CHAPTER - V

IMPROVEMENT OF AGRICULTURE
AND EXTENSION OF CULTIVATION
AGRICULTURAL IMPROVEMENT:

Agriculture has always been the main occupation of the people of Orissa and the basis of the rural economy. Almost the entire population had to depend on agriculture in one way or another as there were no industries worth mentioning. A farmer in Orissa was satisfied when he had grown enough paddy to support his family for a year. The British realized soon enough that unless there was considerable development in agriculture, the material condition of the people would never change. Over the course of time, therefore, they paid more and more attention to the improvement of agriculture and the removal of the obstacles that hindered its development. One such obstacle was the recurrence of natural calamities such as floods and droughts which gave rise to famines. So steps were taken to develop a system of irrigation through a number of canals and to construct embankments. In addition, steps were taken to
remove agricultural indebtedness, to spread agricultural education through demonstrations and canvassing and to provide better facilities for agricultural marketing they were readily available.

EMBANKMENTS:

Embankments in Orissa had a special significance from the earliest times. During the Maratha period the Zamindars were bound to maintain embankments and for this purpose were allowed certain deductions from their payments to the ruling authorities or their Jama.¹ This system had, however, proved so unsuccessful that W.W. Hunter writes, "These embankments were built and maintained by Zamindars through a communal system of organising labour. Each zamindar looked after the river which passed within his jurisdiction. But at the intervention of British rule, the traditional system collapsed".² Though large sums were spent for the maintenance and repair of the embankments, there was no systematic process down to 1855.³ At about this time A.J.M. Mills emphasised that the country required much protection. In this connection he remarks, "The province of Cuttack, being intersected with rivers and mountain

torrents, is peculiarly liable to inundation; the bunds which have been constructed from time to time with a view to protecting the lands from inundations and thereby improving and extending cultivation, have become works of magnitude and importance and of course are a source of heavy expenditure to the Government. It is said that embankments in the long run are productive of far more mischief than good, that the beds of rivers are gradually raised above the level of the surrounding country and though the bunds afford protection in ordinary cases, yet when they do give way they cause the most appalling losses. The system has too long prevailed to admit of so sweeping a remedy as the levelling of all the bunds, while it is impossible to estimate what would be the consequence of such a measure".  

An Embankment Committee was formed under Regulation vi of 1806. The Committee reported that the embankments had not been repaired for a long time and some had been covered over with jungles. But the Government was unwilling to spend money for the improvement of the embankments. A Surveyor of Embankments was appointed in 1831 when the Public Works Department took over the embankments. The Military Board

suggested in 1847 that all the embankments in Orissa should be levelled for the purpose of releasing flood water. In January 1847, Moffat Mills, the Commissioner of Orissa, opposed the suggestion on the ground that, 'the system has too long prevailed to admit of so sweeping a remedy'. He further remarked, "It also appears to me extremely doubtful whether the removal of the bunds would be attended with loss or gain to the Government. Some estates might be improved because of alluvial deposits, but I am led to think that the good would be more than consumed by the injury which the sandy deposits so common in the Cuttack rivers would do to the soil."

The Government of Bengal took time to arrive at a decision. The effect was that the annual repairs of the embankments were stopped which considerably weakened them. In 1850, the superintendent in charge of embankments rejected nearly half the existing ones as useless and spent little or nothing on what remained. An Embankment Act, XXXII of 1855, was passed. In 1855-56 about one lakh twenty thousand rupees were spent on repairs.

The total length of the embankments in Orissa was 969 miles. It was proposed at the commencement of the new settlement to abandon 372 miles and to retain only 597 miles of these embankments. From 1803 to 1830 the total expenditure on embankments in the province was Rs.8,09,986/- of which almost half was spent in Cuttack. A total of Rs.71,66,777/- was spent for the construction of embankments in Orissa from 1830 to 1866. From 1866 to 1896 the expenditure amounted to Rs.19,10,708/- and in the next 34 years, i.e., from 1896 to 1930, Rs. 12 lakhs was spent for the construction of embankments.

Till 1866 the zamindari embankments were of insufficient height and strength to withstand heavy floods. Thereafter they were allowed to fall into disrepair and become unless. A while later, however, there was a special enquiry regarding the expenditure required to put them in an efficient condition. It was ascertained that in the case of the embankments on the Mahanadi alone the cost would be 45 lakhs of rupees and that it would be necessary to construct embankments of such an enormous height that in practice it would not have been possible to hold them except

9. Ibid.
10. L.S.S.O'Malley, BODG, Cuttack, p. 100.
at a very heavy cost. In 1881 it was decided that the embankments be kept up in the existing condition. After 1881 the embankments were maintained as they were, without raising their heights.\textsuperscript{11}

In 1894 C.W. Odling, the Chief Engineer of the Irrigation Department, prepared a complete list of embankments to be maintained and abandoned. He divided all the embankments into five classes. Of these five classes, the Class-II specially included the agricultural embankments.\textsuperscript{12} Such embankments were higher than the highest recorded floods and were to be permanently maintained at their existing heights.

