probable that persons, who are not related to the original rightholders, are posing as descendants and grazing their flocks in the recorded runs. I suggest that an enquiry should be made and that the records should be brought up-to-date. 'After this record is once completed any further change should be effected through mutation proceedings only. At the time of the Forest Settlement, though the runs were recorded against certain persons, the number of cattle, which he could graze in the run, was not fixed. I suggest that the Deputy Commissioner, assisted by an officer of the Forest Department, should be asked to fix the number of cattle which can be allowed to graze on each run. The persons, against whom a run is recorded, should not be allowed to take cattle in this run above the number fixed for it.

The income derived by the Forest Department through Grazing Tax should be used wholly for the improvement of grass and grazing, etc. There is a Forest Advisory Committee in this district, and I suggest that the account of the money earned from Tirni and its expenditure should be laid before this Committee. The Committee should be consulted before the expenditure is incurred. The general belief in the district is that the Forest Department is doing absolutely nothing to improve grazing or to check denudation. If the people are taken into confidence in the manner suggested above, I hope that the relations between them and the Forest Department will improve.

F.—Is the damage done by nomadic flocks more destructive than that done by local flocks.

Reply.—The zamindars own 736,423 horned cattle which too are very destructive. They pull up grass by the roots and eat both grass and roots. It appears, however, that information is wanted only in regard to the destruction done by sheep and goats. The zamindars own 180,231 goats against 141.377 goats owned by Gaddis. The goats owned by the zamindars therefore do as much, if not more, damage than the goats owned by the Gaddis. But in regard to sheep the position is reverse. The zamindars own 54,503 sheep against 234,688 sheep owned by Gaddis. (The figures are of 1930.)

G.-If the damage by nomadic flocks is more destructive than that of local flocks. do you recommend that the former flocks should be taxed more heavily than the latter?

Reply.—For reasons given above I suggest that the tax on goats of Gaddis should be raised by 25 per cent.

Dated 7th December, 1931.

Deputy Commissioner, Kangra.

P. N. THAPAR,

#### SUPPLEMENTARY REPLY TO THE QUESTIONNAIRE ISSUED BY THE PUNJAB EROSION COMMITTEE, 1931.

SINCE I wrote my reply to the Questionnaire I have gone further into the matter and I wish to make the following additional suggestions in reply to question (e).

Cattle Tax was imposed purely to reduce the excessive grazing in Kangra District. It was not imposed with a view to make money. Therefore the tax must either be effective, i.e., it should succeed in reducing the number of animals on which it is imposed, or it should not be imposed at all. For instance, there can be no justification for a 9 pies tax on sheep when it is clear that a tax of 9 pies is not going to induce the zamindars or the Gaddis to reduce the number of sheep kept by them. I have already said that the tax on sheep should not be increased as they do very little damage to grazing, and from another point of view it is undesirable to reduce their number. I now suggest that this tax should be remitted altogether. It is not at all likely to reduce the number of sheep. It is valuable only in so far as it brings in a certain amount of revenue both, to the District Board and to the Forest Department. , The tax on goats is also very low, if the intention sanctioning the imposition was that the number of goats was to be reduced. The number of goats owned by Gaddis has not decreased appreciably. The number of goats owned by the zamindars has decreased, but I think this decrease is due to leniency in enumeration on the part of the patwaris. I have said in my reply that it is undesirable to tax cattle and to increase the tax on sheep. I have also stated quite clearly that grazing in this district has deteriorated very badly. The only way in which grazing can be expected to improve is that the number of goats should be reduced appreciably. I, therefore, suggest that the tax on goats, both of the zamindars and of the Gaddis, should be increased by 100 per cent. Each goat whether owned by a zamindar or by a Gaddi, should pay a tax of 4 annas per year on

the existing arrangements. This increase in tax is bound to cause a certain amount of discontent amongst Gaddis and the zamindars. So far as the Gaddis are concerned the discontent is not justified as they keep goats for trade purposes and they are paying heavier taxes in Kashmir and in Chamba. Compared to those two places our tax on goats would not be heavier. So far as the zamindars are concerned their discontent would be allayed if the tax on their sheep is remitted. The tax on zamindars' sheep is a useless tax as it does not succeed in inducing them to keep less sheep. A sheep is a comparatively harmless animal and I strongly recommend that the tax on zamindars' sheep should be remitted. If this proposal is approved, I feel convinced that there will be quite a drastic reduction in the number of goats, both of the zamindars and of the Gaddis. There would not be much discontent because the remission of the tax on sheep would compensate the zamindars for the extra amount that they may have to pay on goats.

#### P. N. THAPAR,

Dated 18th December, 1931.

Deputy Commissioner, Kangra.

Proceedings of the Punjah Erosion Committee held in the Deputy Commissioner's bungalow at Dharamsala on the 19th of December, 1931.

THE following members were present:---

- (1) Mr. Miles Irving, C.I.E., O.B.E., I.C.S., Financial Commissioner, Revenue,—*President*.
- (2) L. B. Holland, Esquire, Conservator of Forests,-Secretary.
- (3) Khan Bahadur Sardar Habib Ullah, M.L.C.
- (4) Rai Bahadur Lala Mohan Lal, M.L.C.
- (5) Thakur Pancham Chand, M.L.C., Co-opted member.

Mr. P.*N. Thapar, the Deputy Commissioner of Dharamsala, put in a written statement expressing his views. He gave the following statement before the Committee ---

Speaking about the reduction in the number of sheep and goats, I do not believe that the figures given in my statement represent the true state of affairs because I am convinced that patwaris have been lenient in enumeration, and there has been no check on them, the result has been that lambardars have been giving low figures which have been added and mauza figures have been obtained. I cannot definitely say whether the number of goats and sheep has increased or decreased. I do not rely on the figures given by me in the statement. The tax on goats was imposed not as land revenue and as a source of income, but with a view to decrease the number in the cattle, but this end has not been achieved. Sheep do not cause much damage and I suggest the tax on them should be remitted. Grazing incidence was never calculated under any system, and even the Forest Department does not lay down the number of acreage required per head. If in calculating the incidence you take the number of acres available then the grazing has not decreased. The grazing has deteriorated so badly that there is very little left for the cattle to graze on. There is no improvement in the grazing conditions, but they are steadily deteriorating and the cattle have now taken to eating the roots, having eaten up the blades. There are about 7 lakhs of horned cattle owned by zamindars. They own more goats than sheep, and the damage done by the local flocks is much more compared to the damage done by Gaddis. The Cattle Tax was introduced in 1916. Unclosed forests are not included in the closure scheme. It introduced in 1916. Unclassed forests are not included in the closure scheme. It includes reserves, protected and unprotected forests, and the zamindars have the grazing rights in them, but the trees belong to the Forest Department. I am speaking about delimited forests, which are divided into two sections, scrub forests and *cheehl* forest. In the scrub forests there is the rotational closure scheme. For instance, take 30 year period, divide the forest into 3 periods, declare one open and the others two closed in rotation so that the turn of each forest may come as being declared open after 20 years. Now the Forest Department says that the closure of 10 years for scrub forest is not enough for the growth of trees, but I don't quite see why 10-year period was brought into force when the scheme was first introduced. The Forest Department started coop system. They divided the whole forest into 30 coops (sections) and the idea was that one coop should be cut every year and then it should be closed for 10 years, and after the 11th coop being cut and closed for 10 years, the first coop should be declared open. The result will be that every coop will have protection for 10 years after it was cut. The mistake made by the Forest Department was that instead of cutting

each year and closing for 10 years, they closed the first 10 for one year and then started cutting year by year. The result was that the 1st coop was cut in the 29th year, 9 years after it was closed, and when the time for opening came, it had only taken a year's protection, and the 10th coop had no protection at all. Between 1925-28 the forest protection, and the 10th coop nad no protection at an. - Detwich 1990 and the slightest people were selling trees to traders, that is only *chechl* trees. There is not the slightest doubt that the forest people have been selling trees from this district during the last 7 or 8 years. (Mr. Thapar promised to produce a statement to this effect.). I do not know if the Forest Department has done anything towards regeneration. (The Cominitize agreed to examine a responsible Forest Officer on this point at Lahore.). In 1926-27 the Forest Department sent an officer to a village with the intention of selling timber from that forest to Kangra Valley Railway or Hydro-Electric Department, but that officer found that cartage was impossible and that sleepers could not be removed. Five or 6 years afterwards another officer was sent. He said that the welfare of the future of the Hydro-Electric scheme depended on the regulation of water in Uhl, which was absolutely necessary to preserve the forest in the catchment area. He said that nobody should be allowed to cut trees, except on payment of Re. 1 as fee, but that Re. 0-14-0 would be refunded if the tree was cut with a saw and not an axe. I went to the spot and protested, and on studying the file found that the Forest Department had actually intended 4 years ago, to cut down the trees and sell sleepers. If the zamindars could not cut timber in 1927 it seems rather hard that their bartan rights should be curtailed in 1930. The population is 2,000 and even if those zamindars cut one tree after 3 or 4 years the annual demand would not be more than 500 trees. In this division the idea should not be to get any profit from forests. I have no objection if Cattle Tax is raised and put in Tirni funds and both the incomes are handed over to the Deputy Commissioner for use on the improvement of forests, but as a chairman of the District Board, I cannot afford to drop Rs. 26,000. If the tax is abolished many dispensaries and schools will be closed for want of funds. If the imposition of this tax had been effective the tax every year should be so reduced that after 5 years there should be no tax left, but this is not the case. The number of the cattle cannot be reduced unless there is 100 per cent. tax, and to counterbalance the agitation that would arise by such an imposition, I recommend the remission of tax on sheep. If the people of this place were induced to eating sheep then meat problem will be solved. Certain forest officers expressed their wish that unclassed forests ought to go back to the Deputy Commis-sioner. Forest Department is doing nothing so far as regeneration is concerned. You cannot have closure for an unclassed forest. Grazing grounds have been deteriorating since the last 15 years I suggest that tax on goats should be increased. The difficulty is that Cattle Tax was imposed under the Land Revenue Act. Land Revenue cannot be increased for 20 years. If unclassed forests were handed over to the civil depart-Ĭf ment, there could be the possibility of inducing the zamindars to agree to closures. you have 20 years' closure, so that one portion of the forest is closed for 10 years, its next turn will come after 40 years, and by that time the portion that is open for use will be spoilt. Goats do not eat grass and the scheme of cutting grass by people would not help. Whatever you do I suggest that the interference on the part of Rakha, guard and patwari should be limited, and the system should be made as simple as possible. Forest Department say that goats are doing too much damage, and they should be reduced in number. I consider that they do not supply us with milk, but they supply us meat, and if we could induce the zamindars to eating sheep; the problem-will be solved. I suggest that for 200 goats the tax should be 2 pies per head and over and above 200 we should charge Rs. 2 per head. It is practicable that for every holding a number of goats and sheep should be allowed. Very few people pay land revenue from the produce of their land. The incidence per cultivated square mile is between 900 and 1,000. Very few big owners pay land revenue from the produce of their land. Others pay out of their cottage industry and some pay from their pensions. Most of the land revenue is paid by those people who are employed in Lahore. The incidence on the cultivated soil is very heavy.

#### Raja Baldev Singh.

The number of cattle has not decreased on account of Cattle Tax. The decrease shown in the statement supplied to me is due to some miscalculation. The quality of land has not decreased to any appreciable extent. There is no difference in the quality of grazing grounds now as compared with the quality before 1916. The number of cows, buffaloes and sheep should not be reduced, but the number of goats should be reduced. The land ought to be sufficient for the purpose of grazing cattle by zamindars as the number of the cattle has not increased. Sheep eat small bushes and not trees. There has been no decrease in vegetation since the last 15 years. If the present Cattle Tax continues the number of cattle will not decrease. Since the tax has been imposed no improvement has been made in reserves. For such improvement I suggest that cultivation should be curtailed and *nautore* should not be allowed. If village *shamilats* were to be distributed among zamindars, they will cultivate rather than preserving the vegetation. Gaddis have been cultivating in our lands since a very long time and I can't find any reason to stop them, but as they cut trees, some restrictions should be put on them. Gaddis have no rights in Gulair. We are benefited by Gaddis' cattle as they leave manure in our fields. We have no fixed rate for allowing Gaddis to graze their cattle in our fields. Gaddis' cattle cause more damage to our grounds

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as compared with the zamindars of the *ilaqa*. I have no objection if tax on goats is increased. It would be better to stop grazing altogether rather than increase tax as the latter would not help. Those zamindars who have *bartan* rights cut trees from the jungle. Zamindars do not trade in cattle, *i.e.*, goats and sheep, but they keep them for meat. None has a tlock of 100 or 200. *Gaddis* do trade in goats and sheep. The chief object of zamindars in keeping goats is for eating their meat. Even if the price of meat were raised then also zamindars would eat meat. If the tax were abolished and people were convinced that lands have been handed over to them they will take every care of them, but when they know that forests belong to Government they will not take any care. If these lands were handed over to the Deputy Commissioner the situation will improve considerably, and the people will welcome it. If tax were remitted and the Deputy Commissioner were put in charge of forests it will prove very useful.

#### Raja Mohammad Wali Khan of Rehlu.

The number of cattle has decreased as shown in the statement, but if there has been any decrease at all it is negligible. The number of grazing grounds and the quality of vegetation has not decreased to any appreciable extent. The vegetation in the jungles is going down every day since 1916, because trees are cut regularly by Gaddis. The zamindars of the ilaga do not cut trees because they are benefited by jungles all the year round. At present our jungles do not produce enough grass for the cattle of the dis-trict. There has not been any marked increase in the number of bullocks, buffaloes and cows, but Gaddis trade in goats and sheep. Zamindars use goats and sheep for domestic purposes. Kamins also keep goats and sheep for sale. There are very few Kamins in this district. Tax has helped to decrease the number of cattle, but another factor is that as grass has decreased, cattle have also decreased. If tax is increased the number of cattle will decrease. Zamindars' sheep should be exempted from tax, but the goats and sheep belonging to Kamins should be taxed. The tax imposed on the goats belonging to zamindars should be comparatively less. *i.e.*, Re.0-8-0. If it is required to reduce the number of goats and sheep tax should be Rs. 2 per head. Gaddis' cattle are useful for the zamindars of this *ilaga* as they leave manure in the fields of samindars. Our lands have deteriorated in quality since the last 15 years. They will improve if the Forest Department stops the selling of valuable trees, and also if they start new plantation. If it is taken up by Government to stop such exploitation by the Forest Department then grazing grounds will improve. Except goats no other animals such as buffaloes, bullocks, cows or sheep cause any damage to trees. In this district *khads* are deep and so the damage to our lands is not much. If Cattle Tax and forests were handed over to the Deputy Commissioner, as chairman of an advisory committee, the proposal will be very useful.

#### Mr. M. L. Kaistha, Senior Vice-President, Dharamsala.

I do not think that there has been any decrease in the number of goats and sheep. The grazing incidence has increased. The condition of land has deteriorated on account of (1) exploitation by Government, (2) bad management, (3) excessive grazing and cutting of beautiful trees. As to (1) Government should not cut trees at all. Before the annexation of Kangra, morests were in a good condition; after that the condition is growing from bad to worse; not a single tree has been planted. As to (2) I consider that civil department will improve these forests a great deal. As to (3) I am not in favour of stopping *Gaddis* from grazing. It is not as their right that they graze, but it is a tavour from us; and I think this favour should be stopped, but where they have their rights for grazing it can't be helped. Naddi is a reserve, but there is no vegetation. If it is closed for 20 years we will get a very good grazing ground. I think sheep must be exempt from tax as they are necessary for life. The land under cultivation is 765,000 acres, and the area possessed by each owner is not more than a few marlas. The average comes to 3 kanals a zamindar. I think 2 or 3 goats should be free of tax per family and the rest should be taxed. This should be done in the case of land-owning zamindars, and thus the number of cattle will be reduced. The required flow of water cannot be good unless we take care of the soil. The number of goats could be reduced by stopping *Gaddis* from grazing in our grounds. I suggest that moderate rates should be imposed on the goats belonging to zamindars.

Pleaders—

Lala Hanwant Dass, Lala Hari Chandar, Lala Charan Dass, Chaudhri Salig Ram, Mian Autar Singh.

Of the above gentlemen Lala Hari Chandar put in a written statement and as spokesman for them all deposed as follows:----

Since the imposition of Cattle Tax, cattle have decreased but not goats and sheep. There is no tax on cattle. Grazing grounds have also deteriorated though on paper they are the same in quality. There are certain lands which on paper are shown as grazing grounds, but their trees belong to Government. The Forest Department in

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order to protect the growth of trees continue to allow the cattle to graze, but horn cattle are not taxed. It is on account of the shortage of grazing grounds that cattle have decreased. This fact is borne out by the cattle census. This decrease is due to the restrictions put by the Forest Department on unclassed forests. The low paid officials of the Forest Department do not allow our cattle to graze, but ask us to cut the grass from those pastures. In papers those pastures are entered as shamilats but for practical purposes we are not allowed. This happens in those villages where the people are illiterate. The grazing grounds have considerably decreased, and the graz-ing incidence to-day is much less than it was in 1916. The soil has deteriorated and productive power has decreased on account of reduction in the number of animals which brings less manure. The fertility and stability of the soil has suffered on account of cutting trees, and so there is less growth. During the last 10 years there has been useless expenditure by the Forest Department. When the management of forests was in the hands of the Deputy Commissioner, zamindars could cut trees within three months, but now applications are pending with the Forest Department for the last one year. We prefer that forests should be given back to the Deputy Commissioner. The rotation closure scheme has failed and scrub forests have not improved at all. The people will appreciate this arrangement. We suggest that about detailed management an advisory committee should be formed in each *tikka*. Reserve and protected forests should remain with the Forest Department, but there should be restrictions for cutting trees. In these forests selection system should be adopted if any trees are to be cut. They are now cut wholesale and that is why the soil has deteriorated. Cheehl forests are being cleared. The imposition of tax has decreased the number of sheep according to the figures. The zamindars should be exempted from tax, because in these tracts woollen clothes are worn by people. Every family has a certain number of goats for domestic needs and also for dicties. No tax should be increased on goats as there has already been abnormal increase since 1916. They are at present paying Rs. 37-8-0 per head as tax. For political and economical reasons this time is inopportune for imposing any tax. The zamindars were under the impression that Government will remit the tax already imposed, but any further addition in tax will be very hard for them. For improvement of pasture we suggest that the Forest Department should be stonned from cutting trees for at least 10 years, and this arrangement of the forests should be handed over to the civil department. Goats are used as beasts of burden hevond Kulu, and they are the only wealth of the Gaddis; therefore it would be hard to impose any tax on Gaddis. It is no reason for the imposition of tax that they have been doing damage, because they have been doing so from the last century.

Lala Hanwant Dass said that if the Forest Department were stopped from cutting trees and the present Cattle Tax maintained, he would like that zamindars were allowed to plant trees in the grazing grounds, and that for so doing they should be encouraged by giving them *inams*.

Four sentlemen except Lala Charan Dass agreed that the continuance of Cattle Tax would decrease the number of cattle.

Lala Hari Chandar continued as follows :---

Forest and village grazing grounds have deteriorated since 1916. Goata do not cause more damage as compared with other cattle. They are useful on account of the manure that we get for our fields.

The zamindars from Hamirpur Tahsil stated that since the imposition of the tax the number of goats and sheep have decreased. Further, that there was no decrease in the grazing grounds though some of the *shamilat* areas had, of course, been partitioned and brought under cultivation by the individuals in whose possession the respective areas had come. The area not brought under cultivation had the same yield of grazing stuff as before.

The incidence of grazing, it was stated, had not increased since the imposition of the tax, and there was enough stuff for the present number of goats and sheep.

The continuance of the tax would have the effect of decreasing the number of the goats and sheep which would simultaneously reduce the supply of manure available.

It was suggested that the administration of the unclassed forests should be handed over to the Civil Authorities as they considered that this transfer would improve the condition of the forest. The zamindars, it was assured, would co-operate with the Civil Authorities and do their best to bring about an amelioration. Moreover, the Forest Department should desist from applying the "shelter-wood" system in the removal of trees from the forests.

With regard to the *Gaddis* causing damage to the forests the witnesses stated that besides grazing they lopped off the trees and thus deteriorated the forests. As a measure to decrease this damage, it was suggested that the tax on the goats of the *Gaddis* should be increased by 50 per cent.-

The opinion about the goats and sheep of the Gaddis grazing in the forests was divided in so far that some stated that the manure left behind was useful for the jungle growth while others considered that the damage done was far more the value of the manure.

As to tax it was stated that in the event of this being remitted on zamindars, cheep, the number of goats will not decrease,

• •

The zamindars from the Palampur and Dehra Tahsils gave the following evidence:---

According to the figures now available, there appears to be a decrease in the number of goats and sheep, but those figures are not reliable and the number of goats and sheep is nearly the same. There has been no decrease in the areas of the grazing grounds.

The incidence of grazing is not heavier since the imposition of the Cattle Tax but the capacity of the land to yield has certainly decreased. It is true that in some cases the cattle eat the roots and the bark of the trees. If the present Cattle Tax is continued, there is likelihood of the number of goats and sheep decreasing. The decrease, if any, is due to this tax. The forests and village grazing grounds have not improved during the last 15 years, the reason being that although there has been a restriction on the rights of the land-owners for cutting the trees in the unclassed and other, forests where they possess any rights under the Settlement, the Forest Department has been carrying on felling operations in order to get income. This has very seriously affected the rainfall.

It is, in our opinion, most desirable that the unclassed and other forests in which people have got any rights, should be handed over to the Civil Authorities for management. The Civil Authorities should manage these forests in co-operation with the nonofficial Committees that should be formed for this purpose.

The goats and sheep of the *Gaddis* although do some damage, they are essential for the residents of the district on the following grounds:—

- (a) For wool for clothing.
- (b) For religious purposes.
- (c) For meat eating (Kangra being a hilly district and cold one, the people required meat for their consumption).
- (d) For manure for the fields of the zamindars and for the regeneration of the forests.
- We cannot say if the grazing of goats and sheep has affected the rainfall.

The Gaddis' flocks do a little more damage than the local flocks. The Gaddis have enjoyed this right for a number of years and, as stated above, they are of considerable use to the local zamindars.

If it be found necessary to increase the tax, then we are of opinion that sheep should be exempted altogether and the tax on goats increased to the extent Government thinks proper. The increase in the tax is to relate only to such goats as are kept for trade purposes whether by the *Gaddis* or the local zamindars. We consider that this would result in the number of sheep being increased and that of goats decreased.

We beg further to represent that there are a number of villages in the Kangra District near which there are no unclassed lands or grazing grounds, but the inhabitants of these villages were not exempt from paying the Cattle Tax and, in all fairness, an exemption should he made in their case,

In conclusion we strongly urge that the felling of trees by the Forest Department should be stopped altogether and the *bartan* holders should be allowed the cutting of the trees to the extent of their own requirements. Cutting of trees for sale should be prohibited.

Chaudhri Ram Singh from Nurpur Tahsil stated as follows :---

There has been no decrease in the number of goats and sheep, but the yield from the grazing grounds has decreased.

The incidence of grazing is the same as it was before the Cattle Tax was imposed. This tax in the Kangra District is most unpopular and its continuance will not have the effect of decreasing the number of the cattle.

The goats and sheep are essential for manure, wool, meat and religious purposes.

The grazing grounds have not improved, but they may have deteriorated during the last 15 years, the reasons being (a) that the Forest Department cut and sell trees from the forests and (b) rainfall in the Kangra District, has decreased. The cutting of the trees should be prohibited and it should be allowed only for the purposes of ramindars' bartan; steps should also be taken towards regeneration of trees,

The Cattle Tax should be abolished altogether, but if not possible, at least halved. The villages (numbering about 2,200) near which there are no unclassed forests should be exempted from the Cattle Tax,

The shamilat forests and other forests in which the zamindars have got any sort of right. *i.e.*, *bartan*, should be handed over to the Civil Authorities. The Forest Department has no sympathy with the local zamindars, but it is believed that the Civil Authorities will be quite sympathetic and the zamindars will have the satisfaction of having co-operation with the Civil Authorities. In case the Forests are handed over to the Civil Authorities, Forest Committees should be formed Zail war.

There is not very much difference in the amount of damage done to the forests by the goats and sheep of the *Galdis* and by those possessed by the local people. The damage done by the *Gaddis* is amply compensated by the manure left which helps in regeneration. We are not in favour of decreasing the number of goats of the *Gaddis* as they have enjoyed the right of grazing since a long time.

If the tax on sheep is abolished while that on the goats increased, it would mean an invidious distinction in the case of such local areas where the sheep cannot be kept on account of unfavourable weather conditions. In Nurpur and a part of Hamirpur Tahsil, particularly, the sheep cannot live in the hot weather.

We have no objection to any scheme under which the foresta remain protected for some period for the purposes of regeneration. The details of any scheme for regeneration can be worked out later.

Oddhi, spokesman of the *Gaddis*, admitted that the number of sheep and goats (248,000 and 141,000 respectively) in their possession was approximately correct.

When asked to decrease the number of goats so that the damage to the forests in the Kangra District might be reduced to the minimum possible. Oddhi stated that doing this would mean a great bardship to them, because the goats' hair were more useful to them for their domestic requirements and, for their milk supply also, they depend mainly on the goats. The sheep did not give good and sufficient milk and the youts kept by them were barely enough for their own use. With regard to the complaint of damage being done by the *Gaddis*' cattle. Oddhi stated that they had enjoyed this right, of grazing since ages and the decrease in the yield of the grazing grounds, if any, was not due to them.

It was praved that as the *Gaddis* were very poor, the Cattle Tax should not be increased. They did not possess good lands and their occupation was not a lucrative one.

XV.

#### APPENDIX 3-Ambala 2 Siwaliks.

REPLY TO THE QUESTIONNAIRE BY THE DEPUTY COMMISSIONER, AMBALA.

As regards the Ambala District there are two questions before the Erosion Committee :---

- (a) Would you recommend that the whole of the upper slopes of the Siwalik hills be placed under section 5, Chos Act, and so closed to all animals, and
- (b) What action, if any, would you recommend be taken in the Morni *ilaqa* to improve the already denuded lower slopes and to prevent the upper slopes being denuded?

As regards (a), the question of taking measures to prevent erosion and denudation in the Ambala Siwaliks was first taken up seriously in 1910. In the year 1911, Mr. Holland, Assistant Conservator of Forests, was deputed to conduct an enquiry into the condition of the Ambala Siwaliks. The remedial measures suggested by Mr. Holland were (1) the prohibition of browsing, (2) the complete closure of belt of 11 to 2 miles wide along the crest of the Siwaliks under section 5 of the Chos Act and (3) the closing of the lower slopes under section 4 of the Chos Act. In September 1914 the Puniab Government accepted his proposal as regards the closing of the hill area of the Siwaliks under section 4 of the Act. Action under section 5 was, however, postpond indefinitely owing to financial stringency in 1916. In 1918-19 Mr. Whitehead, Settlement Officer, again proposed the bringing to completion of Mr. Holland's cheme by enforcing section 5 of the Chos Act and he was strongly supported by the Financial Commissioner. Government took up the question seriously, but again owing to financial stringency the matter was postponed. Successive Deputy Commissioners of this district and Commissioners of the Ambala Division have again and again written to Gvernment stressing the necessity of enforcing section 5 in the Siwaliks, but all to no purpose. There is no need for me to quote the correspondence or go into a lengthy discussion on the urgency of this question. The provisions of section 4 of the Chos Act have been in force in the Ambala Siwaliks for almost twenty years and although some improvement has resulted, it is nothing to the improvement that would have resulted if Mr. Holland's proposals of 1911 had been accepted in full. In my opinion the whole question of the Siwaliks in the Ambala District has been trifled with. If at the very heginning Government had been willing to spend a little money. there is, in my opinion, little doubt that the Siwoliks would now have been clothed in fuxurious growths and a real check being put to the havoc of the torrents, nor do I consider that anybody will minsay that such a satisfactory result can only be obtained by applying the provisions of section 5. and I would recommend most strongly that the upper slopes of the Siwaliks be placed under section 5 of the Chos Act. It is, however, no good making such recommendations unless Government are prenared to put down at least two lakhs as compensation to the villagers affected and make a budget provision for an efficient staff to see that the provisions of section 5 are observed. If Government would put questionnaire (a) in the form "We are prepared to spend so much money in applying section 5 of the Chos Act to the Amhala Siwaliks, do you recommend that the section he applied," then it would be worth while for local officers to make their recommendations.

As regards the Morni *ilaqa*, the question is somewhat different, as all the Morni *ilaqa* is in the Estate of the Mir Sahib of Kotaha. It always seems a great pity to me that, when the original proposals were made for closing down the Ambala Siwaliks, Morni *ilaqa* should not also have been included in the scope of inquiry. Actually the torrents, of which I need only name the Tangri, Bagna, and Markanda which arise in the lower slopes of the Morni hills, are far and away the most destructive torrents in the district and much worse than any torrent in the sub-division with the exception perhaps of the Sarsa Naddi. The description given by Mr. Whitehead in the District Gazetteer of the Morni hills still holds good. The suggestions of the Mir Sahib for dealing with Morni are contained in his letter No. 19/6 R.O. of 11th May, 1930, to the Secretary, Punjab Erosion Committee, Lahore. I have recently made an extensive tour in this *ilaqa* and my own opinions are as follows:—

> It is only the lower hills to a depth of perhaps 2 miles from the plains that are really in a state of erosion and denudation. The upper slopes are comparatively speaking well wooded and there is, in my opinion, little need for any special action there. The Mir Sahib is inclined to blame his own tenants for lopping of trees, but from what I have myself seen I would say that his own tenants are not offenders to any great extent. The damage of the Morni forests that the Mir Sahib complains of it is being done by outsiders from Chamba and Jubbal. They come in the beginning of the cold weather with their herds of goats, sheep and buffaloes. Where one of these *deras* has been encamped, the surrounding jungle looks as if a cyclone has struck it. Trees and bushes are left bare of every green thing and where buffaloes are, the slopes of the hills are cut in such a manner that the soil is liable to be washed away during the next rains. The actual inhabitants of Morni keep only the minimum number of cattle and goats for their own purposes

and what is wanted there is that the Estate should prohibit any wandering herds from Chamba and Jubbal coming into the *ilaqa*. Moreover it would be quite impossible to enforce either section 4 or section 5 in the upper slopes of Morni, as the compensation that would have to be paid to the villagers would run into many lakhs of rupees. The *ilaqa* is fairly thinly inhabited especially in the upper slopes and valleys distant from the plains and it would be more than a calamity if action under section 5 were ever suggested for this *ilaqa*.

As regards the lower slopes near the plains, in my opinion, it is very doubtful whether any really remedial action can be taken now. Matters have been allowed to go so far and erosion has taken place to such an extent that I do not think it could be at all possible to do much to check it. The matter is, however, one which needs expert opinion. On several occasions the Department of Forests have been asked to depute an officer to tour the bottom slopes of the Morni hills and give an expert opinion on the measures that are necessary to deal with the situation. From the plains these slopes present the appearance of a line of precipices upon which nothing can possibly grow and every year more and more soil is being washed away into the plains. I attach a few photographs which make the actual state of affairs clear.

#### A. A. MACDONALD,

The 11th March, 1932.

### Deputy Commissioner, Ambala.

REPLY TO THE QUESTIONNAIRE SENT BY THE MIR OF GARHI KOTAHA (MORNI),

THE Mir Sahib says he was intending to ask Government to take steps to afford some protection to the trees and to save the locality from the effects of constant erosion, the drying up of soil and the fall in the water table below the hills.

Under the Settlement of 1852, the inhabitants were given the right to fell whatever they liked, also to lop and graze without restriction.

He is of the opinion that:---

- (1) The number of buffaloes should be reduced but not the sheep or goats. The sheep and goats being light-footed and small animals do less damage. He would impose a tax of Re. 0-8-0 or Re. 1 on buffaloes.
- (2) Areas near every village should be divided in two or more plots to be closed and opened alternatively with a two or three years' closure, planting to be done during a closure.
- (3). Lopping should be absolutely prohibited, except for a very few species.
- (4) He would not prohibit the incursion of nomadic animals.
- (5) He would not allow the following trees to be cut:--Khair, Sain, Chir, Tun, Mahova, Jamun. He would grant a few trees of Khair to be granted annually for ploughs, but for no other purpose.
- (6) The above trees shall not be lopped but other species may be lopped up to two-thirds of the height.

In a further letter the Mir Sahib says that the financial loss will be great if goat and sheep grazing are stopped.

In a note written by the Deputy Commissioner, Ambala, dated the 5th May 1928, the Deputy Commissioner said after touring through the area that the hills certainly needed closure. Points in his letter were:—

- (1) There were a lot of cattle. very few sheep, many goats.
- (2) It did not appear that any part of Bhoj Naggal need be closed.
- (3) It would be easy to keep out the Gaddis and nomadic cattle from the plains.
- (4) He recommended setting aside certain areas for closure from July, the 15th to November, the 15th.
- (5) He believed the whole of the Ramgarh *ilaqa* could be closed in this way, *i.e.*, closure during the rains and by encouraging the people to sow grass and fence off ureas, but he would omit small areas near the village of Berwala, and in the Mataur portion the village of Balauti would need a small grazing area, there was no other village except one house at Amwas in the middle of the area.
- (6) The Sabilpur people, he believed, had no grazing rights.
- (7) In the Palusara Bhoj there is a bare hill between Sabilpur, Khet Purali and Dudgarh which badly need closure, another area on the right hand side of the road as one comes down from Palasara to Tilokpur, the whole of which ought to be closed.
- (8) He had not seen Paonta and Rajpura areas but he was quite certain closure was needed and there were large areas which could be closed with the consent of the villagers and converted into grass reserves.

- (9) He thought Bhabbar grass could be planted everywhere. In the same letter regarding the Ambala Siwaliks he said :---
- (10) "I agree we should close from the watershed to the section 5 line permanently, if possible we should lease that portion owned by Patiala but between the section 5 and section 4 lines it ought to be possible by agreement with the villagers to close certain areas to grazing during the rains, and I believe these areas might include almost the whole tract except strips along the beds of the *naddis* because in the rains there is bound to be enough grass in the lower levels."
  - (11) He thought it would pay Government to employ gangs of villagers in addition to the guards for the purpose of planting out bhabbar grass. _

The report on the state of erosion in the Morni *ilaqa* is given in Mr. Holland's report on Denudation and Erosion, page 44 and on the Ambala Siwaliks on page 34.

#### Letter No. 2A-1813/3-88, dated the 17th March 1932.

From-The Foreign Minister, Patiala Government, Patiala.

To-The Secretary to the Hon'ble the Agent to the Governor General, Punjab States, Labore.

DENCHATTON 48% EROSION OF FORESTS IN THE LOW HILLS OF THE PUNJAB.

In continuation of this office letter No. 2-A-1583/3-88, dated the 15th February 1932, on the above subject, I have the honour to give below seriatim the information asked for in your letter No. 2-P-1393-P-293-31, dated 4th May 1931:---

- (1) The number of cattle of the right holders allowed to graze had been fixed at the time of Settlement during the year 1892 Å. D. keeping in view the demand of the right holders and protection of the existing vegetation.
- (2) In the First and Second Class forests of the State the grazing of goats and sheep is prohibited.
- (3) The people have got rights of collection of dead and dry wood, cutting of grass and grazing free or on nominal fee according to the rights recorded in Settlement report.

The answers to the questionnaire received with your letter No. 2-P-1363, dated the 4th May, 1931, are enclosed herewith.

Answers of the Questionnaire of the Punjab Erosion Committee, 1931.

I. (a) It is essential to reduce the number of animals grazing in the low hills of the Siwalik Ranges, because it is an admitted fact that the heavy grazing always causes destruction of the vegetation, the maintenance of which is most essential to stop erosion as the plant roots are a good binder of soil.

(b) Yes, the imposition of a tax on the grazing animals is very essential to minimise grazing and in the beginning it should not be very heavy, but it can be increased annually to discourage the upkeep of useless cattle by the villagers. However heavy tax should be levied on goats and camels; so as to exterminate these animals altogether from the adjoining villages.

(c) There are no separate grazing grounds in Patiala low hill forests, but the free grazing is allowed to right holders in particular forests in which they have got such rights.

(d) No nomadic or non-resident animals are allowed to graze in the Patiala State Forests.

II. There is no other suggestion worth mention with references to the terms of reference.

A MEETING of the Punjab Erosion Committee was held at 10-30 A.M., on the 12th of March 1932, at Chandigarh. The following were present :---

- (1) Mr. Miles Irving, C.I.E., O.B.E., I.C.S., Financial Commissioner, Revenue,—Chairman.
- (2) Mr. L. B. Holland, Conservator of Forests,-Secretary.
- (3) Rai Bahadur Lala Mohan Lal, M. L. C.-Member.

There were about 300 land-owners and tenants present with their representatives as follows:---

Lala Karam Chand, Zaildar of Dars	• •	Tahsil Kharar.
M. Fazal Muhammad Khan of Sehwan	• •	
Chaudhri Nand Singh, Lambardar	÷•••	Tabsil Rupar.
Chaudhri Dharam Singh, Zamindar	ř.	

M. Fazal Muhammad Khan on behalf of all the people present gave his evidence as follows :----م قد ا

Sections 4 and 5 have not proved beneficial to zamindars, and if Government desire to bring them into force, we request that we should be given squares elsewhere. We have very limited plots of land and our main dependence is on jungles where our cattle could graze. If section 5 is applied our cattle will not be allowed to graze.

Government reserves have not proved to be the source of income. The slopes and hills are dry and not fit for any plantation. When there are rains only grass grows on them which is eaten up by cattle; it does not grow enough to be sold. As an experi-ment some trees were grown on the hills but they dried up; only small bushes grow on them. After the application of section 4 no one is allowed to keep sheep and goats. People got compensation amounting to Rs. 84,000 on the introduction of section 4. Our buffaloes and cows graze in jungle, but not in Government reserves. Government reserves belong to Government, and mutations are entered in the names of Deputy Com-missioners. They are leased to zamindars who pay 3/5ths to Government and keep 2/5ths for themselves. We do not want Government reserves. but we want to revert to the old rights which we had in the jungles before section 4 was introduced. The compensation money was given to outsiders who used to graze their cattle in the jungle, and thus the proprietors did not gain anything. Land owners are not allowed to cut wood from the jungle; even where we are Bisawadars we are not allowed to cut trees from our own fields, except by a tedious process of getting the sanction of the Forest people in writing. There are very few trees outside our fields. We only cut trees when there is a common demand, *i.e.*, for a mosque or a shrine, etc. We want that—

- Restriction of cutting trees from our private fields should be removed;
- Section 5 should not be applied;
- (1) (2) (3) Government reserves should also be abolished.

We also wish that section 4 should also be abolished, so that we may be allowed to keep sheep and goats and graze them in the jungle.

In order to improve our land we have constructed bunds at Parole, Siswal and Lohara as an experiment. The silt left by floods has done a great help to the lands. If we are given land in Ambala and Karnal with the same rights as we have here in the jungle, we have no objection to the application of section 5 as well.

There were between 50 to 60 zamindars and tenants of Morni ilaga present, with their representatives as follows :-

- Lala Hem Raj, Sufedposh, Morni. (1)
- (2) Lala Asa Ram, Sufedposh;
- (3) Lala Munga Ram, Sufedposh;
- Lala Tulsi Ram, Karkun Bhoj Darra. (4)

THERE were also the following two representatives present from the estate of the Mir Sahib of Garhi Kotaha :-

M. Muhammad Muzaffar Ali;

M. Muhammad Shafi Khan.

Lala Hem Raj as spokesman deposed as follows :-

Sheep and goats come down in our jungle from Chamba and Jubbal States, while buffaloes come from Jammu State. The States derive an income between 41 and 5 lakhs of rupees and the income between 1 and 11 lakhs goes to Jammu State. In our ilaqa we have about 1,000 goats, but from outside the number that visits our ilaqa is between 12 and 15 thousand: they have been visiting our ilaqa since the last 15 years. Buffaloes come down between 2 and  $2\frac{1}{2}$  thousand. Jubbal State charges Re. 0-6-0 and Chamba State Re. 0-4-0 per goat per season, Jammu State charges Rs. 2-8-0 per buffalo per season. A Forest Daroga can tell the number of cattle that come down from the States. The cattle from Chamba and Jubbal States come for grazing into Gobindpur, Sultanpur and Tilokpur.

We do not agree that sheep and goats should be stopped from grazing, because the people in our *ilaga* are poor and they depend on sneep and goats for milk for their families and income from their sale. We do not agree that some part of the jungle should be reserved for 10 years and the other part kept open with the right to the villagers to cut grass, because every family is supposed to have one man as head of the family and it would be difficult for him to attend to this work in addition to his other duties. We do not want that any restrictions should be imposed on our jungle, but would prefer to the old system with no restrictions at all on them. Nothing can grow on the lower slopes.

The representatives from the estate of Mir Sahib said that if cattle from states of Chamba, etc., were stopped from grazing in the jungle, the states would no doubt suffer in revenue, but the loss to the jungle would continue. They suggested that if cattle from states were stopped from grazing then no one else should be allowed to graze in the jungle. The restriction would prove harmful to the interests of Mir Sahib but they might be beneficial to the Morni *ilaqa*. They agreed that if grazing were allowed in proportion to the population, they on their part would not hesitate to reduce the number of cattle that come from their side.

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APPENDIX 4. Reply by the Punjab Forest Department to the Questionnaire issued

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BY THE PUNJAB EROSION COMMITTEE, 1931, BY C. G. TREVOR, CHIEF CONSERVATOR OF FORESTS.

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FOREST DEPARTMENT MEMORANDUM PRESENTED TO THE PUNJAB EROSION COMMITTEE.

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## CHAPTER I. General

#### SECTION I.—EARLY HISTORY.

THE question of denudation and erosion attracted the attention of the Punjab Government in the early seventies when inquiries were instituted by Mr. Coldstream,

the then Deputy Commissioner of Hoshiarour " regarding the ever-increasing damage done by the torrents or chos which flow from the outer range of the hills in Hoshiarpur." Mr. Baden Powell then Conservator of Forests. was requested to visit the district. He toured over the whole district and made detailed recommendations, the main one being the closing and reafforestation of the catchment areas, and the restriction of grazing both by the local population and Guijars. An idea of the state of affairs existing at the time may be gathered from the following passage from his report :—

"A systematic enquiry has been made, and the almost universal result has been that the villagers have everywhere asserted either positive loss or else the deterioration of their land. The same complaints were as universally made to me whenever I met the people on my way, although they did not know who I was, nor had they previous information either of my arrival or of the purpose of my visit. Indeed, it only needed a local inspection to convince ourself that what was said was in great measure true."

After making his recommendations Mr. Baden Powell issued a characteristic appeal to the Government and the people of the province, every word of which is applicable to the present conditions existing in some of the districts of the Punjab. He said that "To see that splendid district yielding a revenue of nearly fourteen lakhs annually, and yet to observe how mile after mile is cut up with the broad drv beds of sand, not only useless, but spreading their desolation further and further with every hot wind and every flood, would certainly argue powerfully that a moderate expenditure to stem such an evil is better than letting the "steady" if small "loss" of revenue that goes on accumulating continually, remain unchecked and uncared for, till some day we woke up to find that the evil has slowly extended to a point either beyond our control, or to one that will cost millions to remedy when thousands will now suffice."

Four years after the above report Mr. Moir, Deputy Conservator of Mr. Moir's reports, 1883. The same lines as that of Mr. Baden Powell's. He also further advocated the undertaking of certain engineering works which he had previously visited in France.

In 1888 the Mir of Morni applied to have his forests reserved under Colonel Bailey's review, 1888. Colonel Bailey's review, 1888.

then Conservator of Forests, Punjab, while reviewing the work of the Forest Department during the Vicerovalty of Lord Dufferin, the same year, stated as regards British territory that "it is known from the evidence of living witnesses as well as from written records, that, in tracts like the Hoshiarpur Siwaliks and the Salt Range, the destruction of Forest growth has been accomplished within comparatively recent times; and the private forests of Kangra, Rawalpindi and Hazara, and the frontier districts are rapidly disappearing."

Nothing seems to have been done by the Punjab Government on the above reports till the passing of the Chos Act in 1900. With the passing of this Act the Katardhar area in Hoshiarpur was brought under it. A minute area of the unper slopes in nine villages only was closed to all animals under section 5 while the lower slopes in these nine villages and the whole of the slopes from the top of the outer crest adjoining the plains in the remaining villages was closed on a very restricted scale under section 4.

The result as recorded by Mr. Holland in his report on Denudation and Erosion, 1928, are on the whole favourable in the case of the Hoshiarpur Siwaliks, but not so in the case of the Ambala Siwaliks where no closure at all was made in 1914 when the outer slopes were placed under section 4 and all goats evicted. The omission of the application of the Chos Act to the Una Tahsil side of the Katardhar is another factor which has aided erosion in the past.

In 1910 the Punjab Government appointed a Denudation Committee under the chairmanship of the Honourable Mr. J. M. Douie, C.S.I., Financial Commissioner.

This commission was mainly concerned with the denudation in the submountain districts and recorded the net loss that accrued to the various districts by Cho action. They made many important recommendations the chief of which were :--

- (a) The amendment of the Chos Act. This subject is dealt with more fully later in Chapter VII under the head "Legislation."
- (b) That the Government should take direct action in the reclamation of at least one Cho bed in the Hoshiarpur district and also give grants to various individuals, village societies and district boards to encourage reclamation work in the Chos and ravines.
- (c) With regard to the denudation and erosion going on in the hill districts the Committee realised the gravity of the problem and recommended that an enquiry by a Revenue and Forest Officer working together be started in the Kangra district.

The question of imposing a cattle tax was first brought up in 1913 when it was thought by many officers that unless effec-

Imposition of oattle tax in Kangra tive action was taken to restrict the excessive district, 1916.

grazing in Kangra, the greater part of the ppear. The Financial Commissioner proposed

forest would eventually disappear. The Financial Commissioner proposed the levy of this tax under the Land Revenue Act on rightholders' animals and the Punjab Government sanctioned it. The fee on the cattle belonging to Gaddis and Sawanadar Gujjars was also raised and was to be collected during each recognised grazing season. The result was that the immigrant Gaddis paid the same as local zamindars and half of what the Khewatdar Gaddis paid. The proceeds of the tax with the exception of what went to certain jagirdars were made over to the District Board.

The Punjab Government appointed a Committee early in 1926 under Kangra Cattle-tax Committee, 1926. the chairmanship of the Commissioner, Jullundur Division, to enquire into the effect of the imposition of the cattle tax on reducing the number of cattle, the attitude of the people towards forest administration in general and to recommend any changes in the manner and method of imposing this tax in the light of the experience gained. This Committee submitted its report in the middle of 1927. This report has been commented on a good deal in Chapter IV under the head "Grazing."

The position in the other districts remained the same till Mr. Holland was placed on special duty in November 1927

Mr. Holland's report, 1928.

for a period of nine months :---

- (a) To report on the work of afforestation and the progress made in the Hoshiarpur, Ambala, Gurgaon and Pabbi areas, to organise the methods of afforestation there, and to report on the advisability of introducing section 5 of the Chos Act in the two former districts.
- (b) To examine and report on the necessity for a Forest Reclamation Division for the whole province should such a division appear desirable, and to draw up a complete scheme for the same.
- (c) To enquire into such connected matters as the Chief Conservator of Forests and himself might consider necessary.

Mr. Holland submitted his report in 1928 which awakened some in-Punjab Eroston Committee, 1931. tion of the Punjab Hills " issued by Mr. B. O. Coventry during 1929 and the paper read by Messrs. Holland and Glover in the Punjab Engineering Congress, 1930, brought forth the immediate necessity of some action being taken in the matter and resulted in the appointment of the present Committee.

#### SECTION 2.—GENERAL DESCRIPTION OF THE TRACT.

The Punjab is a country of mountains and plains and its main topo-

Topography.

graphical tracts may be distinguished, namely,

Topography. (i) The Himalayan tract, (ii) the Sub-Himala-yan tract comprising the lower hills up to about 3,000', and including the Salt Range and the Siwaliks and (iii) the plains. We are for the purpose of denudation and erosion mainly concerned with the Sub-Himalayan tracts, and the adjoining plains districts where its effects are visible by the deposit of silt, by the lowering of water level, and the increase of floods. The Sub-Himalayan tract consists mainly of the Siwaliks and the Salt Range. The former is described in the Punjab Gazetteer as an "insignificant range of low hills, which rising abruptly from the plains, skirt the foot of the Himalayan from the Ganges to the Beas. At the widest part, as they approach the Sutlej, they are some ten miles broad. Between them and the Himalayas proper lie a series of fertile valleys known as ' Doon '; and the hills themselves are clothed with forest timber of some value, save at their western extremity, where they degenerate into little more than sand hills."

The tract where denudation is worst includes the Ambala and Hoshiarpur districts. The Salt Range " is described in the Gazetteer as including the Peshawar Division and the districts of Rawalpindi, Jhelum and Bannu." The Range is very heterogeneous and varies from the high altitude tracts of the Hazara and the Murree and Kahuta tahsils of the Rawalpindi districts, with their heavy rainfall to the low hills of the Jhelum and Bannu districts with a low rainfall. It is in the latter tract that denudation and erosion have done their worst, while the heavy grazing incidence in the upper hills is causing an increasing amount of erosion every year. More of this hereafter.

I will in this note deal only with the Sub-Himalayan tracts and the plains districts adjoining them. In these tracts Forest Zones. there are three distinct zones of forest vegetation-

(a) The Jand Zone.-Containing Jand (Prosopis spicigera) occurring below 1,000' elevation.

- (b) The Phulai Zone.—Containing phulai (Acacia modesta), Sanatha (Dodonæa viscosa) mixed forests of miscellaneous hardwoods. and olive or Kao Forests (Olea cuspidata). This zone usually extends from 1,000' to 4,000' elevation.
- (c) The Chir Pine Zone.—Containing chir pine (Ponus longifolia), mixed forests, of broad leaved species and oak (Quercus) incana). This zone extends from 3,000' to 6,000'.

Before I enter into a discussion of the vegetation and its effect on denudation a few words may be said about the evolution of the present vegetation on these hills. Each species of tree or shrub is dependent on certain conditions of soil and light for its natural regeneration or distribu-tion. These are called soil or "edaphic factors" and they collectively determine the distribution of particular species in a particular locality. This is called an "edaphic formation " and a forest dependent for its distribution on a particular edaphic formation may correspondingly be termed a "forest formation." The types of forest which first come on to the ground when there is no soil covering and conditions are generally unfavourable are regarded as " pioneer formations " or the lowest of the series of successive crops which may follow one another on the same ground, the highest in the series being termed " climax formations " which eventually become established when the factors of soil moisture have reached a maximum. All the intermediate crops are known as " intermediate formations." The bearing of these successions or retrogressions of crops in the three forest zones mentioned above and their relation to the question of denudation and erosion is discussed further in Chapter V.

#### CHAPTER II.

## Denudation and Erosion in countries outside Punjab.

SECTION I.—GENERAL.

Every country in the world has suffered some time or other from the disastrous effects of forest denudation and many examples can be quoted where disforestation has left a permanent mark. It is an established fact that the sand of the *sahrá* and Arabia now cover what was once a fertile land and every elementary treatise on Geography tells us how the river Nile which has its source in the forests of the Sudan is the cause of the fertility of Egypt. Greece, Tripoli and Palestine are now only able to support a fraction of their population. Ancient histories tell us of the intense cold of Greece, then densely wooded, and the perpetual spring of Babylon. Babylonian tablets of great antiquity refer to the attempts to reclaim the country thrown out of cultivation by the sinking of the spring level and erosion, these were of temporary benefit, the floods from the mountains increased year by year, the beds of the rivers were scoured out and irrigation eventually became impossible. All these countries are now more or less deserts and the famous irrigation works of antiquity are no more.

## SECTION II.—FRANCE.

The subject of the control of the Alpine torrents which caused considerable annual loss to the provinces in the south of France attracted the attention of the French Foresters and Engineers in the early part of the last century and many publications on the subject were issued from time to time. It was not until 1841 when M. Surell's historic work "Etudes Sur les Torrents des Hautes Alpes" was published by order of the Minister of Public Works, that active interest was taken in the subject. M. Surell was an engineer engaged on works on the high Alpes and wrote this treatise in which he gave a detailed description of these torrents and proposed remedies which were subsequently adopted with the happiest results. France has been the first country in the world to undertake afforestation and engineering works on such a large scale and with such good results. Dr. John Croumbie Brown, LL.D., Botanist to the Union of South Africa, visited these works and in his book "Reboisement in France" gives a detailed description of this work. He gives a detailed history of the Alpine torrents and the efforts made from time to time to reduce their disastrous effects. The French were very sceptical of these measures at first and in 1846 a law "relative to the reforestation of the mountains and the conservation of the forest soil failed to pass the chamber of Deputies." It was considered too drastic and provoked numerous objections especially from the grazing industry, which it aroused and antagonized. Nothing was done during the next decade till . June 1856, when terrible floods ravaged the valley of the Rhine, the Loire, Garonne and the Seine causing the loss of a great number of lives and doing damage amounting to more than Rs. 9,65,00,000. A law was enacted in 1858 for the defence of towns against floods, but it was not until July 1860 that the law of the reforestation of the mountains was passed. This law was vehemently opposed as it contained various defects and was in some respects too drastic. In 1876 the French Government proposed a new law, which was passed by the Chamber, but the Senate Committee opposed it. The Government, consequently, withdraw the bill and sent to the Senate a new bill which became the law of the land on April 4, 1882. This is the law now in force in France and a few observations on its provisions will not be out of place :-

- (1) This law clearly recognised reforestation as obligatory public work.
- (2) It provided for the reservation (for a period not exceeding 10 years) of grazing grounds whose degradation was not far enough advanced to justify expropriation; and the boundaries were established by *decree*.
- (3) The limitation of the boundaries of the land to be reforested was provided for by *law* and not by decree as was the practice heretofore. In this France followed America where additions to the Western National Forests could only be made by Congress.

The greatest contribution that France has made to the world on this subject is the afforestation works undertaken by it and it will interest the Committee to examine some of the statistics showing the vastness of the enterprise.

In addition to the works undertaken by the State of which accurate figures are not available, the work executed by the Communes during the period from 1860 to 1909 amounted to a total expenditure of Rs. 37,08,923 to reforest 134,064 acres. The Communes themselves paid 21.6 per cent., the department 23.4 per cent. and State paid the remaining 55 per cent. A summary of the works done is given in the following table taken from Woolsey's "Studies in French Forestry": ---

• • • • •		AMOUNT SPENT.							
Department.	Area reforested.	By the Communes.	By the Departments.	By the State.	Total expenditure.				
. <u></u>	Acres.	Rs.	Rs.	Rs.	Rs.				
Alpes	. 66,539	3,98,570	3,78,043	. 8,72,940	16,49,553				
Cevennes and Central Plateau .	. 48,169	1,39,682	4,33,310	6,78,752	12,51,744				
Pyrenees	. 9,479	89,607	1,10,410	2,67,035	4,67,052				
Miscellaneous departments .	9,877	1,46,507	47,075	1,46,992	3,40,574				
Total .	. 134,064	- 7,74,366	9,68,838	19,65,719	37,08,923				

Most of the afforestation work undertaken by individuals during the period from 1860 to 1909 was paid for by them. The "Departments " assisted them to the extent of  $5\cdot3$  per cent. of the total expense, and the State 36.9 per cent. leaving 57.8 per cent. to be paid for by individuals.

The following table gives a summary of the work done :---

		AMOUNT SPENT.							
Department.	Area reforested.	By individuals.	By the Department.	By the . State.	Total expenses.				
	Aores,	Rs.	Rs.	Rs.	R4.				
Alpes .	13,092	1,82,155	10,377	68,215	2,60,743				
Covennes and the Central Plateau	107,442	9,58,587	1,06,067	6,77,150	17,41,804				
Pyrenees	7,987	1,35,027	4,967	01,357	2,01,351				
Miscellaneous departments	3,967	42,627	287	34,617	77,531				
	132,388	13,18,396	1,21,698	8,41,339	22,81,433				

Thus it is seen that it was not only the French Government, but the Communes, Departments and individuals that helped to combat this evil with the results already well known.

The other direction in which the French have set a standard for the world is the technique for dams, embankments and the other engineering works for the protection of the hill sides. The description and the undertaking of these is beyond the province of the Forest Department and is not 'dealt with. There are numerous publications on the subject to which a reference can be made for details.

SECTION III.—United Provinces of Agra and Oudh.

Coming nearer to our own province we have the example of the United Provinces where the forest area has been continually decreased, until the present forests cover only 7 per cent. of the total area and are confined almost entirely to the hills and sub-mountain regions. In this respect the conditions are very similar to this province, and as such, any steps taken by our neighbours to mitigate this evil are of great interest to us.

One of the most glaring example of this disastrous effect of disforestation in the United Provinces is the China land slide at Nanital in 1880. The disaster it caused is still within the memory of living man and the urgent afforestation works undertaken are a proof positive of the fact that it is only by preserving the forests that such disasters can be made impossible.

About the same time that Mr. Baden Powell submitted his report to the Punjab Government, i.e., in 1879 (Cf. Chapter I) Dr. D. Brandis, then Inspector-General of Forests, drew attention of the United Provinces Government to "the large tracts of ravine country lying on both sides of the Jumna river and the extent of the waste to be found in several districts of the Doab." Dr. Brandis recommended (1) the exclusion of fire, (2) restriction of grazing, (3) the prohibition of all wood cutting and (4) the filling up of blank areas by planting and sowing. So it is seen that the attention of both the Governments of the Punjab and the United Provinces was drawn to this question at the same time by two eminent forest officers. A synopsis of the action taken by the Punjab Government has been given in various places in this memorandum and it will interest the Committee to know how the same problem was tackled in a neighbouring province. Allowing for local conditions and various other factors and also allowing for the fact that the Government of the United Provinces was faced with a much more serious problem in the Gangetic plain itself, it can be safely said that the results of the afforestation works undertaken by the latter Government justify the great expense in-The greatest problem that faced the United Provinces Government volved. was the provision of fodder and fuel reserves for mitigating the severity of famines, but the Government of India in 1883 stated on the results of the enquiries held that there was no evidence that there was any decrease in the existing fuel and fodder reserves and that operations on a larger scale be postponed till the results of certain experiment on a small scale, which had already been started, were ascertained.

In spite of every discouragement, Mr. J. H. Fisher, I.C.S., started afforestation work in the Etawah district in 1884. He called together the zamindars who owned large tracts of ravine land and proposed to them the planting of about 8 square miles of such area. The cost was to be undergone by the zamindars themselves and the proceeds to be distributed pro rata. This resulted in the formation of the famous "Fisher forest." It was followed by the Kalpi babul plantation which was started on the instance of the Military Department for supply of tan bark to the Cawnpore leather concerns. But it was not until early in 1912 that the Government recognised the necessity for a definite policy regarding the creation of new forests and a systematic survey of the existing areas was ordered. A pronouncement was also made as to the lines on which Government proposed to extend this work and the financial assistance which they were prepared to afford to private enterprise. This resulted in the creation of an Afforestation division. The division has been in existence since then and has done valuable work, both as regards actual planting work and the collection of statistics of growth, choice of species and the various other experimental data. Where work has been done erosion has been entirely checked and all fear of a fodder famine eliminated. The technique of this work is fully dealt with in Benskin's "Afforestation in the United Provinces."

## CHAPTER III.

## Denudation and Erosion in the Punjab.

SECTION 1.—GENERAL REMARKS.

A perusal of Chapter I will show that the Government of the Punjab have been alive to this danger for the last seventy years, but have always felt themselves unable to adopt the remedies proposed by various investigators. Example after example has been quoted where Government have all along realised the necessity of some action being taken, but in its solicitude for the recorded rights of the zamindars has not deemed it expedient to act. With the exception of the passing of the Chos Act in 1900, no legislative action has been taken and even the provisions of this Act have not been used, largely for the reasons quoted above. There is no doubt that the forest area in the Punjab was much larger 200 years ago than it is now. In the Imperial Gazetteer of India, Volume XIII, on page 192, a very interesting description of the sub-montane tract of Hoshiarpur is given. It tells us how

the fertile alluvial plain was formed from the silt washed down from the Siwaliks at an earlier period and how the same was destroyed later on by the Chos owing to the disforestation of those hills. The denudation so caused between the years 1852 and 1895 resulted in an increase of 72 square miles under torrent beds. On page 6 of Volume I of the same book, will be found a description of southern Balochistan; it is recorded "that the country is full

of relics of ancient irrigation works, which no longer exist owing to the destruction of the forests." On page 29 of the same volume there is a description of the Indus plain which says " there was a time when forests grew on the Indus forests with timber-sufficient to enable Alexander the Great to construct the first Indus flotilla; and about the valley of Peshawar were wide spaces of water-logged and swampy plain amid the thick reed growth of which the rhinoceros and elephant had their homes." Ample evidences can be quoted from Gazetteers, foreign travellers and historians who have testified to the fact that what are now barren and treeless hills were once clothed with forests. As has been shown in the previous chapter other foreign countries have had their share of forest destruction. In the South East of France the country somewhat resembles conditions in the Punjab; with hills overlooking a fertile plain watered by the streams that issue from the hills. In the middle ages when France was governed by Princes, the forests were scrupulously preserved and Colonel Bailey, Conservator of Forests, Punjab, in 1888 says the same thing about Patiala and Sirmur. The advent of democracy in France with the Revolution and the cry of "Liberte egalite, fraternite " began the destruction of the forests, along with the destruction of the nobility of France. The French nation has had cause to regret their action in both respects. Let us, therefore, beware before it is too late and strive to ensure that the Punjab is saved from the desolation which has come over so many lands by the destruction of the forest which once clothed their. hills. - A

#### SECTION 2.—DENUDATION AND EROSION IN THE HILLS.

I will now proceed to examine the damage that has been done in the various hill districts of the Province. The tracts affected are as follows :----

(1) Hoshiarpur Siwaliks.

(2) Ambala Siwaliks

(3) The Morni Ilaqa (Ambala District).

(4) Gurgaon District.

(5) Attock District-

(i) The Haro Valley. (ii) The Sil and Soan Valleys.

(iii) Kalachitta hills.

(6) Pabbi Hills (Gujrat district).

(7) The Salt Range (Jhelum and Shahpur districts).

(8) Rawalpindi district.

(9) Gurdaspur (The Shahpur Kandi tract).

(10) Kangra district.

Mr. Holland has, in his report on Denudation and Erosion, 1928, givena full description of the tracts. For the purposes of the damage done by erosion they can be divided into three tracts :-

(1) Low Hills.

(2) Plateaus.

Low Hills.

(3) Ravine lands.

The damage in all the above three tracts is peculiar to the locality and a short note on each will bring out clearly the extent of the damage done.

The damage done on these hills has been the gradual disappearance of vegetation and consequent retrogression in the

forest formation. Owing to constant overgraz-

ing there is very little vegetation on the ground. The constant browsing of any growth that does come up has resulted in a general deterioration of the type of vegetation and stunted Carissa spinarum (garna), Zizyphus jujuba (Beri), Dodonea Viscosa (Sanatta), etc., are the main features of the locality. General erosion is active, landslip frequent and considerable quantities of soil are carried away by violent rain beating down on an unprotected surface

and the fertility of the soil has deteriorated. The Hoshiarpur and Ambala Siwaliks, the Morni *Ilaqa*, Kalachitta Hills, the Pabbi Hills, the Shahpur Kandi tracts, the Rawalpindi and Kangra districts come under this head.

The damage done in these localities differs from those in the low hills in

that the hills are rocky and the extensive

Plateaus. plateaus above them have been entirely denuded of soil and are unfit for cultivation. These plateaus are cut into by ravines and rapidly drained of their water supply so that the whole country side at the present time has the appearance of a barren country denuded of all vegetation. The Gurgaon district, Haro and Soan Valleys and the Salt Range come under this category.

The damage done in these tracts does not usually include cultivated Ravines. Ravines. Cultivated land as well. The only locality affected by this type of damage is the Sil Valley in the Attock district.

The above is a short description of the damage done in the various tracts. For details a reference may be made to Mr. Holland's report on Denudation and Erosion, 1928, which gives a vivid description of all these tracts as the author saw them during 1927.

Some of the recent examples of damage done by floods and landslips will be of interest and show the extent to which this scourge of denudation can extend.

The annual flooding of the Chos of Hoshiarpur is well known and the extent to which it dislocates traffic and communications of the district is enormous. In the monsoon months it is not safe for men and cattle to cross these Chos as the accumulated mass of eroded material might come down any time bringing disaster in its wake.

On the 22nd of Sawan 1970 (some time in August 1913) the people from Rupar side while going to see the Ashtami fair at Naina Devi, were overtaken by a flood in the Sirsa Nullah in the Ambala district. This Nullah which has its source in the Ambala Siwaliks, in about two miles broad at that place and is liable to sudden floods. The people were taken absolutely unaware. The Naina Devi temple record shows that about one hundred men lost their lives and the others escaped with great difficulty. The number of cattle lost was innumerable.

Similarly the Budki and the Siswan Naddis, to quote only two; have had destructive floods which have caused considerable havoc. These Nullahs pass over the Sirhind Canal by super-passages and the number of floods and the maximum discharges recorded by the Canal Authorities may be of interest. The Budki passage which is 395 feet wide and 14 feet high had the following floods :--

						Floods.	Maximum floods.
						,	Feet.
1914	••	·	••	• •	• •	<b>81</b>	7.5
1925	• •		••	••	••	. 81	8.8
1926	••		• •		••	25	7.5
1927	• • •			••	• •	21	10.4

The Siswan passage is 250 feet wide and 10 feet deep. In 1916, 1921 and 1927 the floods overtopped the sides of the super-passage.

An example of a landslip may be quoted as follows :----

#### Landslip at Malkandi (Hazara, North-West Frontier Province)

#### 7th June 1927.

Malkandi Forest Rest House was built on an old alluvial terrace at the edge of the Kunhar river on a frequented camping ground carrying a much mauled deodar crop at the foot of the well forested Malkandi Reserve which covers the left bank of the river with a North aspect. The right bank formerly carried deodar forest of which a few remnants are visible but was denuded and probably cultivated at some time or other. In 1903 the whole hill side slipped into the river forcing it over towards the bungalow which was rapidly under cut and had to be hurriedly dismantled. The patches with trees in part held up. The slip and damage can clearly be ascribed to unterraced cultivations and grazing. A thin scrub has come up but is broken by a network of goat and cattle tracks.

SECTION 3.—DENUDATION AND EROSION IN THE PLAINS.

The only tract affected in the plains is the Jand Zone which extendsup to an elevation of 1,000 feet. The chief damage done has been the deposit of silt, lowering of the sub-soil water level and the general desiccation of the upper soil layers. The case of the Jullundur Doab where the water level has sunk considerably, has aroused great interest and led the Punjab Government to ask Mr. Cotter, Superintendent, Geological Survey of India, to visit the district and submit a report on the probable causes of the lowering of this water level.

Mr. Cotter went into the whole question and after consulting the previous records came to some definite conclusions, one of which is closely related to disforestation and is quoted below :---

"The causes of the fall are (a) decrease of rainfall perhaps partly caused by deforestation, (b) increase of wells and of *Chahi* land, and a decrease of fallow land, (c) drying up of the Bein, as a result of (a) and also probably through deforestation of Siwaliks, (d) fall in level of the Sutlej through opening of the Sirhind Canal (can only have a very slight and negligible effect)." This view coming from a Geologist who could easily attribute this lowering of the water level to some Geological fault is worthy of the closest attention. The deforestation of the Siwaliks is causing the lowering of the water level and a reference to Appendix I where a precis of the experiments carried out in this direction is given, should convince us, that what Mr. Cotter thinks to be the *probable* cause is the *main* cause of the lowering of the water level in the Jullundur Doab.

Most of the plains districts are so far immune from the direct effects. of denudation, but the increase of the intensity of floods and the uncertainty of the water supply in the canals in winter are subjects which are of common interest to the whole province, more especially to the inhabitants of the plains who are dependent for their life on the water supplies of the canals. Forest conservation, therefore, is a matter of common interest to all the inhabitants of the Punjab and not merely to those who live in wooded tracts. Forest Officers have preached these things and prophesied the evils of forest destruction and like other prophets they have been treated with scorn and contempt. It is not for us to impose our will on the people, we have done our duty when we have pointed out the evils attending disforestation which by lowering the moisture conditions necessary for existence have brought on something more terrible than any war, namely the destruction of the mightiest empires. The evils are now manifest, they can be seen by any one who does not wish to blind his eyes to fact. Can it be hoped that eyen at this late date something may be done to mitigate this widespread evil.

## CHAPTER IV. Causes of Denudation. SECTION 1.—MAN.

Man, with his superior intellect and other advantages, has been the greatest destroyer of the vegetation of the earth. In his primitive state he started chiselling stones to make a weapon and gradually developed into a destructive agency the equal of which is difficult to find. With the increasein population, began the indiscriminate destruction of the forests for timber, grazing and cultivation and every country in the world has tales to tell in this connection. The changes in his civic life also had their effect on forest destruction. When the countries were ruled by feudatory princes and overlords. the forests were scrupulously preserved for their sylvan pursuits, and woe betide a man who happened to bring a single stick from the forest. With the spread of democratic principles the human mind again turned against the forest and the history of various countries testifies to the enormous destruction which has followed. The recent forest fires in the non-co-operation days and the civil disobedience movements in India and the destruction of the forests in France after the Revolution are examples which cannot be overlooked. It is only when the destructive effects are brought home, in the form of frequent floods, deposit of silt, erosion, etc., that man settles down to think about remedial measures.

The great American nation began their forestry with lumbering but time has shown them the unwisdom of over exploitation and they are now at very great expense concentrating on reafforesting their hill side and conducting research on the protective effects of their forests. The same may be said of France, Switzerland and other countries.

#### SECTION 2.—FIRES.

The first means adopted by man for the destruction of the forests in order to make clearings for his fields and provide grazing grounds, was fire. Wholesale firing of the forest tracts took place and far more was burnt than was required by him for his domestic or agricultural needs. This pernicious system continued through the ages and every time the slopes were fired for grass, considerable erosion of the soil followed caused by the heavy falls of rain on the bare loose soil deprived by fire of its natural protective covering vegetation. The fire took precedence over the axe on account of the easy nature of the operation and in some cases on account of the mistaken belief that a fired slope produced better quality grass.

In the chir pine forests of the sub-temperate Zone periodical firing has been done since remote times and each time they were fired, erosion of the surface soil resulted. The only reason why these forests have withstood this abuse in that nature has provided chir pine tree with a very thick bark. The destruction by fire of the dead and dying remains of plants deprives the soil of humus and nitrogenous compounds and reduces its water holding capacity. Fires also have a tendency to exterminate the more valuable perennial types of fodder plants which are replaced by inferior species often consisting of annual weeds.

#### SECTION 3.--GRAZING.

Heavy and indiscriminate grazing has been the curse of India since the Aryan invasion and it has been specially so in the Punjab, where the existence of extensive pasture lands and forest areas in both the low and the high hills formed a great attraction to pastural people. The following table gives the incidence of cattle grazing per acre in the different provinces of India in 1926-27. The cattle include all grazing and browsing animals :—

Province.	Total number of cat- tie.	Forest area in square miles under the Forest Department,	Area open to grazing in square miles.	Cattle admitted to forest grazing.	Percentage of cattle admitted.	Incidence per acre in area open to grazing.	REMARKS.	
Bengal	۰.	32,337,000	10,529	4,159	47,411	·15	•018	
United Provinces	••	41,474,000	<b>5,2</b> 28	3,082	1,065,203	2-6	•54	
Punjab	•••	25,273,000	6,695	6,252	3,275,191	12.9	· 82	
Burma	••	6,373,000	123,746	7,153	558,663	8-8	·12	
Bihar and Orissa	••	27,938,000	2,780	2,196	339,754	1-4	•28	
Amam	••	6,731,000	20,771	16,705	27,495	0-4	•0016	
Central Provinces	••	13,723,000	19,677	16,419	3,486,631	25-4	• 53	
Coorg	•• .	138,000	519	433	27,120	19•6	•098	
North-West Frontier Provin	10 <b>0</b>	2,353,000	245	181	32,454	1.4	•28	
Ajmere	••	1,001,000	142	131	34,488	3.4	•41	
Madras	••	41,544,000	19,340	16,666	2,127,741	5.1	•20	
Bombay	••	17,911,000	15,002	12,522	2,398,296	13.4	•30	
Total for British India	••	217,397,000	249,304	85,899	13,498,974	6.2	•246	

The above figures speak for themselves. It will be noticed that the grazing incidence in the forest areas of the Punjab is the heaviest, even

though the number of cattle let in is only 12.9 per cent. of the total live stock. The remaining 87.1 per cent. either find their grazing in unclassed forests and *shamilats* or are fed on the produce of arable land. The damage that must have been done in these grazing grounds particularly in the low hill districts can well be imagined.

The Chapter (VIII) on "Forests" in the report of the Royal Commission on Agriculture in India (page 276) so far as it touches grass and grazing contains the following recommendations :—

- (1) Grass cutting should be encouraged as an alternative to grazing (paragraph 218).
- (2) The grazing of inferior cattle in the forests should be discouraged (paragraph 218).
- (3) The intensity of grazing consistent with the proper development of the forest, and the preservation of desirable grasses, should be determined as soon as possible.

The previous Chapter (VII) on Animal Husbandry also includes recommendations touching on the same subject (page 251), to wit.

(13) No large additions to existing grazing areas are possible, and efforts should therefore be concentrated on increasing the productivity of the land growing grass.

(14) The scope for such efforts is very great. The productivity of the existing grazing ground could be increased in the following ways :—

- (a) Grazing on the common land be regulated and rotational grazing established with the consent of the majority of those possessing grazing rights and by means of authority conferred on a group of villagers, for instance on a Panchayat or co-operative society—
- (b) In some instances, a definite area of the common land could be separated off for a village co-operative cattle improvement society;
- (c) In hilly districts, where the grazing facilities are better than they are elsewhere, an attempt should be made to demarcate areas to be assigned at nominal rates to groups of occupiers of village lands on the following conditions :—
  - (i) The area shall be grazed in rotation.
  - (ii) Cattle not owned by the group shall be excluded.
  - (*iii*) Part of the area shall be reserved for cutting grass for use in the hot season (paragraphs 182 and 183).

The above are recommendations of a far reaching character and are made with regard to the whole of India. As will be seen from the statement given above the need for applying these recommendations in the Punjab is the greatest as the grazing incidence in this province is the highest in British India. The recommendations cover the whole ground and the Forest Department has nothing to add. Definite recommendations which have a direct bearing on the question of erosion regarding the treatment of the *Shamilat* areas and the improvement of the grazing grounds have been made further on. The Forest Department realises that grazing must be provided somewhere and Forestry being a hand maid to Agriculture, this fact is not overlooked throughout this memorandum.

The question of grazing has attracted the attention of all the civilized countries in the world. In the United States of America this question has been studied in its direct relations with erosion and a short note on the conclusions arrived by them will not be out of place. -

According to experiments carried out at Manti Canyon in the Manti National Forest the United States Department of Agriculture came to some definite conclusions, which are published by Robert V. R. Reynolds, Forest Examiner in his pamphlet "Grazing and floods." The summary of conclusions is published in full as it is of great interest to the Punjab.

"Heavy precipitation, steep slopes, and a comparatively scanty forest cover all tend to favour the occurrence of floods in the streams flowing from the Manti National Forest. This tendency was formerly counteracted to a great extent by an abundant ground cover of shrubs and grasses, which delayed the run-off and prevented erosion. Previous to 1888 there is no record of serious floods in this region. Heavy grazing by horses, cattle, and especially by sheep resulted, however, in the almost complete destruction of this cover. Since 1888 floods of great violence and destructiveness have been common, and it is estimated that they have caused a total loss of approximately \$225,000.

Upon the creation of the Manti National Forest in 1903 prompt action was taken to prevent further damage to the range from overgrazing. Since 1903 no sheep have been allowed on the west side of the divide. Manti Canyon was still further protected by excluding all stock from an area of 8,830 acres on the uplands from 1904 to 1909. Since then a small number of drifting cattle and horses have been allowed on the area. As a result of this protection, range conditions within Manti Canyon have steadily improved, and at the same time it has been less subject to floods. A striking example of this was in August, 1909, when severe floods occurred in Ephraim and six miles Canyons, from which stock has never been completely excluded, while Manti Canyon, lying between them, escaped entirely. Also on September 18 and 19, 1910, two successive floods caused damage of approximately \$1,000 in Ephraim. No flood resulted at Manti, although the Manti watershed is nearly twice as great in extent as that which drains through Ephraim. At the request of members of the community steps have now been taken to restrict grazing in the Forest still further. There can be no reasonable doubt that the torrents which have devastated this region within the last 20 years have been caused primarily by overgrazing, and that they can be largely controlled, if not entirely eliminated, by a restoration of the natural protective cover of shrubs and grasses."

The above conclusions emphasize the fact that something similar is required in the Punjab where the prosperity of the whole province depends on the regular flow of the rivers and the constant supply of water in the canals.

I now give an example of what is considered a normal grazing incidence in America In the monthly Bulletin of Agricultural Science and practice of the International Institute of Agriculture, Rome, for May 1931, is given a table showing the area required per cow for forest grazing in different parts of the United States, America. The table is reproduced below:—

		Duration of grazing period.		Area per acre.
			Months.	Acres.
Great Northern plains	••	••	5 to 8	15 to 25
Great Southern plains	••	••	5 to 10	15 to 25
West and north-west mountain	••	••	8 to 7	35 to 40
Northern Rocky mountains	••	• •	8 to 6	60 to 180
North-East Nevada, South Ida	ho and ce	ntral		
Oregon	••	••	4 to 8	85 to 40
Wyoming, semi desert part	••	••	2 to 4	50 to 100
Utah hills, and valleys	••	••	5 to 7	25 to 80
Nevada, semi desert part	••	••	1 to 4	75 to 150
Basin of Columbia	••	••	7 to 9	10 to 30
Mountain valleys of California and	nd Oregon		6 to 8	10 to 25

Even on the great plains which are entirely grass 15 to 25 acres are considered necessary to keep one cow during the grazing period of 5 to 10 months. Appendix A, pages 26 to 33 of Mr. Holland's Denudation and Erosion, shows the incidence of grazing in the Siwaliks of Garhshankar, Hoshiarpur and Dasuya tehsils from which it will be seen, that the incidence varies from 1 to 7 acres per cow. This grazing is certainly inferior to that on the great plains of the United States and shows the excessive grazing that is going on whereby both the grazing and the breed of cattle is unpoverished. The consequences are too well known to need repetition.

In another direction the Russians have come to definite conclusions on the influence of tree growth on the grazing capacity of the soil. An extract from the Canadian Forestry Journal, Volume XV, No. 5, June 1910, page 266, gives one such example. "The Journal of Forestry has summarised a series of interesting observations carried on in Russia over a period of 25 years to determine the effect of trees upon the grazing value of land which formerly carried forest. An area of 110 acres was divided into 18 portions, some of which were kept bare of trees, while others were sown with grass and trees retained. The trees were deciduous, being birch and alder, the former a surface rooting and the latter a deep rooting species."

"The observations showed finally that in two or three periods of great drought the value of the treeless lands fall off by from 12 to 50 per cent. while that of the grass land with trees increased to 16 per cent. In rainy years also the treeless grass lands were inferior. For the first 12 years the treeless areas carried the best grass, but then their value suddenly depreciated and the clovers began to disappear, until after the lapse of 25 years the areas took on the aspect of moorland on which tillage, manuring, and sowing failed to make a permanent improvement."

" On the areas planted with birch trees the grass continued to improve until about the twentieth year, when the meeting of the crowns and roots caused the grass yields to decline rapidly, it recovered rapidly, however, when the older trees were removed and a new crop planted. Under deep-rooting alders no deterioration was observed, the grass coming close up to the trunks without reduction in height or change in colour. It is stated also that the beneficial effects of trees are to be expected not in wet but in dry climates."

There is another aspect of grazing which has so far been omitted from many publications on the subject and that is its legal position.

It is an admitted fact that the right of grazing in the various settlements was admitted when the cattle were few and the grazing grounds more extensive than at present. During the last 50 years the number of cattle, especially sheep and goats has increased enormously and the cattle have been naturally diverted towards forest areas where the incidence of grazing has increased steadily during the last 50 years. This has resulted in the present deplorable state of affairs with the consequent denudation and erosion of the hill sides, especially in the low outer ranges of the Himalaya. Sir Dennis Fitzpatrick while passing orders on the Kulu Forest Settlement, Punjab Government proceedings No. 119 for April 1894, paragraph 21, referred to the accepted legal principle that " no rights of user can be exercised to the destruction of the object over which it is exercised." The law is fairly clear on the subject and a reference to sections 22 to 27 and section 31 of the Indian Easements Acts will clarify the issue: The Dominant owners according to the definition given in section 4 of the above Act are the zamindars who own land in the village to which the right of grazing is attached. The Servient owner is the Government owning the waste lands and forests over which the Dominant owner has a right to graze.' A reference to the above sections of the Act proves that the Servient owner, which is the Government in the present case has various remedies open to it under the law for the prevention of the excessive right of grazing.

That the right of grazing is an Easement and hence covered by the Indian Easement Act is clear from the definition of Easement given in section 4 of the above Act. This Easement has been acquired by the villagers by prescription owing to continuous usage since time immemorial and has been admitted in the various records of rights.

That is the legal position of this right and the Government as a Servient owner has various remedies open to it to restrict or regulate this right. Closures of specified areas can be enforced under this Act. The settlements also can be revised and the grazing regulated in a way least injurious to the Servient heritage. The relevant extracts from the Indian Easements Acts are given in Appendix IV.

SECTION 4.—Absence of Organised pasture management.

The root cause of all denudation that has occurred in the past has been the absence of organised pasture management and the haphazard and indiscriminate manner in which goat browsing and cattle grazing is carried on. The village communities are not well organised and very few efforts have so far been made to bring them together and make them realise the common danger. Some recommendations on this subject have been made for which a reference may be made to Chapter VII.

## CHAPTER V. Effects of Denudation

SECTION 1.—On the water supply of the rivers and canals and also on the sub-soil water level.

The vegetation on the hills acts as a sponge in holding up rain-water and thus serves the purpose of a reservoir for the storage of water, which percolates through the sub-soil and again emerges in the form of springs and streams. With the disappearance of this vegetation the conservation of water in the catchment areas has ceased with serious repercussions in the streams and rivers in the form of sudden floods of short duration. Thus we have the spectacle of villages washed away by rivers in floods in the rains, and the same river so dry in winter as to seriously affect the water supply in the canals, and the sub-soil water level in the surrounding country. These facts are too well known throughout the Punjab to need any further elucidation. That this lowering of the winter supply of the canals has not escaped the notice of the Canal Engineers is evident from the following :---

Extract from Mr. H. W. Nicholson, C.I.E., Superintending Engineer's letter, dated the 29th November, 1928, discussing the Sutlej Dam Project.

"Regarding the Jullundur Doab, I can only say that the conditions of the Eastern Bein are different to what they were. The floods coming down off the Siwaliks run off much more rapidly and are of much more destructive effect, thereby increasing the size of the *chos*, damaging the cultivated lands and destroying villages. It appears that this much more rapid run off of the floods from the Siwaliks in the Jullundur Doab is not unconnected with this drop of spring level which is taking place in the heart of the Doab. Before the deforestation of these hills a greater proportion of the rainfall would soak into the ground and reach the sub-soil water table whereas now rainfall runs off much more rapidly and has less time and opportunity to soak into the ground."

Further on he says-

"During the construction of the Upper Jhelum Canal about 1908 a villager stated regarding the Mai or Kasba torrent coming out from the Pabbi hills that when he was a small boy grazing the village cattle the bed of the torrent used to provide good grazing, and that there was a "kikar" tree under which he used to shelter himself from sun and that in those days the actual bed of the torrent was quite narrow. The tree was subsequently washed away by the floods as they grew more intense from year to year and entirely obliterated what used to be good grazing ground. The torrent bed referred to at the time he spoke was one wide expanse of sand. He stated that the hills used to be covered with dense jungle and that the removal of this jungle was a cause of the floods. Being near Jhelum he said the trees had been cut and sold for firewood which led to the present deforestation."

Again in conclusion when urging Government to take immediate action Mr. Nicholson wrote :-

"It is a pleasure to note the change that is taking place in the Pabbi near the Grand Trunk Road as one motors through and one only hopes that Government will persist in its endeavours to reafforest the foot hills and not start an elaborate programme with a flourish of trumpets only to slack off later due to some so-called temporary financial stringency, which means that the money spent up to that time counts for practically nothing."

"One hopes that in time the hills will be reafforested so as to produce conditions which exist in Sirmur State; one has only to motor up to Nahan to realise what the foot hills could be like if they had not been abandoned to the abuses they have experienced at the hands of the ignorant villagers devoid of all foresight or thought for the morrow, resulting in damage to vast areas inhabited by people in no way responsible."

These remarks coming from a Canal Engineer when writing about a big project like the Sutlei Dam Project are not the views of an alarmist, but of a man who can look ahead and realise the danger which such disforestation would cause to the dams and canals built by him.

The lowering of the water level in the Jullundur Doab has already been dealt with in Chapter III, section 3. Similar results may be expected in all the other Doabs on account of the disforestation and denudation that is taking place in the neighbouring hill districts.

#### SECTION 2.—On VEGETATION.

One of the most striking facts brought to notice from a study of the vegetation of the Punjab Hills is that the forests almost everywhere, with the exception of comparatively small areas in the higher hills, are undergoing deterioration or are in a state of "retrogression." A passing reference to the evolution of the present vegetation on these hills has already been made in Chapter I. There is a general tendency for the forests to retrogress from the mesophytic types which were established when the condition of soil and moisture were favourable, to more erophytic types, indicating a gradual change from moist to drier soil conditions. Thus these forests having reached their climax formations are now retrogressing to the same conditions that existed when the "pioneer formations" were originally established on these hills. The heavy grazing and other abuses to which these hillsides have been subjected during the last half century have gradually destroyed the primeval vegetation, and the trees with which these hillsides were once Groves of old olive, ban, and other trees found in various places clothed. indicate the fact that these hills were clothed with forests in comparatively recent time and that retrogression has been greatly aided by denudation and erosion. This is also borne out by the evidences of history. A reference to the various forest zones found in these localities has already been made in Chapter I and I now proceed to examine the harmful effects of this rapid retrogression, in each of the zones.

(a) and (b). The Jand and Phulai zones.—The consideration of these two zones is taken together as the evolution of vegetation in both of them has been on similar lines, but later owing to climatic and other factors most of the species in the former zone disappeared. The different forest formations which may be distinguished in these zones are the following.-

- i) Phulai forests (in both the Jand and Phulai zones).
- (ii) Brushwood forests of sanatha (in the upper half of Jand and the whole of Phulai zone).
- (iii) Mixed forests of numerous hardwood (in the Phulai zone) species.
- (iv) Olive or kad forests (in the Phulai zone) Jand forests (in the Jand zone).

The first two formations, viz., the Phulai and Sanatha represent pioneer formations whereas the two latter represent climax formation. Examples can be quoted from many localities in these zones, showing that the vegetation is tending more and more towards erophytic types and that definite retrogression is taking place. The old olive forests are no more and arc being replaced with sanatha.

(c) The Chir Pine zone.—The simple forest formations which occur in this zone are :-

(i) Chir pine forests (*Pinus longifolia*).
(ii) Mixed forest of broad-leaved species.

(iii) Oak forests (Quercus incana).

The chir pine forests represent a " pioneer formation " and the oak forest a "climax formation," the mixed forests of broad leaved species representing an intermediate formation between the other two extreme types. By far the largest part of this zone is covered with chir pine forests. Chir pine is a species which can grow on the poorest of soil; besides, nature has endowed it with a thick fire resisting bark. But every time these slopes are fired considerable erosion takes place afterwards resulting in the exposure of the roots and a considerable reduction in tree growth. Although the hillsides are still clothed with chir trees the forests are steadily deteriorating in quality. The oak forests on the other hand, are confined to ravines and cool aspects, their area is on the decrease every year. Considerable areas which previously consisted of dense oak, now consist of an upper storey of chir pine with heavily lopped and mutilated oak below them. In short throughout this zone wherever there are oak forests they are in a retrogressive condition becoming replaced by chir pine or bare hillsides.

The above is an outline of the state of the present vegetation on these hills. For details a reference may be made to Mr. Holland's report and Mr. Coventry's "Denudation of the Punjab Hills," Indian Forest Records_x Volume XIV, part II.

#### SECTION 3.—FLOODS.

The havoc and devastation caused by floods all over the world is too well known and effort after effort has been made in various countries to regulate them by various means. That floods are in some way or other due to disforestation has also been admitted by various authorities. The *Christian Seience Monitor* of 9th June 1927 in an article on "Practicability of flood control," stated that a convention attended by 1,800 delegates, State Governors, Engineers and influential citizens of United States of America met in Chicago to discuss this question. They unanimously resolved to urge President Coolidge to call a National Conference for action. Some of the extracts from the article are very informative :—

- "But there is one phase of the matter that deserves constant consideration in all the discussions of proposed plans, because of its practicability and its relation in the long future to any general plan of control that may be finally adopted, with special reference to its bearing on the ultimate cost of the huge enterprise. That is the reforestation of the headwaters and banks of the thousands of rivulets, brooks and streams of all sizes that ultimately pour their mighty united contributions of water into the great channel that must be controlled."
- "Many who have discussed the situation have spoken of the forest end of the problem as remote, unpractical and only slightly connected with flood conditions. A knowledge of history and the experience of many nations for centuries reveals that this view is mistaken. France, Germany and other countries of Europe discovered long ago that the forest has close and important connection with the flood problem and Americans may well profit by their experience."

Further the article says :

- "Objections to the forest plan is made that it is too slow. Necessarily it will take time, but its practical value again comes in. While new tree plantations, which will ultimately protect the capital invested in great Engineering works, are growing, they at every moment with little care or expense will be producing future wealth for the whole country in improved soil conditions and in vast amounts of forest products that the nation is going to be in need of more and more.
- A plan that will perform an important function in flood control and at the same time produce great wealth would seem to be a wise one."

No stronger proof than the above could be given for the importance of forests as a measure of flood control. The American nation has recognised the fact and are carrying out great afforestation works in the catchment areas of all the important rivers, firstly to lower the danger from sudden floods and secondly to maintain a constant supply in the rivers to make them fit for navigation all the year round.

It can therefore be safely concluded that though the forests have no effect on the floods themselves, they have a great bearing on their frequency and duration. With the gradual disappearance of vegetation in the catchment areas the frequency of the floods has increased. The denuded soil keeps on coming down both on the surface and underground. The durations of the floods are shorter now on account of the rapidity with which the water flows off.

#### SECTION 4.—ON CLIMATE.

One of the most controversial questions, on which differences have existed between Scientists and Foresters all over the world, is the influence forests exert on the climate of the surrounding country. In Appendix I of this report will be found a summary of the views formulated by the Government of India after considering the reports of the various Local Governments on the subject. The views are all of an uncertain nature and much more experimental data is required to arrive at definite conclusions. Dr. Walker, •M.A., F.R.S., Director-General of Observatories in India in a note on the effect of forests on rainfall attached to the above report stated : "The effects are in all cases small; in a forest both the air and the ground are cooler than outside the forest by something like 2°F., the percentage of saturation of the air by water vapour is greater by about 10, and mist condenses freely on the trees. As regards rainfall the amount falling inside the forest appears in Germany to be about 3 per cent. larger than that outside. This does not, however, prove that the rainfall outside has been increased, and it is outside that it is needed for the growing of crops."

Dr. Walker further on quotes from the Central Provinces Gazetteer of 1870, and explains the obnoxious *dahya* system which was a system of temporary cultivation and as such very harmful to the forests. The suppression of this system was taken in hand in 1875 and afforestation works begun. Blanford made detailed observations and compared the rainfalls of the areas affected by forest preservation and those away from it; and showed that while the rainfall in the preserved area, averaging about 50" was greater by  $6\cdot8"$  for the period 1876—85 than it had been for the ten years before, the rainfall in the remainder of the Central Provinces had diminished by  $2\cdot9"$ . Dr. Walker pointed out that the period of ten years was too short to expect definite results, but as the preserved areas extended to 50,000 square miles he had to admit the reliability of Blanford's conclusions. He said, "The results of the different stations are so consistent, that, I think, the measurements may be trusted, and it would appear that there was an increase of about  $9\cdot7"$  (or 20 per cent.) due to the growth of forests."

After discussing the pros and cons of the question Dr. Walker came to the definite conclusion that in his opinion the effect of forest on rainfall was small, and probably did not reach 5 per cent.

Against the above which deals only with the influence of forests on rainfall we have observations carried out on the subject in various countries, especially Switzerland. Combe in an article on "Climate and Forest Cover" in the Journal Forestier Suisse 1926, divided the question of the effect of the forests on climate in three parts :—

- (1) The role of the forest on the run-off of the rainfall.
- (2) The role of the forest in the evaporation of the surface water.
- (3) The direct role of the forest in the formation of rain.
- To consider the three points in turn :----

(1) Much has been said in the body of the memorandum regarding the effect of forests on the rain once it has fallen. There is no doubt at all that the run-off on a denuded hillside is much more than on a forest clad slope. This point is admittedly not in direct relation with the climate of the country, but it is nonetheless certain that the longer the water is retained in the soil, the greater chance it has to return to the atmosphere and help to saturate it.

(2) With regard to the second question whether the forest had any effect on evaporation. If the soil retained more moisture, it would give up more and more than that, it would give up more gradually and so far a longer time after the fall of the rain for the reason that the soil was protected from insolation. Climate does not depend merely on the degree of humidity but also on the frequency a given degree is reached, and that is a point in favour of the forest.

(3) Finally, could the forest exert a direct influence on the amount of precipitation. This question has been answered in the very beginning. It is, however, an admitted fact that forests exert more influence in dry and tropical countries than in countries where the rainfall is already heavy.

Combe in the course of his article says—

"In analysing out the effect of the forest cover on atmospheric humidity one cannot help ascribing to a mysterious change of climate the transformation undergone by such countries as Manchuriā, India, Persia, Tunis, Algeria, Spain, Mesopotamia, etc., where the retrogression of the vegetation has followed on denudation."

It can, therefore, be safely concluded that though the influence of existing forests on the climate may be doubtful, there is no manner of doubt • as to the harmful effect on the humidity of the surrounding country, by the disforestation of the forest clad hills.

## CHAPTER VI.

#### Remedial measures already taken.

The remedial measures so far taken by the Punjab Government may be divided into two parts—

- (i) Those undertaken by Government under the different statutes.
- (ii) Those ordered by Government from time to time as necessity arose.

Under the first category are the measures both legislative and executive which have been taken for the preservation of the existing forests. These may be taken to have started in 1855 when the "Rules for the conservancy of forests and jungles in the hill districts of the Punjab territories" were promulgated. This was followed by the passing of the Indian Forest Act, 1878, under which Reserved and Protected Forests were constituted and the rights of user in the forests were defined. With the increase in population in recent years, the burden on the forests has greatly increased, the settlements are now out of date, and require revision on the lines mentioned in the following chapter. That the settlements aimed directly at the preservation of forests at the sources of the different rivers is clear and an instance may be quoted in the case of the Murree and Kahuta forests where the Forest Settlement Officer in 1882 stated his object in view to be as follows :---

- "To form a defined area into Reserved Forest to render the denudation of the hillsides and the destruction of the water supplies an impossibility, and to remove all anxiety as to the future supply of wood and timber for the adjoining tracts.
- So to form these Reserves as to leave a sufficiency of grazing grounds and forests to meet all the reasonable wants of the people of the tehsils.
- So to treat the areas of forest land, which it was impossible or undesirable to reserve, as to prevent their wanton or wholesale destruction, and at the same time to give the surrounding villages a free use and enjoyment of these forests as could be managed."

In spite of these good intentions the forest settlements have not in all cases achieved their object in preventing the destruction of the forest owing to increase of the numbers of men and cattle.

The next step taken by the Punjab Government was the passing of the Chos Act in 1900. This Act has been commented on in various places in this memorandum.

The second category of the remedial measures include the re-afforestation works undertaken in the Pabbi hills by the Punjab Forest Department and in the Ambala and Hoshiarpur Siwaliks and the Gurgaon District by the Civil Authorities. A description of the works done in the latter tracts will be found in Mr. Holland's book. A short note on the work done in the Pabbi Hills is given below :---

This tract which comprises 38,728 acres, was first constituted a Reserved Forest in 1879 and was marked down for "reboisement" (reafforestation). Operations which appeared to have had for their main object at that time the protection of the Railway Line and the Grand Trunk Road from the effect of erosions were begun in 1880 by the late Mr. Lace. Very little attention seems to have been paid to this work in the first few years when this important work was left to the care of the subordinate establishment. In 1911, owing to the danger of the Upper Jhelum Canal banks being breached by floods from the ravines a fresh effort was made to start afforesting the western slopes, but partly for the above reasons and partly

#### Reclamation and Afforestation Works.

A number of species were sown in the first instance as an experimental measure. Out of these the local "Phulai" (Acacia modesta) and the Mexican Mesquite (Prosopis Glandulosa) were most successful. The second phase of the reclamation work commenced in 1911 when the question of the safety of the Upper Jhelum Canal arose. The part of the Pabbi Reserve to the west of the Grand Trunk Road and the whole of the Rasul Reserved forest were closed to cattle grazing, drystone rubble bandhs were constructed across petty ravines to prevent further erosion, and extensive sowing of indigenous as well as exotic plants along trenches was undertaken. The results of the sowing work were not so satisfactory, but the closure to grazing induced and encouraged a good crop of grass which had covered and bound the soil to some extent, and provided the countryside with abundant fodder. A further step forward was taken in 1921 when the flats which had failed to respond to the first treatment were ploughed and trenched and earth bandhs constructed across ravines to hold up rain-water. The extension of this work has had to be closed down on the ground of expense.

#### CHAPTER VII.

#### Remedial measures suggested. SECTION 1.—PROPAGANDA.

Owing to the extreme ignorance of the aims and policy of the Forest Department in the Punjab and the value of the forests to the province as a whole, propaganda is one of the most important remedial measures. The Honourable Member, Revenue, while opening the Punjab Forest Conference in February, 1931, realised the importance of this measure and stated in the course of his address:—

> "No scheme, however attractive or beneficial it may be, will have much chance of success unless we can get popular opinion to support it. With the advent of further changes in the constitution it will become all the more necessary to secure the blessing of the Legislature and the people for any scheme which we may be able to devise for mitigating the effects of denudation and erosion. To achieve this we must launch on an extensive campaign of educative propaganda. The veil which was only partially removed with the advent of the present Reforms must be completely lifted, and the Department and its useful activities—which up till now have remained in a state of semi-purda must be opened in the view of the public. We should try to remove the popular and erroneous impression that the work of the Department is confined to exploitation and marketing of timber in our forests, or to distribute grazing permits to the villagers, and should make them realize that by far the most important duty of this branch of administration is conservation of those forests on which depends the fertility and prosperity of the province. With this end in view a careful plan of publicity will have to be worked out, and if I may do so I should like to offer one or two suggestions in this connection. In the first place, I would suggest an extensive campaign of popular lectures, periodical addresses to the members of the Legislative Council and of District Boards at their meetings, and lectures with slides-and if possible cinema shows-at the melas and fairs. We could also undertake to educate people by distributing leaflets and small pamphlets."

I can do no better than to draw the attention of the Committee to the above address and urge that the suggestions made therein should be put into immediate effect and the necessary facilities provided for the Forest Department to go ahead with this measure. During the last year several articles have been prepared and distributed to the press.

# SECTION 2.—Afforestation and subsequent undertaking of Engineering Works.

Much attention has recently been directed to this subject and considerable controversy has arisen over alternative methods of preventing erosion. Opinions are equally divided as to whether afforestation or engineering works were more effective in checking erosion. As already stated in Chapter II this question has received the widest attention in France and ultimately M. Surrell, himself an Engineer, set the controversy at rest by affirming that afforestation must precede all engineering work. This is the view now taken by most of the authorities concerned both in America Appalachian and in France. In the Punjab sporadic attempts have been made here and there to construct *bandhs* or bamboos fences to change the direction or break the force of the torrents, but if the evil is to be checked serious attempts must be made to re-afforest denuded catchment areas.

As regards the engineering works at the present moment the Forest Department consider that there will be waste of money. The experience of other countries where the problem has been systematically tackled confirms "Indian Engineering" of 29th November 1930 in an article this opinion. on "Soil Erosion in the Punjab Himalayas" stresses the fact that the frequency of floods in the alluvial plains is increasing every year and that the great engineering works undertaken on these rivers are in danger of being washed away. It refers to the paper read by Messrs. Holland and Glover in the Punjab Engineering Congress and urges the engineers in India to raise their voices along with the forest officers against this national menace. One passage from the article quoted above is significant. It states that " The efforts of the engineers, as Mr. Holland and Mr. Glover point out, entail great expense, and at the least they are only palliatives, incapable of removing the disease itself. The engineers may contend that the necessary action does not lie with them, but they should surely be able to lift their voices against a menace which is not unconnected with their own duties and responsibilities." This is the position of the Forest Service at present. While welcoming the co-operation of the Engineers in raising their voices against this menace, Forest Officers are emphatic in believing that the first steps lie in afforestation and not in Engineering.

It is urged that at least certain definite catchment areas should be closed to all grazing and handed over to the charge of the Forest Department. The existing conditions can now be measured and recorded by the Irrigation engineers and similar measurements can be made after a series of years when the results claimed by Forest Officers would either be established or disproved. Personally I am convinced that the solution lies in the removal or very great restriction of grazing in such catchment areas combined with inexpensive works of afforestation. Once the heads of the streams have been reclaimed and the extent and violence of the floods reduced steps can be taken by *bandhs* and hedges to reclaim the actual beds of the Chos in the plains.

#### SECTION 3.—CATTLE TAX AND CONSEQUENT REDUCTION OF THE FLOCKS BOTH LOCAL AND NOMADIC.

A brief history of the imposition of the cattle tax in the Kangra District has already been given in Chapter I. This is the only example of a cattle tax having been imposed, and a specific term of reference to the Committee. At the very outset I may make it clear that the cattle tax should not be confused with *tirni* or grazing fee which is realised from the villagers under the Indian Forest Act in exchange for permission given them to graze in forest areas. The proceeds of *tirni* are credited to the Forest Department. The cattle tax on the other hand is a direct attempt on the reduction of the grazing incidence and the proceeds are handed over to the District Board for spending on beneficial projects which *may* include the reclamation of the eroded lands. This tax levied on a general assessment under the Land Revenue Act is as follows :—

- (1) Buffaloes owned by Sowanedar Gujjars. On animals two years old and upwards which graze on the Sowanas during the grazing season, Rs. 2.
- (2) Similar buffaloes of Ban Gujjars, Rs. 2 per head in a few places. in Tahsil Kangra and throughout Nurpur.

(4) Goats at one anna per head or two annas in the case of villages where there has been a substantial increase.

The above tax is collected by the revenue staff on a triennial assessment.

The imposition of this tax was naturally unpopular and the triennial assessment was very much resented by the zamindars. The tax was, how-ever, regularly realized each year since its imposition. The agitation against this tax took a definite turn when Chaudhri Ram Singh, M.L.C., representing the Kangra District moved a resolution in the Punjab Legislative Council on the 13th January, 1926, recommending the total abolition of this tax. A perusal of the debate on this resolution brings home the fact that the importance of forests in the prosperity of the country was very little realised and the general sense of the house was that it was a tax imposed to oppress the zamindars. The Government members explained the true implications of the tax and its object which was mainly to reduce the number of sheep and goats. They further stated that the Government were anxious from the very start to use the proceeds of this tax for beneficial works in the District itself and thus dispel the idea that the cattle tax was a measure to augment the provincial revenue. The Honourable Mr. C. M. King, Financial Commissioner, in his concluding address gave assurances to the Council that the tax was in the interest of the Kangra people in particular and the province in general, and aimed at the preservation of their forests for them in perpetuity. He made an offer on behalf of the Government to discuss the matter with them in a Committee. Chaudhri Ram Singh the mover agreed and withdrew his resolution. This resulted in the appointment of the Kangra Cattle Tax Committee 1926 already mentioned in Chapter I. The Committee held two or three meetings and considered the memoranda received. There are a few points brought forth in these memoranda which may be commented on. Mr. Jenkyns, the then Deputy Commissioner of Kangra, submitted a long memorandum and laid down the various difficulties that were met with in the cattle census. He could not give a definite opinion whether the imposition of the tax had produced the desired results, *i.e.*, the reduction in the flocks of the sheep and goats. After stating that the accuracy of the figures could not be guaranteed on account of the migratory nature of the flocks, he touched on the procedure regarding the cattle census, which is ordinarily carried out by the Patwaris. In this connection he stated, "what is also important is that we do not know how much to allow for collusion between the Patwaris and the flock owners." In a sub-paragraph of paragraph 40 of his Final Settlement Report, Mr. Middleton made somewhat similar remarks. He said, "I am afraid that even with a large settlement staff the enumeration was much affected by collusion between the Patwaris and owners, and that with the ordinary district staff this collusion will assume very serious proportions; it must be remembered that people live in isolated houses amongst forests and that there is no method by which the animals can be counted which does not depend largely on the admissions of This consideration, I am afraid, entirely stultifies the owners themselves. the nominal reduction in flocks which is apparent from the re-assessment and which would otherwise indicate that the tax had already been successful in achieving its object of reducing grazing."

He further states in the last sub-paragraph of the same paragraph :---

"The inaccessible country with its large wastes and scattered homesteads does not allow the Patwari to actually count the flocks and he must depend largely on the statements of the owners who can easily combine for their mutual benefit; still more does it preclude any adequate supervision of the Patwari's work and he too may therefore join the combine."

Rai Bahadur Mohan Lal, a non-official member of the Committee, in his note stated, "I doubt if the imposition of a small tax of one anna per sheep or Re. 0-2-0 per goat can have the effect of reducing members." He stated that it appeared from the statements supplied by the Deputy Commissioner that the number had decreased. He said that he personally doubted the accuracy of the figures. Against the opinions expressed by the civilian and non-official members, we have the opinion of Mr. Blascheck, Conservator of Forests, who stated while commenting on Lala Mohan Lal's note:—

> "I agree with Lala Mohan Lal that the apparent decrease of sheep and goats in some tehsils is quite likely due to faulty enumeration, and it is strange that he should use the decrease which he doubts as an argument for reducing the tax to half. He entirely overlooks the established fact that right-holders keep sheep and goats in excess of their own requirements, *i.e.*, for trade."

This is, in short, the position of the Forest Department. They have no objection to a legitimate number of animals being kept for agricultural purposes, but any number in excess of this is a burden on the forests and must be heavily taxed. The damage that is done by these animals has already been stated in Chapter IV, and the Forest Department urge that the cattle tax in the Kangra District should in no case be abolished and further recommend that the tax on sheep and goats over a certain limit may be further increased.

Animals kept for trade or pastoral purposes are stall fed or grazed on special areas, all over the world. The Forest Departments, everywhere, in the interest of conservancy, permit only a fixed number to graze, and the number over and above have either to be provided for elsewhere or heavily taxed to extinction. In this respect the early settlement reports are faulty in that they admitted for too heavy rights of grazing. The Forest Department urge that the grazing incidence should be limited to the capacity of the soil. How this can be done has already been discussed in Chapter IV.

Leaving aside the question of the Kangra cattle tax the attention of the Committee is drawn to Appendix II, where the grazing incidence of various districts affected by erosion has been given. The grazing incidence on the forests is very heavy and no remedial measures can be effective till this incidence is substantially reduced. The Forest Department, therefore, propose that a graded cattle tax on the same lines as that of the Kangra District may also be imposed in these districts.

The legal process by which this tax can be imposed is quite clear, and I cannot do better than quote a passage from Mr. King's address to the Legislative Council, on the subject :—

> "This tax is levied not under the Forest Act, but, under the Land Revenue Act. Here I may point out that it is not such a strange thing as it appears to some people that we are levying a tax of this kind under the Land Revenue Act. I am sure it must be within the knowledge of many members of this House that in the plains it is still a custom of the Settlement Officers and Government generally in all areas where there is a large amount of " banjar " to levy a small tax on it. It may be a small fee of only one anna or so an acre. I do not see any members of the South-West Punjab here present, but they will bear me out when I say that a tax of this kind is very common. I know we have got it in Muzaffargarh, Bhakkar, Leiah and in other places. Only in these cases the tax is applied at so much per acre of the whole forest area. In the Kangra District it is applied to the animals using the shamilat forest land instead of being imposed on the forest area."

Having recommended that this tax should be made general in the districts affected, the Forest Department propose that a further tax be levied on cows and camels. A mere visit to the districts concerned will convince any one that the quality of cow that is being bred in these hills is very inferior. One good cow, well bred and looked after, is as good an asset as ten miserable animias. It is a fact that free grazing all over India merely results in the keeping of large herds of useless cattle. The best cattle are found where there is no free grazing. This is true of the Punjab, Oudh and Jhansi with all of which I am well acquainted. It is, therefore, proposed in the interest of forest conservancy and also animal husbandry to tax cattle so to reduce numbers. As regards the camel it is a well-known fact that there are very few trees which the camel will not browse. The destruction wrought by this animal is well known in the Jhelum and Attock Districts and a reduction in their numbers would be welcome.

As regards the camels of the Silladar Camel Corps for which Government has made special browsing arrangements, these camels are required for war and it is not proposed to tax them further.

#### SECTION 4.—SUB-DIVISION OF THE SHAMILAT AMONG THE VILLAGE PROPRIETORS

The present state of the *shamilat* and other village waste where zamindars have rights in common, is deplorable and a visit to any of the districts affected will show the utter destruction of the vegetation, that has taken place in these areas. Every one's property is no one's property and the village communities instead of trying to make improvements on these areas, have further deteriorated them by various abuses of which indiscriminate grazing is the worst. England had a similar problem to face during the eighteenth century, when the enclosure of the common land led to the improved agriculture of that time. Since then the rights in common have been considerably reduced and the grazing has to be provided for by each farmer himself. At the present time common land is the least productive of any land and is generally worthless both to the commoner and the Lord of the Manor. This experiment has been tried in some villages in the Jhelum District and to quote two examples: (1) shamilar of mauza Khardar (near Kalar Kahar in Pind-Dadan Khan Tehsil) was so divided in March, 1901, and the various proprietors fenced their respective areas. The grazing grounds are now far better than many rakhs. (2) Similarly the *shumilat* of Dharyala village (Pind Dadan Khan Tehsil) was divided among the proprietors in 1925, every piece is now fenced with stone walls and bushes are slowly coming up. The division of these common lands if done on a large scale is a matter of difficulty and with all the intricacies of succession and other assignments of property. it may become very complicated in due course, but it is well worth trying. The division can be done by the revenue authorities and checked periodically. The only disadvantage of this scheme is that these partitions tend to cause hardship to the poorer communities in the village as indeed took place in Their share of the chamilat would be little or nothing and they England. would be entirely expropriated by the big men of the community. The Forest Department therefore urge that this experiment be seriously considered in certain selected localities.

#### SECTION 5.--LEGISLATION.

The first legislative action taken by the Punjab Government for the conservation of forests was the promulgation of the "Rules for the Hill Districts of the Punjab" in 1855 which had the force of law under the Punjab Laws Act. These provided for the closing of any areas, fencing and prohibition of treepass, etc., in the tract, which in the opinion of the civil authorities was specially adopted for the growth of timber or fuel (Sections I, II, III, and IV). Sections VI and VII—provided for certain proprietary and manorial rights for products, etc., on such land. No reservation was, however, made in favour of rights or privileges of outsiders, *i.e.*, of any but the owners or occupants of the land reserved.

The next step was the passing of the Indian Forest Act by the Imperial Legislative Council in 1878 which Mr. Baden Powell in his report on the chos of Hoshiarpur, 1879, considered to be adequate. According to him the protection of such land as was threatened by erosion could be affected under this Act. This is what he actually said, "Nothing can be clearer than that this area can be closed on account of its protective character and its influence in the protection of land from shifting sands, action of torrents, etc." Mr. Moir made the same stipulation later on in 1883 and said that sections 35 and 38 of the Indian Forest Act, 1878, could be applied to such lands and also recommended that the Forest Rules of 1855 should not be lost sight of.

The first indication of the failure of these two legislative measures to bring about the result foreseen by Messrs. Baden Powell and Moir is given in Colonel Bailey's review 1888 (page 15). He narrated the difficulties in the application of the present laws and emphasised on the Government the necessity of passing simpler law which may enable Government to compel the owners of private forests to protect them, both in their own interest, and as trustees for their successors, as well as for the benefit of the country at large, by maintaining the source of supply of the produce they yield and by preventing the occurrence of "disasters such as those which have occurred in Hoshiarpur, Ambala and Patiala, as well as, on a smaller scale, in numerous other places."

The necessity for a special law was recognised and the first direct action taken by the Government was the pass-

ing of the Chos Act in 1900, the provisions of which. as will be shown hereafter, are halting and do not give sufficient powers to the executive to proceed with the works beneficial to the soil. The Act has not been applied, for some reason or other, in all the mountain districts. and even on the Katardhar. where the provisions of this Act have been applied, some of the areas have been left out. The outer slopes of the Siwaliks in the Ambala District, where the application of section 5 of the Act would have produced the same good results as in the Hoshiarpur Siwaliks, were treated lightly and it was considered expedient to apply only section 4 The provisions of this Act were reviewed at length by the Puniab Denudation Committee in 1910 which came to the conclusion that Government should get more powers under the Act. They consequently, recom-mended certain amendments to the Act. The Committee was further of opinion that a provision should be inserted in the Act showing clearly that the Government had no intention of securing a net income from the operations undertaken for the reclamation of the Cho beds. In reviewing the report of this Committee His Honour the Lieutenant-Governor conveved the following remarks with regard to this recommendation to the Financial Commissioner,-vide Punjab Government No. 468 (Forests), dated 29th October, 1910 :--

"His Honour the Lieutenant-Governor hesitates to introduce 'legislation on a subject which is peculiarly liable to misrepresentation unless and until this is shown by practical experience to be absolutely necssary.' He further stated with regard to the cost that 'it will be necessary to provide that the owners of all the areas taken over on the Chos are to be jointly liable to Government for the cost of the improvements. as all the expenditure might easily occur in some estates and all the incomes in others.'"

The conditions at present are much worse in the Punjab than they were in 1910 and the Punjab Forest Department urge that the amendments recommended by the Denudation Committee may be made to the Act. The objection raised by His Honour the Lieutenant-Governor regarding the urgency of the measure no longer exists, denudation and erosion have gone very far and some sort of action on the part of the Government is absolutely necessary. The amendments of the Chos Act proposed by the Denudation Committee are given in Appendix III.

No further legislative action is proposed as it is realised that such legislation always produces vehement opposition. Some executive action to be taken under the existing laws have already been proposed in their proper places

SECTION 6.—IMPROVEMENT OF GRAZING GROUNDS.

In Government forest.—Every scheme for the improvement of grazing grounds is dependent on the conditions that the necessary facilities exist for the closure of the areas selected and the limitation of the animals grazed. It has been emphasised throughout this memorandum that the improvement of vegetation is incompatible with excessive grazing and other rights and that the areas must be closed to all rights at least for some time. Definite attempts were recently made in the Rawalpindi District to arrive at some sort of scheme and meetings of the local officers were held. It was resolved that—

- (i) The local Forest Officers should endeavour to get villagers to agree to (rotational closure of grazing areas for the better growth) of grass.
- (ii) The Agricultural Department should experiment with the introduction of new grasses to the locality and with the improvement of existing grasses.
- (*iii*) The question of management of guzara forests, not under the control of the Forest Department should be taken up by the Deputy Commissioner.

The above recommendations are applicable to every district affected by denudation.

(1) Firstly, with regard to closures. The Forest Officers have constanly advocated these closures as the only scientific means of improving the grazing but the local inhabitants do not trust the Forest Department and look upon every effort to close a forest, even though it is in their own interest as an act prejudicial to their rights. Emphasis has been laid in the body of the report, on the heavy rights of user which have been admitted in the forests and until the people are desirous of helping themselves the Forest Department can do nothing.

(2) Secondly, with regard to experimenting with new species of grasses. The Forest Department is co-operating with the Agricultural Department and five acres each in typical localities in the Bawalpindi District have been selected and fenced. The results of these experiments will merely show what we know already that with closures in suitable localities good crops of fodder grass can be grown.

(3) Thirdlu with regard to the guzara forests. These forests are under the control of the Deputy Commissioners concerned It is the ominion of the Forest Department that these are the areas which should supply the wants of the people and in which experiments for the improvement of grazing should be carried out.

These guzaras are not managed in the best interest of the villagers and it is quite certain that the Deputy Commissioner cannot manage them. The present rules require complete revision, but until the interest and cooperation of the people can be obtained nothing can be done.

## CHAPTER VIII. -

### Replies to the Questionnaire of the Punjab Erosion Committee.

#### General.

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I.—In view of the serious destruction of the vegetation in the low hills of the Punjab, the following questionnaire is issued :—

(A).—Would you recommend that steps be taken to reduce the number of animals grazing in those hills?

Yes The Forest Department has come to the definite conclusion after observation lasting several years, that most of the damage in these hills is caused by excessive and indiscriminate grazing. Figures have been in the body of the memorandum to justify this conclusion. It is the considered opinion of the Forest Department that the grazing incidence on the forest as well as the waste land is far beavier than the soil can bear, and the villagers would be much better off if they took to stall feeding their animals instead of letting them loose to pick up a precarious living from the scanty vegetation of these hills. The whole problem of this cattle question resolves itself into a question of fodder and with the rapid dimunition of

District.		Total cattle (1923). (Lakhs).	Area culturable but not cultivated (grazing). (Lakh acres).	Number of cattle per acre.	
Hissar Rohtak Karnal Jullundur Sialkot	· · · · ·	· · · · · · ·	4·9 5·7 7·6 4·8 5·4	4·1 1·7 5·7 1·2 1·8	$ \begin{array}{c} 1 \cdot 2 \\ 3 \cdot 3 \\ 1 \cdot 3 \\ 4 \cdot 0 \\ 2 \cdot 9 \end{array} $
 Punjab	••		1.51	1.74	0.9
United Prov	vinces	•••	••	• •	2.1
 England	• • •		••	••	1.8

the old grazing areas in the *shamilats*, owing to extension of cultivation, some urgent steps are necessary to lessen the possibility of a fodder famine. Some of the cattle figures given in the following table are very suggestive :----

On the whole the situation looks better than the United Provinces, but as compared to England the figures are liable to convey a wrong impression, in the Punjab much of the culturable area is of grazing value only for two or three months after the rains, while in England the grazing is normally available throughout the year. Some idea what an English farmer considers a normal grazing incidence for his farm can be had from the following :---

Farm area, grass, mea	dow and	arable	••	<b>.</b>	150 acres.
	Numl	be <del>r</del> of cattle in	summer.		
Bovine cattle, all ages	••	• •	••	45	
Sheep breeding ewes	•• •	••		80	
Lambs	••	••		100	
Horses	• •.		••	8	
		Tota!	, <b>.</b>	233	
Summer incidence	••	••	••		•65 acre per animal-
	umber of	cattle in wind	e <del>r</del> .		
Bovine cattle	••	• •		45	
Sheep breeding ewes				<b>80</b> °	
Horses	• •	**	••	8	
		Total		133	;
Winter incidence	••			<u> </u>	- 1 • 19 acre per animal.

It will be noticed from above that grazing is only provided for the useful cattle and the 100 lambs produced during the summer are sold to the butcher during winter.

(B).—If so, what steps do you recommend? In particular do you recommend a tax on these animals? If so, what?

(1) Restriction in number by legislation.

(2) Increase of taxation on cattle.

As regards the first the Forest Department think that the orders of the various Forest settlements and the different legal status of the various forms of holdings, are so intricate that no proper action could be taken without further legislation. The grazing runs are mostly hereditary and the Forest Department having no control on the *shamilat* land or unclassed forest no action can be taken under the Forest Act. To do any good on these lines legislation must be enacted to defining the runs, the limitation of persons and number of sheep and goats which may be grazed, and provisions for enforcing any orders which may be passed to this effect.

As regards the second method, the increase of taxation can be easily brought about by raising substantially the cattle tax and *tirni* on goats. The xlvii

rates can be raised under the land revenue and the Forest Act respectively. The Forest Department do not recommend any alteration in the rates for sheep as they do less damage, and as such should be encouraged to replace goats. The following scale of taxation is recommended :----

THO TOT							
	_,	Go	ats.		Rs. A.	Р.	•
First ten ar	nimals	••	► •	* 1	12 8	0%	
For each an	umal abov	e that num	nber up to 100	• •	<b>25</b> 0	0%	•
Animals ab	ove 100	••	• •	• •	<b>50</b> 0	0%	
		£	Sheep.				
First ten ar	nimals	•\ •		••	Free.		
For each an	nimal abov	ve that nun	nber.		4 11	0%	
Buffaloes	••	••	••		20	0 each.	
Cous	••	••	••	••	0 8	0 each.	
Camels	••	••	••	• •	1 0	0 each.	(The Silladar
							camels to be
1							exempted).

(C).—Can any steps be taken to improve the existing grazing grounds or to restore those deteriorated by denudation?

There are a number of ways by which the improvement of the existing grazing grounds could be done. They are enumerated below :---

- (1) The introduction of better quality grasses and fast growing fodder trees.
- (2) The introduction of the rotational closure scheme all over the affected area, irrespective of whether such pastures are Government or village forests.
- (3) Undertaking of reboisement works combined with construction of bands in the area deteriorated by denudation.

All the above measures have already been discussed in the previous chapter and there is nothing further to be added. The attention of the Committee is invited to Appendix V where a note on the inadequacy of a ten years' closure period is given. If rotational closure is decided on in the badly affected areas, a period of at least 30 years be fixed as the normal closure period. The schemes for the different districts can be worked out by the Revenue and Forest Officers working together.

(D).—Do you recommend that steps be taken to prevent the incursion of nomadic or non-resident animals into those hills?

Yes. Early steps are necessary to be taken in this direction (vide (a) above). Legislation will be necessary to restrict the nomadic grazing though it may, at this stage, be very difficult to forbid it entirely. Before, however, any definite action is decided upon, the Forest Department suggest that the whole of this question, with its many and difficult problems, both legal and political, should be referred to the investigation of a small Committee consisting of a Revenue Officer, a Forest Officer, and a Non-Official. This Committee would be in a position to elucidate all matters concerning this question, and propose remedies with the full knowledge of all the facts of the case before them which at the present moment no one man can possess.

II.—Have you any suggestions to make on any of the matters dealt with in the terms of reference?

The whole question has been dealt with fully in the body of the memorandum and the Forest Department have nothing to add.

## PARTICULAR.

#### Ambala District.

(A).-Would you recommend that whole of the upper slope of the Siwalik Hills be placed under section 5 of the Chos Act and so closed to all animals?

Yes. The Forest Department recommend that section 5 be applied to whole of the upper slopes above the lines already demarcated by pucca pillars. This line was demarcated by Mr. Hollond in 1914, but section 5 was, for some reason or other, never applied. It is further recommended that as in the case of Hoshiarpur, only grass cutting should be permitted within the section 5 area.

A reference is invited to pages 34-43 of Mr. Holland's book where detailed recommendations on the subject have been made.

(B).—What action, if any, would you recommend to be taken in the Morni Ilaqa to improve the already denuded lower slopes and to prevent the upper slopes being denuded?

The Forest Department recommend that section 5 of the Chos Act be applied to the upper slopes and section 4 to the lower, the number of cattle in the lower being so reduced that the grazing incidence does not exceed twelve acres per head of cattle. A trained Forester should be placed in charge of the Ilaqa and sowing of sanatta (Dodonea viscosa) should be done throughout the denuded area. 'Grasses such as bhabhar, taulu and Sarala should be grown. For details a reference may be made to pages 44-47 of Mr. Holland's book.

#### Gurgaon District.

(A).—What have been the effect of the present closures made in the Gurgaon hills?

A reference may be made to Mr. Holland's book, pages 49-52, where a detailed description of the state of the areas under closure has been given. The Forest Department associate themselves with those remarks.

(B) — Are any changes in the rules necessary?

Yes. Some changes in the rules given on page 49 of Mr. Holland's report. In rule No. III the word " camels " may be added before the word " goats." Rule IV should be modified as follows:-

After the word grazing insert a comma instead of a fullstop and add the following words "provided that the Deputy Commissioner shall have power to increase this rate of remission if, in a particular case, he finds that the sacrifice involved is greater than in the case of other persons of a similar standing and status in the District."

The remaining rules are quite satisfactory.

(C).—Do you recommend that further closures be made? Yes. Further closures may be made, if possible.

#### Hoshiarpur District.

(A).—Would you recommend any further application of section 5 of the Chos Act to the upper slopes of the Siwaliks in order to close the upper slopes to all animals !

The omission to apply section 5 to these slopes in the first Yes. instance was inexplainable. Unless and until the upper slopes are closed to all animals there is no hope of the soil in the catchment areas being preserved. It is no use doing any work lower down in the nullah unless the evil is stopped at its source.

(B).—If so, to what villages would you apply section 5?

The name of villages which have grazing rights on these upper slopes may be obtained from the Revenue authorities. The Forest Department recommend that section 5 should be applied to all such villages.

(C).-Would you recommend that the Chos Act be applied to those parts of the Una Tehsil which are on the western slope of the Siwaliks, *i.e.*, the slope which drains towards the plains?

Yes. It is most necessary. It is denudation on these slopes that is largely responsible for the lowering of the water level in the adjoining tracts

(D).—Would you recommend that the whole or any part of the Chos Act be applied to any part of the eastern slopes of the Siwaliks?

Yes. The relevant sections should be applied in this part as well.

(E).-Would you recommend that the catchment area of one Cho be entirely closed to all animals as a demonstration area?

Yes, and the catchment area in question made over to the Forest Department for management. The villagers must be shown the advantages of The catchment area of Nara Cho which is easily accessible and closures. suitable in all respects may be selected.

#### Kangra District.

A statement showing the number of sheep and goats grazing in the Kangra District since 1921 is attached.

(A).—Is the dimunition in numbers in the last two or three years due to the cattle tax or to a decrease in the areas of the grazing grounds !.

The decrease during the last two or three years is due to reasons which are mainly economic. The cattle tax in the Kangra District was imposed in 1916 and it could not be expected that immediate results would be apparent. As stated in the body of the memorandum the tax as at present levied is not drastic enough and is not likely to cause a large decrease in the number of sheep and goats. The denudation and the destruction of the grazing grounds has developed rapidly during the past few years and may be a contributory factor towards the decrease in numbers. It is the opinion of the Forest Department that the apparent decrease is due to the following reasons :-----

- (i) By disease (principally " foot-and-mouth " and rinderpest). * 3 m at
- (ii) Possibly by high taxation.
- (iii) By a decrease in fodder supplies with steady deterioration of waste land and forest by over-grazing.
- (iv) Faulty enumeration. This point has been stressed in detail in the previous chapter.

(B).-Is the grazing incidence to-day heavier than it was before the cattle tax was imposed? If it is not heavier, is it still heavier than the grazing grounds and forest can bear without deterioration !

Owing to the reduction of cattle for reasons enumerated in (a) above the grazing incidence is lighter than it was before the imposition of the cattle tax as is shown by the following figures :---

,		-	, 		Ν	<i>in the district.</i>
1891	<b>• •</b>	••	••.		֥	968,000
1901	••	••	• • •	••	• •	1,122,000
1928	••	• •	••	••	••	821,000

It is admitted on all hands that denudation and erosion are rapidly increasing in the district despite the fact that there has been no increase since the original forest settlement in the animal population of the district. It must, therefore, be quite obvious to all that the original grazing incidence permitted was excessive. This is the whole case of the Forest Department and even in spite of overgrazing having been admitted in the past, no action has been taken to limit grazing to the capacity of the soil. Hence the Forest Department urges once again the necessity of limiting the grazing incidence as the only proper remedy for this evil.

(C).—If the existing tax is continued, is it likely to result in a further decrease in the number of animals?

The tax as at present levied is too light, and in order that it may, have an effect on reducing the number of cattle to some extent it must be raised substantially and extended to cattle.

(D).—Have the forests and village grazing grounds improved during the last 15 years, *i.e.*, since the introduction of the cattle tax?

No. As stated above the grazing has remained excessive even after the impositoin of the tax and no chance has been given to the forests or the t a ddai y grazing ground to improve.

(E).—If no improvement is apparent, what additional or alternative methods do you recommend?

'The details of the remedial measures suggested are given in chapter VII of this memorandum to which attention is invited.

(F).—Is the damage done by nomadic flocks more destructive than that done by local flocks?

The damage done by the nomadic flocks is more as a larger number of animals is concentrated on a smaller area. Recommendations on this subgivet have been made in answer to the general questionnaire under T(d).

(G).-If the damage done by nomadic flocks_is more 'destructive than that done by local flocks, do you recommend that the former flocks should be · · · · taxed more heavily than the latter?

Yes. These nomadic flocks are kept entirely for purposes of trade and the damage they do is far greater than that done by local non-migratory flocks. 1.11

## APPENDIX I.

#### EXPERIMENTAL STATISTICS COLLECTED IN FOREIGN COUNTRIES.

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The importance of the subject of denudation and erosion has been realised for a long time and many countries including United States of America, Switzerland, South Africa, Ceylon, etc., have carried out experiments to see the relationship between forests and the different climatic and physical features of the locality. A precis of such experiments and the conclusions arrived at has been given below:—

#### (1) Dr. Arnold Engler's experiment in Switzerland.

The Forest Experiment Station at Zürich in 1900 undertook accurate measurements on two small watersheds in the commune of Somiswalde; about 15 miles north-east of Berne. Of the two watersheds selected for the experiment one is known as Sperbelgrabem. It is 177 acres and wholly forested. The other known as Rappengraben is 172 acres and is  $\frac{1}{3}$ rd forested. Both lie in the watersheds of two different streams which flow into the river Emme. The mountain range of Hinterarni, which in the peak Farnli reaches an elevation of 4,135 feet above sea level, lies between these two watersheds. The distance between them is 2.4 kilometers in an air line. The gradient is steeper on the forested than on the poorly forested watershed.

Various meteorological and silvicultural observations were carried out on the lines of the "wagon wheel Gap" experiment and Dr. Engler arrived at the following conclusions :---

- (1) That a good forest cover has a very beneficial effect upon the regime of streams in mountainous and hilly regions.
- (2) That streams fed from a forested watershed have a more uniform discharge and carry less debris to the larger rivers which they flow than streams coming from an unforested watershed.

(3) That the effect of forest cover in stabilising and making the streams flow more uniform was due not directly to the forest cover but to the effect which it has upon the permeability and looseness of the soil and in maintaining a uniform temperature and moisture of the air and soil.

- (4) Dr. Engler discarded the opinion held by many prominent investigators such as Ebermayer, Wollny, Ney, Henry and others that the great water retaining power of the forest soil was due mainly to the great retentive capacity of the leaf litter and moss cover. On the whole he stated that raw humus and moss cover act upon the regime of streams like peat and moor soils.
- (5) The moisture contents of the soil under forest cover and in the open follow different courses. The forest soil contains more ground water while the open soil contains more capillary water, and the moisture contents in superficial layers of the former is more than in the latter.

#### (2) Wagon Wheel Gap Experiment, Colorado, United States of America.

Final report by C. G. BATES, Silviculturist, Forest Service and A. J. HENRY, Meteorologist Weather Bureau.

#### Monthly Weather Review No.' 946, supplement No. 30, 1928 Washington.

Experiment started in the Central Rockies in 1909. Two valleys of about 200 acres each and as similar as possible in all respects and as typical of the country as could be found, were brought under a very intensive study, most detailed meteorological observations being recorded throughout the year and total run-off and suspended matter carefully measured. After 8 years it was considered that all the data required to establish the comparability of the two valleys had been collected and one valley was completely denuded, observations being carried on for another seven years.

The valleys were at 10,000' altitude, had an annual precipitation of 21", and falls of one inch or more in 24 hours were only experienced once in two years; half the precipitation was snow which covered the ground from October to May; the gradients were moderate and the underlying rocks crystalline.

The authors in their final report warn one of the need for careful inductive reasoning in the attempt to relate even qualitatively their results to another sort of conditions.

The denuded area B had initially on an average 17 per cent. more run-off than the forested area A. The difference reached a maximum three years after denudation then fell off rather rapidly and steadily to the end of the experiment; ' though the snow water was made available earlier and in more concentrated volume, the watershed was still capable of absorbing it and of retaining for discharge throughout the year a greater volume than before.' In other words under the particular conditions of the test, denudation had not resulted in deterioration of the value of the area for water storage. Again, although erosion rate for B was 2.8 per acre per year before and 16.7 after denudation, no visible erosion was noted and the amount is almost insignificant.

#### (3) Forests and water in the light of Scientific Investigation by Raphael Zon, Director, Lake States Forest Experiment Station. Pub. by Forest Service, U. S. Department of Agric., 1927. 106 p. Price Rs. 20.

This is one of the most authoritative publications on the subject that has ever been written. It is by a man who has long been recognised as an authority upon this broad subject. Coming as it did in a year of the most devastating floods in the Mississipi drainage area, it should have a great influence on the education of the general public on this subject.

After stating the object of the report, which is to bring together impartially all the well established facts as to the relation of forest to water supply, the methods of determining the influence of forests on stream flow are divided for purposes of discussion into two divisions as follows:---

(1) Results by the physical method.

(2) Results by the hydrometric method.

The first, "The physical method consists in determining through the measurement of individual factors the total amount of water available for stream flow."

In the second hydrometric method, the actual discharge of rivers is measured. The ideal application of the method by comparing the regimé of streams from forested and unforested watersheds is outlined.

#### PART I.-RESULTS BY THE PHYSICAL METHOD.

Under this heading is gathered together and analysed under numerous headings the information published throughout the world by eminent investigators. This information is voluminous and has been drawn upon freely and impartially. Some thirty-five pages are given to the discussion. A summary at the end bringing together in a small compass the findings to the various investigations is given below:—

Summary of the effects of forests in conserving precipitation.

(1) The hydrological role of forests in level countries differs from that of forests in hilly or mountainous regions.

(2) In level country, where there is no surface run-off, forests, in common with other vegetation, act as drainers of the soil, hence their importance in draining marshy land improving hygienic conditions. In such country their effect upon springs is unimportant.

(3) In hilly and mountainous country forests are conservers of water for stream flow. Even on the steepest slopes they create conditions with regard to surface run-off such as obtain in a level country. Irrespective of species they save a greater amount of precipitation for stream flow than does any other vegetable cover similarly situated. They increase underground storage of water to a larger extent than do any other vegetable cover or bare surfaces. The steeper the slope the less permeable the soil, and the heavier the precipitation the greater is this effect.

(4) In the mountains, the forest, by breaking the violence of rain, vetarding the melting of snow. increasing the absorptive capacity of the soil cover, preventing erosion, and checking surface run-off in general, increase underground seepage, and so tend to maintain a study flow of water in streams.

Between this section and the next is included a two page discussion on the subject of erosion.

#### PART II .- RESULTS BY THE HYDROMETRIC METHOD.

After discussing the reliability of records from various sources, in which it is pointed out that owing to the complexity of the study due weight is often not given to the factors involved, and needless introduction of extraneous factors, the records of stream flow from the various rivers of the world are discussed. The summary is as follows:—

#### Summary of effects of forests upon stream flow :

The available observations upon behaviour of streams in this country and abroad have established the following facts :---

- (1) The total discharge of large rivers depends upon climate, precipitation, and evaporation. The observed fluctuation in the total amount of water carried by rivers during a long period of years depends upon climatic cycles of wet and dry years.
- (2) The regularity of flow of rivers and streams throughout the year depends upon the storage capacity of the watershed which feeds the stored water to the streams during the summer through underground seepage and by springs. In winter the rivers are fed directly by precipitation, which reaches them chiefly as surface run-off.
- (3) Among the factors, such as climate and character of the soil which effect the storage capacity of a watershed and therefore the regularity of stream flow, the forest plays an important part, especially on imperme-

able soils. The mean low stages as well as the moderately high stages in the rivers depend upon the extent of forest cover on the watersheds. The forest tends to equalize the flow throughout the year by making the low stages higher and the high stages lower.

(4) Floods which are produced by exceptional meteorological conditions can not be prevented by forests, but without their mitigating influence the floods are more severe and destructive.

One of the chief features of this publication which makes it a very valuable reference work on the subject of the influence of forests on water and climate is the large bibliography on this subject of thirty-six pages, arranged under authors' names alphabetically.

## (4) Investigations on soil cover, erosion and run off in progress at Berkeley University. Colifornia, by Dr. W. C: Lowder Milk.

Studies were designed to measure the influence of forest litter on surficial run-off under experimental control. Eight experimental tanks were designed and installed to provide for soil profiles of 2.5 feet for projectional soil surfaces of ten square feet, sloping at a 30 per cent. gradient; for collection and measurement of surface run-off for elutriation of eroded material, and for the collection and measurement of seepagethrough the soil profiles.

## Conclusion.

The capacity of forest litter to absorb rainfall is unimportant in comparison with its function of maintaining a soil profile at its maximum percolating capacity for precipitation waters.

## (5) Enquiry by the Government of India into relations between forests and atmospheric and soil moisture in India. (M. Hill, I.F.S. 1916).

Dr. Nisbat, a retired Conservator of Forests, pointed out the necessity for such an investigation to the Secretary of State on which the Government of India addressed all the Local Governments on the question and arrived at some conclusions which are summarised below:—

- (1) That, in the absence of reliable data lasting over a prolonged period; it could not be said whether there had been any permanent change in the level of the underground water table generally speaking; it appeared that the level depended on the rainfall and varied directly with it.
- (2) On the whole, save perhaps in some cases, it was considered, generally speaking it could not be said that the flow of rivers and streams were less equable, that floods were shorter in duration and more violent, and the streams dried up more quickly.
- (3) That in most provinces no serious damage to the flow of rivers had taken place and no great injury had been done to cultivation. There were, however, several local exceptions and much damage had been done in the Punjab, in Bengal, and to a less extent in Eastern Bengal and Assem, where damage was acknowledged, it was on the whole admitted that this was due to forest denudation.
- (4) That denudation which was in progress before forest reservation had begun. had been checked, and as a matter of fact, much of the catchment areas of many of our important rivers have been formed into either reserved or protected forests. The protection of such catchment areas was, however, by no means complete, and where these lay in Native States or in private lands it was certain that much regrettable denudation had taken and was taking place.
- (5) That the influence of forests on rainfall was probably small, but that the denudation of the soil, owing to the destruction of forests, might, as far as India was concerned, be looked upon as an established fact, while as regards the effect of forest preservation on rainfall and the underground water supply, the papers forwarded did not provide sufficient information to justify any change in the principles on which the forest policy of the Government had hitherto been based. It was remarked that these principles were founded mainly on considerations of directly economic character, connected with the conservation of the grazing resources and forest produce of the country, and that the elimatological considerations did not in any way affect these well established principles.

The Government of India in conclusion laid down that experimental stations be established at different centres and further research carried out on this important aspect of forestry.

For details see Hill's book.

## (6) Experiment showing relationship between grazing and floods mentioned in Chapter IV, Section 3.

The experiment was carried out by the United States Forest Service at the Great Basin Experiment Station at Utah and covered a period of 20 years. Two watersheds 10 acres each were selected. For the first five years both the watersheds were grazed alike. In 1920, one area was closed to grazing and vagetation was aided by sowing grasses, thus increasing the vegetative cover from 16 per cent. to 40 per cent. of the soil surface. The other area continued to be grazed. The run-off and sediment eroded from both was measured for each storm since 1915. The results on a ratio basis between the two areas, showed that after the herbaceous vegetation had improved until it covered 40 per cent. of the soil surface, the run-off from summer rains was 55 per cent. less and sediment eroded was 56 per cent. less than when the vegetation covered but 16 per cent. of the surface.

The conclusion arrived at by this experiment has been given in Chapter IV, Section 3.

(7): Experiments showing total run-off carried out at Peradeniya (Ceylon) 1909.

Nine plots, 1/50th of the acre in area were taken, each having a catchment drain, at the bottom: the length of the plots was 43 feet. The results as given in 1923, are given below: the mainfall during the experiment was 59 inches.

	Treatment.		•		Approximate soil in tons p	loss of '' er acre
Bare soil weeded i Bare soil deep for	ked	••	••	••	•• 115 79	• :
Covered Soils— Dadap (Erythri Albizzia	na sp.)		••	••	106 67	
Impomoea Crotalaria incan	de sur son i	**) **:::::::::::::::::::::::::::::::::	••	••	45 43	
Crotalaria and i	ndigofera 1 foot aj sudope 1 foot apai	part of slop rt in cowso		••	27 26 12	

The report at the end states that too much reliance may not be put on the actuals figures, but the prevention of soil wash by cover plants was considerable.

(8) Some figures showing erosion under different conditions.

Lecality.	Tsing Yuan.	Tung Tsa.	Tsing Taoz
Period of experiment	July 20 to Au-	August 7 to 27	July 7 to Augusto
	gust 8.		20.
Rainfall in milimeters	807	196.	790
Percentage run-off from co- vered area.	0.1	0·01	2
Percentage run-off from de-	6	8	6
nuded of barren area.			.e.

(b) Sampson and Weyl carried out experiments at the Manti National foress at Utah where wheat was grown in pots containing sock from eroded and non-eroded spots. The soils were of the same origin and type and were sifted for the experiment. After the plants were grown the soil was examined with the following results :---

· • •	. ş	Erodedi	Non-eroded.	
······································	q7-	<del>,</del>		
Water holding capacity	17	46.8	67.8	
Ca O (Calcium Oxide)		1.26	1 • 49	
K ² O (Potessium dioxide)		1.58	1.80,	
P ² O ^a (Phosphorus Pentoxide)		0.22	0.38.	
N (Nitrogen)		0.16	0.49,	
Loss on ignition (humus)	· · · · · · ·	6.6	14.6	
Dry weight of wheat grown	- 14 AN 12	P . M 33L	12 1 Ibs.	
Water requirement for the dry matter wheat	•• F	472	848	

## APPENDIX II.

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Year.		Sheep and goats.	Other cattle.	Total.	
	· •				
		]	·}		
		HOSHIARPUR DIST	TRIOT.	· · ·	
90-91	 •••	180,233	602,734	782,967	
94-95		. 182,890	574,244	757,184	
98-99 [°]		258,089	635,683	888,722	
03-04	••	239,180	612,058	851,238	
18-14		. 192,491	651,814	844,805	
28	••	. 287,874	562,607 600,308	800,481 773,699	
28	••	173,891	576,170	759,587	
90	••	183,367	i 570,170.	100,001	
	···	· · · ·	a Aba		
	KANGRA D	ISTRICT (INCLUDING KUL	U SUB-DIVISION).	· · · · ·	
90-91		. 642,714	672,532	1,815,246	
94-95	• • •	. 576,142	680,940	1,257,082	
98-99	• _ • • •	867,518	886,105	1,759,629	
03-04	••	866,081	887,891	1,753,922	
18-14	••	. 934,911	878,894	1,808,805	
28		717,090 ·	702,795	1,419,885	
<b>28</b> ·	••	612,181	.758,688	1,870,869	
80	••	. I 603,804	743,033	1,846,887	
		Ambala Disti	RICT.		
		156,848	644,950	801,298	
90-91	••	190,049	685,239	822,328	
94-95	••	154 890	536,581	691,471	
98-99 0 <b>8-04</b>	••	172,678	515,236		
18-14	••	181,610	561,862	743,472	
28	ित्र	177,984	449,676	627,660	
28 28		121,287	502,754	624,041	
80		246,708	307,343	554,051	
		JHELUM DI	STRICT.		
<b>9</b> 0-91		. ( 295,887	891,089	686,926	
94-95		295,766	391,156	686,922	
98-99		. 866,979	413,025	799,404	
08-04		. 839,982	803,178	643,155	
18-14		. 278,964	<b>368,918</b>	<b>6</b> 47,282	
28	••	238,596		238,536	
28	• •	254,418	856,881	611,294	
<b>80</b>	· ` ` = •	. 208,767	\$17,783	521,550	
		RAWALPINDI DIST	RIOT.	•••	
90-91	•	407,576	478,168	885,744	
94-95	· · · ·	422,978	560,145	989,118	
98-99		546,878	562,492	1,108,865	
08-04	•• •	267,887	<b>\$18,290</b>	586,177	
18-14	•••	239,848	842,177	582,025	
28	•	238,526	071.010	238,526	
28	•• •	. 208,010	. 851,612	554,622 601 155	
80		808,770	· · · 882,885	691,155	

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# STATEMENT SHOWING THE LIFE STOCK IN THE DISTRICTS AFFECTED BY EBOSION (FIGURES TAKEN FROM THE AGRICULTURAL STATISTICS OF BRITISH INDIA AND THE PUNJAB CATTLE CENSUSES).

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	Year.	:	Sheep and goats.	Other cattle.	Total.
<u> </u>					·
			GURGAON DISTRIC	T.	,
1890-91		•• 1	124,179	626,145	750,324
1894-95			145,769	592,778	788,547
1898-99			203,228	550,727	758,955
1908-04			276,484	477,426	758,860
1918-14			233,614	598,791	827,405
1923	•••		243,271	522,878	
1928	••	1	144,708	022,010	766,149
1920	••	•••	1==,100	••	144,708
1900	••	•••	••	••	I ••
			ATTOCK ]	DISTRICT.	
1890-91				<b>r</b>	
	••	· · · · •	••	• •	•••
1894-95	• • •	••	· · · · · ·	<b>**</b>	• ••
1898-99	<b>**</b>	•••		••	
1903-04	••		<b>3</b> 81,620	298,960	680,580
1913-14	• •	•••	831,940	<b>388,197</b>	720,137
1928	• •	. • •	<b>31</b> 8,018	••	818,018
1928	••	- ••	<b>335,317</b>	405,268	740,585
1980	• •	••	••	•••	••
			GURDASPUR DIS	, TRIOT.	
1000.01	· · · · · ·		140.404	000 500	
1890-91	••	••	149,424	680,796	880,220
1894-95	• •	••	89,766	618,984	708,700
1898-99	••	, . <b>.</b> .	195,110	689,190	884,800
1908-04	<b>* *</b>	••	284,285	678,922	913,207
1918-14	••	••	199,637	722,956	922,593
1923	••	••	192,077	628,857	820,484
1928	••	•••	▲ 40	There is a second second	•••
1980	••	1	••;	l, s ( <u>*</u> _*	
:	PUNJ	AB (EXO)	LUDING NORTH-WEST I	FRONTIER PROVINCE	•
1890-91			5,620,556	12,857,881	
1894-95	••	••	5,692,881	18,056,021	17,977,887
1898-99	<b>h h</b>	•••	7,640,114		18,749,902
1908-04	•• .	• •	9,556,618	9,267,784	16,907,848
1903-04	• •	••		14,856,949	23,953,562
1915-14 1928	••	••	9,108,736	14,951,079	24,059,815
1925 1928	••	••	8,738,310	12,856,777	21,095,087
1740			8,161,595	12,568,775	20,725,870

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## APPENDIX TIL.

## DRAFT OF PROPOSED AMENDMENTS OF THE CHOS ACT.

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Section 8.-(1) Whenever it appears to the Local Government that it is desirable Action when Local Government that measures should be taken in the bed of any cho considers it desirable to take measures or in any uncultivated land adjacent thereto or in to regulate the beds of chos. both for the purpose ofto regulate the beds of chos.

- (a) regulating the flow of water within, and preventing the widening or extension of such bed or
- (b) Reclaiming or protecting any land situate within the limits of such bed,

then if (i) in the opinion of such Government the measures deemed necessary for the said purposes are of such a character in regard to extent and cost that the interference of the Local Government is absolutely necessary, or if (ii) the persons possessing rights in the land within the bed of any cho in any estate or group of estates or a number of landowners therein responsible for the payment of more than half the land revenue ask that reclamation operations should be undertaken by Government, such Government may by notification declare that the whole or any part of the area comprised within the limits of the bed of any cho or of any uncultivated land adjacent thereto or of both shall vest in the Government for such period and subject to such conditions (if any) as may be specified in the notification : Provided that while the reclamation operations as may be specified in the notification; Frovided that while the retraination operations are in progress, a separate account shall be kept for each estate of their cost and of the income from the land affected by them, and that the net income, if any, shall be distributed among the persons possessing rights in the land comprised in the said notification in proportion to their several rights as the Deputy Commissioner shall from time to time determine; and that, when the reclamation operations have been completed, the land and surplus of net income, if any, shall be restored to such persons free of charge; and further that before such land is restored, it shall be assessed to land revenue.

(2) In place of proceeding at once in the manner given in sub-section (1) pro-vided, such Government may, in the first instance by notification specifying the nature and extent of the measures to be taken and the locality in and the time within such measures are to be taken, invite all persons possessing rights in the land situate in such locality to themselves carry out the measures specified in such notification accordingly; and in the event of such persons failing to comply with the requirements of such notification, such Government may prodeed as in sub-section (1) provided.

(3) When the persons mentioned in sub-sections (1) and 2 are unable to agree annug themselves regarding the carrying out of such measures the decision of those paying the larger amount of land revenue shall be held to be binding on all.

(4) The Local Government may from time to time by like notification extend the period during which any such area shall remain vested in the Government.

Section 9.—Upon the publication of any declaration under section 8 (1) all private rights of whatever kind existing in or relating to any land comprised within the area specified in the notification at the time of the publication thereof shall be suspended for such period as may be specified in such notification and for such further period (if any) to which such period may at any time be extended.

## Section 10.

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1111 1. In sub-clause (1) add after the word who " and uncultivated land adjacent thereto." £1. . . . . .

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Should be repealed, and the following sections enacted in its place :--

## Section 12-A.

When any persons possessing rights in the whole or any part of the bed of a cho lying within the boundaries of an estate or group of states represent to the Deputy Commissioner that they wish to undertake reclamation operations in the bed of such cho or in the bed of such chos together with uncultivated land adjacent thereto, the Deputy Commissioner may-

- (1) fix the limits of the area within which operations shall be undertaken;
- (2) ascertain whether such portion of the owners of the land comprised within the said limits as pay more than half the land revenue assessed on such land agree that such reclamation operations shall be undertaken, and if so, or if no land revenue is assessed thereon, may proceed to appoint from among the persons possessing rights in such land, after consulting their wishes, a committee of not less than three members to manage the reclamation operations and appoint one of them president.

## lvii

## Section 12-B.

The Committee shall draw up a scheme of measures of reclamation, and shall submit it for sanction to the Deputy Commissioner. Such a scheme may among other things,--

- (a) prohibit the cutting and lopping of trees within the area to be reclaimed except by permission of the Committee;
- (b) prohibit the cutting or removal of grass within such area except at such time and in such manner and subject to such conditions as may be arranged by the Committee;
- (c) prohibit or regulate the grazing or browsing of cattle within such area;
- (d) prohibit any other acts within the area likely to endanger the success of the operations;
- (e) provide for the establishment of a common fund to which shall be credited all the income from the land to which the operations extend, and from which shall be defrayed all expenditure incurred in connection with the operations;
- (f) provide for the levy of a contribution towards such operations from all persons possessing right in such land.
- (g) provide for the distribution from time to time among such persons of any surplus income over expenditure.

## Section 12-C.

All fines imposed under section 19 (2) or contributions levied under section 12-B shall be credited to the common fund established under that section, and all such contributions shall be recoverable as if they were arrears of land revenue payable by the persons from whom such contributions are due.

#### Section 19.

Should run thus:---

Any person (1) who within the limits of any local area notified under section 3 commits any breach of any regulation made or restriction or prohibition imposed under section 4 or section 5 or (2) who commits any breach of any regulation made or restriction or prohibition imposed by a committee under section 12-B, shall be punished with imprisonment for a term which may extend to one month or with a fine which may extend to Rs. 100, or with both.

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## APPENDIX IV.

## **EGLEVANT EXTRACTS FROM THE INDIAN EASEMENT ACT.**

Section 4.

An easement is a right which the owner or occupier possesses as such, for the beneficial enjoyment of that land to do or continue to do something, or to prevent or continue to prevent something being done, in or upon or in respect of certain other land not his own.

The land for the beneficial enjoyment of which the right exists is called the Dominant Heritage, and the owner thereof the Dominant owner; the land on which the liability is imposed is called the Servient Heritage, and the owner or occupier thereof the Servient owner.

## Section 22.

The dominant owner must exercise his right in the mode which is least onerous to the servient owner; and when the exercise of an easement, can without detriment to the dominant owner, be confined to a determinate part of the servient heritage, such exercise shall, at the request of the servient owner be so confined.

#### Section 23.

Subject to the provision of section 22, the dominant owner may, from time to time, alter the mode and place of enjoying the easement, provided that he does not thereby impose any additional burden on the servient heritage.

## Section 24.

The dominant owner is entitled, as against the servient owner, to do all acts necessary to secure the full enjoyment of the easement, but such acts must be done at such time and in such manner as without detriment to the dominant owner to cause the servient owner as little inconvenience as possible; and the dominant owner must repair as far as practicable, the damage (if any) caused by the act to the servient heritage.

## Accessory rights.

Rights to do acts necessary to ensure the full enjoyment of an easement are called accessory rights.

## Section 25.

The expenses incurred in constructing works or making repairs, or doing any other act necessary for the use or preservation of an easement, must be defrayed by the dominant owner.

## Section 26.

When an easement is enjoyed by means of an artificial work, the dominant owner is liable to make compensation for any damage to the servient heritage arising from the want of repair of such work.

## Section 27.

The servient owner is not bound to do anything for the benefit of the servient heritage, and he is entitled against the dominant owner, to use the servient heritage in any way consistent with the enjoyment of the easement; but he must not do any act tending to restrict the easement, or to render its exercise less convenient.

#### Section 31.

In the case of excessive user of an easement the servient owner may, without prejudice to any of the remedies to which he may be entitled, obstruct the user, but only on the servient heritage: provided that such user cannot be obstructed when the obstruction would interfere with the lawful enjoyment of the easement.

## APPENDIX V.

## NUTE ON THE INADEQUACY OF A CLOSURE PERIOD OF TEN YEARS IN THE SCRUB FOREST OF THE KANGRA FOREST DIVISION.

## 1. In the history of the forest conservancy of the Kangra Forest Division, closures were first effected under what are known as the 1859 rules, which were framed under the general

1855 rules. The system of closures provided for the division of all forest land into three parts and for the closure of each part (one-third, *tihai* or *trihai*, the name still in use for any closed area) for three or more years in rotation. In 1859 and 1860 the *trihais* (one-third or thereabouts of the forest in each mauza) were marked off and closed to the rights of user in Kangra and part of Dehra *tahsils*. The work was never done in Nurpur and very imperfectly in other *tahsils*, only the *trihai* itself was demarcated and no arrangement was made to carry out the original intention of closing in rotation with the result that the original *trihais* remained unchanged till the legalisation of the Forest settlement in 1897 when in vast majority of cases they were again notified for closure for 20 years under Section 29 (b) of the Indian Forest Act. The second period of closure expired in 1917. The underlying principle of " the closure in rotation" was lost sight of for 57 years (1860 to 1917) and no statistical or scientific *data* were available in 1917 for the determination of the *minimum* closure period neceseary for the regeneration and development of a young crop.

2. The Inspector-General of Forests to the Government of India (Mr. G. S. Hart, C.I.E.), toured in the Kangra division in 1915 and advocated the adoption of "closure in rotation", a procedure which he had suggested in paragraph 103 of his working plan for the Kangra Forest division (1903-04 to 1919-20), His recommendations formed the foundations of the policy later on accepted by Government and it would be instructive to reproduce his main proposals in *extenso*. In paragraph 47 of his "Note on tour of Inspection in the Kulu and Kangra Forest divisions, Punjab" he says:—

- " I believe the time has come when the Government must say yes or no to the plain question whether it proposes to take adequate action under these powers and so maintain a reasonable proportion of forest in the district for the use of future generations and for the prevention of denudation with all its attendant evils.
- If the answer to this question be in the affirmative, I submit for consideration that the best and indeed the only satisfactory course of action is to mark off on the ground now all areas which it may be decided can and shall be closed to the exercise of rights under these powers; such closure to be on a rotation of four sub-periods of 30 years duration in the case of pine, oak and fir forests and of three sub-periods of 10 years in the case of scrub forests. This will not necessitate any alteration in the present distinction between Demarcated and Undemarcated Protected forest, or any revision of the rights recorded in the Forest Settlement. It will mean only that instead of future closures being left to chance, the total area of both closures being left to chance, to total area of both closures of protected forests (demarcated and undemarcated) which Government intends to close and so maintain permanently for the use of the people, will be settled now and marked out definitely on the ground.²⁴

3. Sir Michael O'Dwyer (the then Lieutenant-Governor) expressed his general concurrence with Mr. Hart's proposals in a speech which he delivered at a *durbar* held at Kangra in October, 1916. His Honour said :---

"The general policy of Government in regard to the forest is to maintain a reasonable proportion of forests for the use of future generations. To secure this it is necessary in the areas selected for conservation to arrest the denudation which is now taking place and which not only prevents any new forest growth from springing up the absence of young trees is obvious to any one who passes down the valley-but in many places threatens the safety of the cultivation. In pursuance of that policy a scheme is, as you know, now being worked out to mark off the areas in which effective protection should be retained or regeneration should be secured and to close in rotation portion of such areas for the period necessary for regeneration. The selection of those areas is being carried out by a civil officer and a Forest officer in consultation with the samindars."

4. Sir George Hart's proposals and the Government policy as enunciated by Sir. Mitchael O'Dwyer thus from the basis of the Scheme of Rotational Closure evolved by Mr. Mitchell, I.C.S., and Mr. Walters, I.F.S. The scheme, in accordance with Sir George Hart's suggestion limited the closure period to ten years ino the case of scrub forests (with which alone this note deals) though the maximum period of closure permissible under the Indian Forest Act is 30 years. 5. It may be emphasised that the scheme of rotational closure is a means to an end and not the end itself. The end is "to maintain a reasonable proportion of forests for the use of future generations" and the means "to close in rotation portion of such areas for the period necessary for regenerations" (vide His Honour's durbar speach). The closure period for ten years was then deemed to be sufficient for purposes of regeneration but the fixation of the period was not based on any scientific observation as none were then available. The deficiency has now been made good as the trihais closed under the Rotational Closure Scheme have had ten years protection (1921-1931).

6. The class of forests termed the scrub forests are situated on diverse geological formations. One forest is in the Himalayan zone; an other is immediately in the vicinity of the "Main

Boundary fault "; a considerable number is met with on the sub-Himalayan Series. The Siwaliks beds of the latter are composed of alternating strata of blue softich sandstone and marl (red clay). The sandstone dips at an angle of perhaps 20° to the north-east and is frequently exposed in sheets. In places the strata are almost vertical where the marl is subject to deep erosion. By far the larger number of forests is found on conglomerate. The soil is generally shallow and dry; and very stony on the conglomerate due, no doubt, to excessive grazing and steady removal of the forest cover in a district where the rainfall is very heavy.

7. The scrub forests can be divided into 3 Sub-Types :---

Composition of the scrub forests. height of which does not exceed 30 feet and a very dense undergrowth of brushwood.

- (b) The Scrub-Tree Sub-Type containing a small proportion of tree growth and a comparatively open undergrowth of brushwood.
- (c) The Scrub Sub-Type containing very little tree growth and a very open undergrowth of brushwood.

The existence of the sub-type is in part traceable to soil and aspect but the varying intensity of grazing and browsing and of demand for timber are generally the chief determining factors.

The principal species met with are:-

- (a) Trees. Acacia Catechu (khair). Anogeissus latifolia (dhao) Aegle marmelos (bil). Limonia acidissima (billan), Ehretia laevis (chamror) Odina Wodier (kehmal). Stephegyne parvifolia (kalm) and Flaccurtia Ramontchi (kangu).
- (b) Brushwood. Mallotus philippinensis (kehmbal), Hyctanthes Arbor-tristis (kuri) Carissaspinarum (garna), Dodonaea Viscosa (menhdhar), Wood fordia floribunda (dhain) and Adhatoda vasica (basuti).

8. The soil in the first two sub-types has improved considerably with closure for The effect of ten years closure on each type. 10 years and the tree growth, immune as it has been from lopping, shows unmistakeable signs of partial recovery. The seedling regeneration varies from 6" to

about 3 feet in heigh but its destruction is certain as soon as the closed areas are thrown open to grazing, browzing and lopping rights at the end of 10 years. The regeneration generally consists of Acacia Catechu (*khair*), Ehretia laevis (*chamror*) and Cassia fistula (*amaltas*) seedlings. In the third sub-type a slight improvement in the soil and the proportion of brushwood is visible but the most debased types show no appreciable improvement. In almost all the areas re-opening of the forests after only 10 years closure will cause reversion to the original deplorable condition in the face of heavy lopping and browsing and the advantage gained by a closure for ten years will be sacrified.

The geological formation is conglomerate. As a result of closure dense grass (in scattered tussocks) has covered the soil; seedlings have established themselves; erosion has been checked and the crowns of trees have recovered to a considerable extent.

Ten years closure has had very little effect on marl but brushwood has improved on sandstone while a sapling of Cassia fistula has attained a height of some four feet. The improvement is very likely to disappear in a course of a few weeks as the area has been opened and the erosion will be accelerated.

9. The experience of the last ten years definitely proves that a closure period of Closure period of ten years insflicient. Extension to 30 years suggested. establishment and development of young regeneration of the tree species named in paragraph 7 under the edaphic factors outlined in paragraph 6. A closure period of ten years has failed and must fail to realise the aim of the closure scheme, viz., "to maintain a reasonable proportion of forests for the use of future generations." Ten years are barely sufficient for the soil to recover and to be able to support new vegetation. The advisability of the extension of closure period is self-evident; and the extension to 30 years (the maximum permissible) is forced by the silvicultural need of the species met with, which in 30 years can grow to a size immune from the danger of heavy browsing and grazing.

- (i) It involves a breach of faith as the villagers were definitely told that the scrub forests would be closed for ten years, one-third of the area being closed at a time.
- (ii) The closure of one-third of the area for 30 years will cause the concentration of rights on the remaining two-thirds which will be ruined beyond redemption.

11: The first objection is certainly valid to the extent that the villagers were told that the closures will rotate at the end of ten years period in accordance with the professional advice then offered, but Government nowhere abandoned its right of closure up to 30 years and His Honour's *durbar* speech (paragraph 3 *supra*) expressed in unequivocal terms the necessity of maintaining a reasonable proportion of forests for the use of future generations and closing in rotation portion of such areas for the period necessary for regeneration. The period of ten years has been found to be inadequate for purposes of regeneration and extension does not involve any breach of faith as the policy and intention of Government remain unchanged. On the other hand, it has become abundantly clear that a closure period of ten years cannot result in the maintenance of a reasonable proportion of forests for the use of coming generations. Under such circumstances if the Government were to stick to the provisions of the closure scheme and adopt a ten years closure period it would clearly imply that it was not prepared to take effective measures to pursue its professed policy.

It is thus obvious that there is no finality in the ten years closure period nor is there a breach of faith involved in the extension of the closure period.

The second objection emanates more from theoretical conceptions than from any practical knowledge of the forests in question. The selection of the areas for inclusion in the closure scheme was in practice limited to areas which could respond to some silvicultural treatment and over a considerable area there is no serious apprehension of irremediable deterioration of the factors of the locality provided the incidence of rights is not increased. A closure of 30 years can ensure a satisfactory recovery to each part; but a closure for ten years positively ensures the *slow* extinction of the forest and thus defeats the principal object of the closure scheme.

12. The extension of the period of closure from 10 to 30 years in scrub forests Conclusion. Conclusion.

Conclusion. and the proposal does not involve any action of doubtful legality. With a closure of ten years no sowings can be attempted as all the seedlings are certain to be destroyed when the area is opened to the exercise of all rights in the eleventh year as the height attained by the young crop does not exceed 4

rights in the eleventh year as the height attained by the young crop does not exceed 4 feet and is generally very much less than 3 feet. Whatever improvement may take place in the soil factors in a short period of ten years vanishes in the eleventh year. It is not only necessary to raise a young crop during the closure period but to ensure that it attains a height and size sufficiently big to withstand the effects of grazing, heavy browsing and lopping. And it is here that the ten years closure period fails and fails completely.

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## APPENDIX 5.

## ANSWER TO QUESTIONNAIRE FOR JHELUM DISTRICT, BY MR. BRAYNE, I.C.S.

I. (a), (b) and (c). These are difficult to answer offhand, as although doubtless very desirable they are not the first things to do.

I. (d) Nomadic and non-resident animals should certainly be excluded. These wander into the Jhelum District from the direction of the Frontier. They pay nothing, destroy a great deal and are a great nuisance. They should be registered, taxed and strictly controlled with the final object of excluding them altogether.

II. 1. The first big step to take is education :---

- (a) The people must be taugh through the Press-particularly such papers (e.g., the Nai Zindgi and Fauji Akhbar as circulate among Zamindars and in Schools—the object and value of forests and the results of overgrazing—tree-cutting neglect, etc., etc. The articles must be written with an eye to their literary and journalistic value and not merely as dry statements of fact. There are many ways of writing about a subject—stories, dialogues and so on and whatever is written must be attractive to the people for whom it is intended.
- (b) These things must be taught to every school boy both in the village schools and high schools, either as part of civics or of general knowledge or of local geography or however it comes best. and they must be taught in a really interesting way with fullest reference to the facts of the locality in which the school is situated. These lessons must be carefully prepared in consultation with the forest experts.
- (c) Forest Officers and others must lose no chance of attending a D. B. or D. C. C. meeting or a *Mela* or fair and teaching and demonstrating a good forest exhibition is put up annually at Chakwal and Chua Fairs. This sort of work could easily be further developed. Similarly forest officers on tour must make every effort to teach the villagers they come in contact with. Lantern slides must be made and issued with lecture notes to all who control magic lanterns in the Districts.

2. The public can never be expected to respect Government forests till they appreciate the value of forests and learn to respect their own. Their own forests are usually *Shamilat* and are ruined because there is no authority vested in anyone in the village to protect them. Everyman's concern is no one's concern.

Villagers must be encouraged to divide their *Shamilat* and by intensive educational methods each man urged to lay up, and wall or fence in, his own share and preserve it. This has been done in many Salt Range villages with conspicuous success. When the people have by practical experience learnt the value of their own forests there will be less desire to destroy Government forests.

3. The exact effect of denudation in each district must be worked out and published locally and those who are suffering down below from the iniquities of the hill people must be told exactly how it is being done, and public opinion must be worked up until those who ruin the hill sides can be firmly tackled without a howl from the sentimental plain dwellers, e.g., the Kahan Naddi near Jhelum has increased its width three-fold within living memory. Thousands of acres of good land have been turned into sand. The owners of this land should be told exactly how this has come about.

If all the facts were known the popular clamour for a strong afforestation policy would be irresistible.

4. The following facts relating to the Jhelum district should be checked and if found accurate published and taught in the schools of that district :---

- (a) The Salt Range used to be well covered with grass and forest, at no distant period of time.
- (b) In 36 years Jhelum has lost 50,000 acres of cultivated land. A large part of this has been caused by the widening of all the big hillstreams between the hills and the river and even in the hills as well. Many village *abadis* are being rapidly washed away. A part of this lost acreage is due to salinisation, which is as likely to have been caused by denudation as by anything else. In any case by reason of denudation the Salt marl is every year becoming exposed over a largely increasing area and it is very likely that by water action this leads to salinisation of the soil down below.
- (c) The bed of the river Jhelum is rapidly rising. The allegation that the Rasul and the Mangla Weirs cause this, is absurd. A far more likely cause is the meeting of the Silt laden Jhelum and the silt laden torrents that emerge from the Salt Range all along its flank; which results in vast deposits of silt in the bed of the Jhelum.

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- (d) The floods of the Jhelum which are becoming more disastrous each time, they occur, are due to this depositing of silt and to the denudation of the Kashmir hills. They are not due to any increase in the rainfall.
- (e) If hill-sides are properly laid up by partition and walling, within five years the carpet of grass and other vegetation will practically stop erosion and the income from grass-cutting will be many times that of free grazing.

5. As part of the campaign the people must be taught to cut grass instead of sending their animals to graze it. The Salt Range farmer is essentially idle and must be taught to work.

6. Every effort must be made to replace goats with sheep, and for this purpose,----

- (a) a good wool-sheep that will live in the Salt Range must be found either by cross breeding with merinos or by selective breeding of local sheep or by acclimatization of some foreign breed or in whatever way it is possible.
- (b) by every sort of advertisement and publicity mutton must be popularised and made fashionable in preference to goat's meat.
- (c) a keen demand for wool must be created by teaching every school girl to knit woolly clothes.

7. The villagers must be taught, in the same careful way that I have suggested for the other part of the work, to keep a few good milking stall-fed cows in preference to herds of goats and of small-milking grazing cows.

8. It is essential that a system of land revenue remission for land effectually closed to grazing should be instituted and a small staff appointed to organise and control this work. This staff will also teach and preach as explained above. The cost of this will be very small indeed and infinitesimal in comparison with the good done. If Government is afraid of pledging itself to an unknown amount of land revenue remission let it lay down that the total for the next five years shall not exceed a certain sum, say Rs. 25,000. Remission for each plot closed to grazing will be given year by year subject to fulfilment of the conditions for say five years, after which it will cease, as the work will by then be complete and the lesson learnt.

9. In addition to land revenue remission, as money allows small bands must be built to hold up water in the hills. The objects of these are: (1) to help to control hill torrents and stop erosion, (2) to reinforce the subsoil water in the plains below, (3) to encourage vegetation all the way down below the band and above the bands as far as the effect reaches, (4) for irrigation and sailaba where possible, and (5) object lessons to the people of the value of band.

The same staff that build these bands will encourage and help the people to build private bands.

The cost of these bands will be very small as the torrents in the Salt Range run at right-angles to the axes of the hills and offer innumerable sites for very cheap and effective bands.

10. If the first action taken is a crude campaign against grazing, nothing but harm will be done. The villager is a shrewd fellow and if he is carefully taught he will respond, but more harm than good will be done by rushing bald-headed at what he now ignorantly believes to be, one of his best sources of income. As in everything else the big thing is education.

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## APPENDIX 6.

## SUMMARY OF WRITTEN REPLIES TO THE QUESTIONNAIRE.

#### A.-FROM PUNJAB CIVIL DISTRICTS.

#### 1.—Gurgaon.

The Deputy Commissioner advocated a cattle tax in all districts where denudation was causing damage. In Gurgaon district he proposed further closures under some form of compulsion. Remission of land revenue had not proved a sufficient inducement to voluntary closure owing to the large number of suspensions and remissions of lands revenue in the district due to bad harvests under ordinary rules. He recommended a general policy of conservation and that the period of closures should be extended.

No reply was received from the District Board nor any private individual.

## 2.—Ambala.

The Deputy Commissioner produced a written reply at the meeting held at Chandegarh on 12th March 1932, this is given at page XVIII with the Ambala proceedings.

No reply was received from the District Board. Khan Bahadur Sayed Mohamed Akbar Khan, Mir Sahib of Garhi Kotaha (Morni Ilaqa) sent the following proposals-

- (a) The number of buffaloes should be reduced, he would impose a tax of Re. 0-8-0 or 1-0-0 but he would not reduce the number of sheep or goats.
- (b) A scheme of three year rotational closure should be adopted in the grazing grounds of every village, planting being done during the closures.

(c) Lopping except for a very few species to be prohibited.

(d) Incursion of nomadic animals should not be stopped.

(e) The cutting of Khair, Sain, Chir, Tun, Mahove and Jamun to be prohibited but a few trees of Khair should be given annually for making ploughs. A letter written by the Deputy Commissioner, Ambala (Mr. Fyson), on the

 Not tracesubject of the Morni Ilaqa in 1928 is attached.* able.

## 3.—Hoshiarpur.

The Deputy Commissioner submitted a written reply at the meeting held at Hoshiarpur on 16th December 1931, this is given at page II of Appendix I with the Hoshiarpur proceedings.

The District Board did not reply.

Chaudhri Sant Ram, Zaildar, submitted a reply opposing any cattle tax and also the application of section 5, Chos Act to areas referred to in the questionnaire. He gave as his reason that there was plenty of grass and bushes in the Siwaliks and no further improvement was needed. He advocated rotational closures and the exclusion of nomadic animals.

## 4.—Kangra.

The Deputy Commissioner submitted a written statement at the meeting held at Dharmsala on 19th December 1932, this is given at page X of Appendix II with the Dharmsala proceedings.

The District Board sent no reply.

Lieutenant Chaudhri Kirpa Ram, Zaildar, of Chetru, opposed taxation of animals but favoured exclusion of nomadic animals. He advocated rotational closures with the consent of the zamindars. He considered the Kangra Cattle tax had resulted in a reduction in numbers but there had been no improvement in the grazing for which reason he favoured exclusion of nomads.

#### 5.—Gurdaspur.

A joint reply was received from the Deputy Commissioner Mr. E. M. Jenkins, I.C.S., and Mr. G. Breadon, District Engineer. They opposed exclusion of nomadic herds on the ground that Gaddis did good as well as harm. They considered that limitation of grazing without sowing and planting would be of little use while limita-tion would deprive Gaddis of their livelihood. They admit denudation in the low hills is general and in some cases serious. They advocate the introduction of seeds of Mesquite (*Brownin glandelage and Julifare*) and other useful shrubs and trees by the method of (Prosopis glandolosa and Juliflora) and other useful shrubs and trees by the method of feeding goats on the pods and seeds and allowing the animals to evict the seeds all over the hills.

Note by Mr. Holland, I.F.S.-This method of introducing plants overlooks the facts that goats while evicting the seed continue to devour the vegetation and will certainly destroy the useful trees and shrubs as soon as ever the seeds germinate. The only result will be that Government will be providing food for the goats but no improvement in the vegetation will result.

## 6.-Gujrat.

The Deputy Commissioner did not reply.

The District Board considered that steps must be taken to stop the destruction of the vegetation and advocated that certain areas should be closed to nomadic animals.

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The Revenue Assistant, Gujrat and the Tahsildars of Kharian and Gujrat advocate exclusion of animals from the worst eroded tracts, the Tahsildar of Kharian proposing afforestation in the ravine lands in his tahsil.

Mian Fateh Mahomed, Sub-Registrar, advocated taxation and closure but Chaudhri Abdul Ghani was not in favour of any steps being taken so long as the zamindars were suffering from the present depression.

Malik Maula Bakhsh suggested that the Agricultural Department should devote its special attention to the low hills. He advocated demonstration areas, a graded tax on animals and complete exclusion of nomads.

Chaudhri Bahawal Bakhsh, President, Zamindara League, and Honorary Magiatrate. Anjuman Islahi Zamindaran, Gujrat, opposed taxation but advocated exclusion of animals from tracts affected by denudation, introduction of rotational closures and the entire exclusion of nomadic animals.

## 7.—Jhelum.

A reply was received on behalf of the Deputy Commissioner from Mr. Brayne, I.C.S. This is attached in original at page XII of Appendix VI with the proceedings of the meeting held at Lahore on 23rd January 1932.

Mr. E. P. Moon, I.C.S., Sub-Divisional Officer, Pind Dadan Khan, criticised the work of the Forest Department being of the opinion that the only results of their work during the last twenty years had been the preservation of the grazing grounds from deterioration. He doubts whether Government ownership of the rakhs has had any beneficial results. He considers that afforestation of the Salt Range would be expensive and hot commensurate with the results. He advocated sub-division of the *shamilat* on the ground that the property of everyone is cared for by no one. He opposed taxation of cattle. He suggested that one or two rakhs at present under the control of the Deputy Commissioner should be divided up and leased to villagers for a period of five or ten years, if the results are satisfactory all rakhs except those commercially valuable for production of firewood should be divided among the villagers. Rakhs at present under the Forest Department suitable for cultivation, should be leased for cultivation.

M. Nur Khan of Chakwal advocated taxation of camels and goats only.

#### 8.—Shahpur.

No reply was received from the Deputy Commissioner. The District Board, submitted the views of five of its members. All propose the exclusion of nomadic, animals but otherwise their views are conflicting. The majority oppose reduction in the number of animals and any taxation. One only proposes to close areas to grazing during, the rains. Two members the building of earth bunds to check the run off of water, two the system of rotational closures.

## 9.—Rawalpindi.

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No replies were received.

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## 10.-Attack.

The Deputy Commissioner did not reply.

Mr. Curtis, I.C.S., Sub-Divisional Officer, Pindi Gheb, advocated caution in reducing the number of cattle unless it could be proved that the quality of cattle and the profits therefrom will increase in direct ration with the decrease in numbers. He strongly advocated taxation of camels and goats and rotational closures with the support of public opinion.

The Revenue Assistant stated that there was no scarcity of grazing but advocated the exclusion of goats from village grazing grounds.

The Tehsilder of Fatch Jang advocated a light tax on goats and suggested improvement of grazing could be effected by afforestation and sowing grasses. He opposed sub-division of the shamilat but favoured exclusion of nomads.

The Tehsiklar, Pindi Gheb, advocated a tax on goats and camels and blames the Forest Department for the present state of affairs. He proposed the formation of village panchayats in all villages adjoining rakhs, the panchayats to help in protection and to have a say in assessing compensation for forest offences.

The Tehsildar, Tallagang, advocated that the rakhs should be given up for cultivation and the cultivators to be asked to sow seeds of trees.

The Tehsildar of Attock denies the Kalachitta hills suffer from denudation and remedial measures are unnecessary. He stated that camels, sheep and goats did much dumage and should be taxed and also advocated rotational closures.

#### B.-FROM PUNJAB STATES.

Replies received through the Honourable the Agent to the Governor-Geggral, the Superintendent, the Simla Hiss States and the Commissioner, Ambala.

## 1.-Mandi State.

The Durbar stated it was essential to reduce the number of animals and that steps had been taken during the last two years to increase the tax on goats and buffaloes. Rotational closures to improve the grazing are advocated, exclusion of nomads is not desirable but the damage done by them should be checked by taxation. They consider the state of the high hills should also be considered.

#### 2.—Sirmur State.

The State recommended that the number of animals should be reduced and that goats, sheep and buffaloes be taxed. They propose the introduction of better grasses and stress the need of propaganda.

## 3.—Bilaspur State.

The State oppose any reduction in the number of cattle as opposed to Hindu. sentiment. They suggest rotational closure but consider it impracticable at present and the exclusion of nomadic animals but are not prepared to carry it into effect in their own territory.

## 4.—Chamba State.

Say the matter does not interest them.

5.—Suket State.

Recommends a reduction in the number of animals but is opposed to taxation. Rotational closures are advocated and the discouragement of nomads.

## 6.—Kalsia State.

## 7.—Nalagarh State.

Nore.—This State owns lands on the eastern slopes of the Ambala Siwaliks.

The State reported that it was difficult to reduce grazing as the people depended largely on their animals for their livelihood. They opposed taxation. Nomads were already excluded. Rotational closure was recommended.

## 8.—Mahlog State.

The Thakur Sahib stated that his people were opposed to any change. The whole of his State, he said, was exposed to erosion, even the smallest streams caused erosion and every year land was washed away. Streams which a few years ago werevery small had greatly increased. He opposed any reduction in the number of cattleowing to the need for manure.

He advocated rotational closures. He stated that much harm had been caused by unrestricted cutting of the vegetation and proposed that this should be restricted. The Divisional Forest Officer, Simla, stated that in Mahlog State particularly nomadic goats were encouraged by the Thakur Sahib to increase his revenues.

#### 9.—Patiala State.

The Foreign Minister to the Government wrote stating as follows :----

- (1) The number of right-holders' cattle had been fixed in A. D. 1892 at the timeof settlement, keeping in view the demand of right-holders and protection of existing vagetation.
- (2) In first and second class forests the grazing of sheep and goats was prohibited.
- (3) The people had rights to collect dead and dry wood to cut grass and graze either free or no nominal fees according to the rights recorded at the settlement.

In reply to the questionnaire he replied :----

- I. (a) It is essential to reduce the number of animals grazing in the low hills of the Siwalik ranges because it is an admitted fact that the heavy grazing always causes destruction of the vegetation, the maintenance of which is most essential to stop erosion as the plant roots are a good binder of soil.
  - (b) Yes, the imposition of a tax on the grazing animals is very essential to minimize grazing and in the beginning it should not be very heavy, but it can be increased annually to discourage the upkeep of uselesscattle by the villagers. However a heavy tax should be levied on goats and camels so as to exterminate these animals altogether from the adjoining villages.
  - (c) There are no separate grazing grounds in Patiala low hill forests, but the free grazing is allowed to righ-holders in particular forests in which they have got such rights.
- II. There is no other suggestion worth mentioning with reference to the terms of reference.

I. Mr. J. B. G. Smith, C.I.E., Chief Engineer, Irrigation, states that in the absence of information as to the rate of forest denudation over comparative short periods of years for which river discharge observations are available it is doubtful whether definite correlation can be established. The Canal Department's reliable records of river discharges are only for the last nine years.

He admits that forests have an effect on evaporation and absorbtion and says it is recognised that trees generally encourage undergrowth, which is what matters, as it keeps the soil porous and tends to retain moisture and increase absorbtion. This tends to retard erosion and run off. He considers that evidence so far collected is not enough to definitely justify the proposition that deafforestation is a real threat to the welfare of the canals yet a policy of conservation is worthy of support owing to the effect on evaporation, absorbtion and run off.

He attaches a statement of the proceedings of the second annual meeting of the Central Board of Irrigation held at Delhi on November 16th and 17th, 1931.

At this meeting the Board recorded the following conclusions-

"During the past 15 years many of the largest rivers in India *e.g.*, Ganges, Sarda, Jumna, Chenab, Jhelum and Indus, have exceeded the highest recorded floods. Whereas in some of the above cases it is known definitely that such floods were due to an extreme intensity of rainfall, the Board are of the opinion that the information available is insufficient to enable them to reach any final conclusion."

Discussion led to the conclusion that if disforestation had any effect on floods, the removal of the undergrowth was of more importance than the cutting of trees and that the removal of undergrowth was largely attributable to the enormous increase in the grazing, cattle, particularly goats of which absolute evidence in the form of statistics was available.

The Board recorded the opinion that the experience of individual members went for to allay the fears expressed at the last annual meeting that *rabi* supplies on the larger vivers were likely to diminish in the near future, as a result of disforestation and denudation.

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## APPENDIX 7.

## PROPOSAL FOR TRAINING THE CHOS IN THE PLAINS.

Note by K. S. Allah Bakhsh, I. F. S.

Mr. Holland has dealt with fully the position in the Siwaliks in his book entitled "Report on Denudation and Erosion, in the Low Hills of the Punjab". Erosion in the hills and the Introduction. havor done by the chos in the plains are inter-connected but they present two distinct problems, wiz., the afforestation of the hills and reclamation of land thrown out of cultivation by cho action in the plains. In this note it is intended to deal purely with

the latter problem. While considerable improvement has been made in the hills as a result of action taken so far, little seems to have been done to help the cultivators in the plains who own more valuable lands.

Although afforestation operations have had beneficial results in the hills, the position in the plains has continued to become worse The position in the plains. and worse. The man in the hills can take to other avocations such as keeping cows and buffaloes, sheep and goats, but the man in the plains is entiroly dependent on-agricultural land and he and his land are always at the mercy of torrents descending from the hills. It is, therefore all the more important that work should be started on definite lines in the plains simultaneously with the work that is being carried out in the hills.

The figures supplied by the Deputy Commissioner, Hoshiarpur, as given in the statement appended, show that the area under chos rose considerably from 1852 to 1897. Although the area under sand has decreased considerably since then, there has been considerable increase in the area under Kharkana and on the whole the position was no better in 1927 as there was no gain in the area under cultivation. The increase under Kharkana is apparently due to the efforts of the people to divert the flow of the chos by planting Kharkana. This did not reclaim for them much area for cultivaion as what was reclaimed went under Kharkana and the cho bed was diverted in other directions to continue its destruction in new lands.

It is; therefore, all the more necessary that concerted action be taken to tackle the work in the plains systematically and this can only be done by the Government as individuals can only protect themselves against others as it has proved in the past.

Little work has been done in the past in the reclamation of areas gone out of cultivation by cho action. As seen by the writer in

1924 the work carried out was absolutely on the wrong lines and it was in wrong hands. The Civil Department have no time to devote to this kind of work and do it more as a side show. Moreover they do not understand it as it is not their proper work. The engineering department can carry out anything but only at exorbitant price. Neither the Government nor the people can afford to pay the price as it will be out of all proportions to the results obtained. The only way to tackle it is to make the forces of nature do our work with very little assistance to guide those forces in the right channels.

A close study of the rivers and nallas flowing in the plains will show that the tendency in a river bed is to flow in loops and bends so as to reduce its gradient by lengthening its course and thus secure a steady bed and a steady flow. In spite of the best efforts of the rivers to secure a permanent bed other factors come into play which are beyond their control. As a river flows past a bend it needs considerable resistance to get out of it and in doing so it scours the outer side of the bend. As the current passes into next bend the flow of the current is considerably slackened and consequently it deposits a good deal of silt at the junction of two bends so that in the course of time the junction of the bend is so badly silted that the current has to seek a side channel thus making a new course. If a little assistance is rendered to a stream bed to stick to its course it could do so and thus it is prevented from seeking a new channel. It is here that artificial assistance could be rendered to a river to keep its own course to stop scouring the banks and to make its own embankments.

In 1924 the undersigned was considerably surprised and amused when he had the opportunity of inspecting in the company of the then Deputy Commissioner of Hoshiarpur the work being carried out under his control on a cho lying close to where the road to Bharwain goes up the Siwaliks. Money had been wasted in making earth bunds parallel to the stream which could stand no cho action and which was a sheer waste of money. The undersigned explained the mistake and suggested other methods but apparently the advice was of no avail.

It would be better to take action in one or two chos from catchment areas down to where they disappear in the plains below. After determining the maximum single rainfall in a catchment area from the past records and the speed of water at which it flows in the plains at various points in its course it should be possible to work out the extent of cho hed required to pass down a maximum flood. A detailed survey map of its course could give the gradient and after determining the gradient at which the flood could pass at an optimum speed without silting the main bed the length of the cho bed required could be worked out and determined on the spot after visual survey of the area. Once the capacity of cho bed required and its location on the ground is

The proposal.

worked out action then could be taken to train it so that it makes its own embankments helping it here and there to stop scouring the side banks by means which are well known to the foresters and which have worked in practice and which I need not enter into detail here. All that would be required is trestles and spurs made of wooden stakes interwined by bamboos and branches of trees laid at various angles according to the requirements of each occasion so that they would afford minimum possible resistance to the water, slow down its speed along the banks and make it deposit its sand wherever required

In the course of time good sand banks will come into existence automatically which could be planted up with shisham and eucalyptus root and shoot cuttings and other fast growing species suitable for the locality in order to consolidate the banks and protect them against further damage. There would be cases when such embankments would be attacked by the chos in later years. This could be counteracted and prevented so that in course of time the cho would flow within a definite course with strong embankments on either sides instead of branching out wherever it liked and changing its course here and there. The village lands could thus be protected and if necessary sluices could be provided to supply flood water both for irrigation and for silting up law land under proper control. In this note it seems unnecessary to enter into minute details of the methods to be adopted to carry out this work and therefore this has not been attempted.

The action as proposed in the preceding paragraph would be limited to the mini-Financing the scheme. Financing the scheme.

cho is controlled it will spend all its strength in carrying out our works instead of spending it for destructive purposes. The expenditure required for the work would consequently be considerably small as compared with extensive sums required for making bunds and embankments when the work is done by engineering department.

The Government would be justified in recovering royalty per acre of land reclaimed and it could be based on value of land. The value of land in Hoshiarpur and Ambala Districts varies from place to place. The average figure for 'barani' land which is the main type of agricultural land in these districts worked out to Rs. 1,044 per acre during 1929-30. The prices of land have gone down considerably since and if in the future they steady down to half of what they were in 1929-30, the value of one acre can be roughly taken at Rs. 500. The revenue records would furnish all details of lands gone out of cultivation in the past and when these are reclaimed as a result of training of chos surely the agriculturists will not grudge to pay a small sum per acre reclaimed to meet the cost of reclamation. It would not be fair to fix a figure at this stage to represent the cost of reclamation per acre. As the quality and price of land reclaimed would vary from place to place, an arbitrary figure could not be given at this stage. As, however, it is not intended that such an imposition should be a source of income to the Government. It would also depend on the expenditure incurred in training the chos details of which it is difficult to give at this stage. Considering what little expenditure will be required the cost of reclaiming per acre should not be very high and the agriculturist would not grudge it. Besides the reclamation of land will automatically bring considerable benefit to the Government in the form of land revenue which should not be difficult to estimate from revenue records. It would, therefore, apnear that the writer's proposal would not cost the Government anything except during the experimental stage and as soon as the details of training work have been successfully worked out on one or two chos the recovery of cost from the reclaimed area would reimburse the Government and when the work is further extended the Government will have to invest very little as the expenditure will be met from revenue coming in as the areas are reclaimed and handed over to the owners. Besides the advantage to the public in reclaiming their land and advantage to the Government in the form of extra revenue, the planted cho banks would be a source of new income to the public and additional facility in the form of grazing will also be available. Under section 12 of the Cho Act it should be possible to recover from the public the amount spent by the Government and the capitalized value of the net income from the plantations on the cho banks which will be an additional source of income to the owners. Such a scheme would be welcomed by the inhabitants as it will restore to them the lands they have lost and will protect them from the danger of eroding agricultural lands and village sites in the future.

Although history of the chos in the pre-British days is obscure it is definitely conclusion. known that the damage both in the hills and the

conclusion. plains was accelerated as a result of individual ownership created at the first settlement after the British occupation and heavy fellings for fuel and timber to meet the requirements of fuel for railways and fuel and timber for the cantonments. It is, therefore, only right that everything possible should be done by the existing administration to ameliorate the condition of the people living in the plains who have suffered heavily.

It would be futile to tackle the chos by making expensive bunds and embankments through human agency as has been tried in the past with little result. Such expensive operations need money and the engineering department cannot work without money which is not forthcoming. In simplest way to make bunds and embankments is to make nature do its own work with little artificial help and this is the work of foresters. As is evident from the excellent results obtained in the training of the rivers by the forest officers in Burma and reclamation of waterlogged area and areas devastated by sand storms from the sea coast in the south-west of France by means of gigantic sand dunes.

Little has been done during the past eighty years in reclaiming the areas in the plains that have gone out of cultivation in the Hoshiarpur and Amala Districts and the coming generations will never excuse the indifference of the present administration in this respect.

Acion was taken under section 8 of Chos Act in Hoshiarpur on a very small scale and apparently the Government was justified in ceasing operations on the outcry of few individuals who were most vocal and who did not realize that good of the community as a whole may involve loss to a few individuals.

The failure to obtain results was apparently due to lack of sympathetic methods. When a whole community will realize that a few individuals must suffer for the common good the outerv of the limited number against action for reclamation of land lost through cho action will have no effect and the Government need not be afraid of going ahead with its scheme.

		ABBAS	Abeas under chos.			Areas under chos and sand in 1927.			AT LAST SETTLEMENT, 1913-14.		
Tahsil.		At regular settle- ment, 1852. At first revia- ed settlement,	first d settle 884.	In 1897.	Under chos sand.	Under kharkana.	Total.	Under sand.	Under kharkana	Total.	
		Acres.	Acres.	Aores.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Hoshiarpur	••	28,449	44,797	49,427	28,556	19,757	48,313	<b>33,</b> 950	20, <del>64</del> 7	54,597	
Dasuya		2,784	8,514	9,476	12,136	2,266	14,402	10,030	2,307	12,137	
Garhshankar	••	16,973	28,7 <b>46</b>	35,423	15,368	6,770	22,138	24,033	7,981	32,014	
Total	••	48,206	80,057	94,326	56,060	28,793	84,853	68,013	30,935	98,948	

## STATEMENT SHOWING AREAS IN ACRES UNDER CHOS IN THE WESTERN SLOPES OF HOSHIARPUR DISTRICT.

Nors.-Figures supplied by Deputy Commissioner, Hoshiarpur.

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## Minute of Dissent.

I regret I cannot agree with the remedies proposed for solving the erosion problem in the Hoshiarpur district. The suggestions made for dealing with the problem in the Report are not new, and they have been acted upon in the past many years but without bringing any appreciable relief to the people of the Hoshiarpur district. The problem is very serious. A fairly large sum of money is needed to tackle the problem with necessary seriousness and earnestness. The Government does not seem inclined to find any money for this most essential work. The question of tackling the *chos* problem has been under consideration of the Government for over 30 years. The only remedy which has found favour with the Government so far, is the application of *Chos* Act to this area or that. It is apparent from the history of past years that the scheme has not benefited the people to any extent. While the Government calls upon the people to make sacrifices it has not itself contributed anything for the relief of the people and for dealing with the problem of the *chos* in a generous spirit.

The following suggestions are made for the consideration of Government:-

- (1) In order to remedy the damage done by the *chos* or hill torrents the Government must find out a solution for compensating the owners of the tracts which are sought to be brought under the *Chos* Act. The obvious remedy for the Government is to acquire these tracts and to compensate the owners and those having interests in these tracts by grant of lands or payment of money. And then to carry out a scheme for the proper afforestation of the hills on a well-planned scheme.
- (2) The Government must study with the help of an expert Committee a scheme for the proper storage of rain water discharged by the Siwalik hills and utilizing the same for cultivation and other necessary purposes by laying out temporary canals for the raining season.
- (3) The Government is not unaware of the fact that in various parts of the Hoshiarpur district there is a great complaint of the scarcity of water both for cultivation and drinking purposes and the water level in the wells is falling down. A well thought out plan for storage of water and temporary canals will greatly help in solution of this difficulty also.
- (4) I am sure that the residents of the district will be prepared to co-operate with the Government in financing scheme for the development of the Hoshiarpur district on the lines suggested above, if suitable terms are offered to them.

I have studied the problem in all its bearings so far as the Hoshiarpur district is concerned and I am of the opinion that the remedies suggested by the Committee are wholly inadequate to solve the problem.

> NANAK CHAND, Pandit, M. L. C.