In the Mahanadi Division Class-II or agricultural embankments were 30 miles and 5088 ft. in length. They were 50 miles and 2771 feat in length in the Brahmani-Baitarani Division and 28 miles and 3512 feat in length in the Akhuapada-Jajpur Division. Thus the total length of such embankments in Cuttack was 110 miles and 811 feet.\textsuperscript{13} In Puri Class-II embankments were 136 miles and 1536 feet.\textsuperscript{14} In the south western circle of the Balasore Division, the Class-II embankments were 35 miles and 45 feet long.\textsuperscript{15}

\textsuperscript{11} L.S.S.O'Malley, BODG, Cuttack, p.100.
\textsuperscript{12} Flood in Orissa Rivers during 1955-56, pp.29-30.
\textsuperscript{14} Ibid., p. 309.
\textsuperscript{15} Ibid., p.329.
There was another enquiry in 1896-97 regarding the maintenance of embankments. After this enquiry it was decided that those embankments that were useful and protective, and not harmful, would be maintained. As a result, many embankments were abandoned. Thereafter the Government maintained under Act. XXXII of 1855, 441 miles of embankments situated along the banks of large rivers which protected an area of 1,024 square miles, while embankments extending over 265 miles along canals were maintained to protect an additional area of 844 square miles.\(^\text{16}\)

In 1897 the Superintending Engineer proposed to revise the schedules of 1894 and to show in them only such embankments as had to be maintained by the Government. The Government divided all the embankments of the province into two classes, (a) embankments maintained as part of the canals and (b) embankments maintained as agricultural works.\(^\text{17}\) These two lists were approved in March 1902, the classification being made subject to any modification that might thereafter be found necessary.

Certain canals were constructed not only for irrigation and navigation, but also for protection against

\(^{16}\) L.S.S.O'Malley, BODG, Cuttack, p. 100.

\(^{17}\) The Administration Report of Lower Province of Bengal 1901-02 (Calcutta, 1903), p. 32.
floods. To control the flow of water down the respective canals and to regulate the discharge of the rivers during floods according to the natural capacities of the channels, extensive dams or anicuts of masonry were constructed with scouring sluices and sluices for discharge. In order to afford relief from inundations, embanked escape channels were formed along the natural depressions which existed in the delta of each river. During the ordinary floods the canal embankment more or less protected agricultural fields from the strong currents, but at the time of extraordinary floods they were of little use and were generally liable to be breached.

After a disastrous flood in the river Baitarani in 1927, an expert committee of three engineers was appointed to examine the whole problem of floods in Orissa and to suggest remedies. The Committee consisted of Addams William, Chief Engineer of Bengal, D.G.Harris, Consulting Engineer to the Government of India and Rai Bahadur Bishnu Swarup, a retired Chief Engineer of Bihar and Orissa. They toured all over Orissa twice and submitted their report in 1928. At the same time an air survey was made of the whole coast up to the Dhamra river.

The general conclusion arrived at by the Committee was that flooding was inevitable, but the deleterious effects had increased in considerable areas when other neighbouring areas had been protected by means of embankments constructed both by the Government and by the zamindars without any scientific system or adequate control. So the Committee opposed the construction of embankments and recommended a systematic and strict control of all existing ones and a general policy of gradual removal of all embankments which could be abolished without unbearable injury to property either private or of the Government. Further it recommended that no reclamation of land for cultivation should be allowed in the tidal portions of the big rivers, as this tended to stop the discharge of flood water. In particular, the embankments near the mouth of the Devi and of the rivers flowing into the Chilika should be gradually abandoned. The reclamation of land in the Chilika and at the mouth of the Mahanadi should be stopped. Experiments should be carried out to open mouths for the rivers of Puri through the sand dunes and the mouth of the Chilika should be kept open.

The Government accepted more or less the general conclusion of the Committee. But the removal of the existing embankments was not possible because there was great opposition to throwing open the protected areas during floods in the interests of unprotected areas. Only one recommendation was accepted: the separation of the public works dealing with embankments and flood disposal from those dealing with canals and irrigation. Now there were two special Embankment Divisions with headquarters at Cuttack. The work of the divisions was (a) constructing on of flood-disposal works and (b) generally carrying out the policy advocated by the Flood Committee of experts.

AGRICULTURAL INDEBTEDNESS:

In Agriculture as in industry, loans are incurred to overcome the shortage of capital. Lack of capital, as and when needed, was a major problem faced by many farmers. This problem was very acute in an undeveloped region like Orissa where income was generally low and there was little contribution to the building up of capital through saving.

Agricultural indebtedness existed in India at the time of the advent of the British. Contemporary evidence

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22. Land Revenue Administration, Bihar and Orissa, p. 10.
furnishes ample proof on this point. Referring to Bengal and Bihar, William Bolts wrote, "For the purpose of cultivation, it has been customary for the Nababs to lend money to the lesser land-holders at a very high rate of interest, even so high as upwards of forty per cent per annum, to be repaid from the produce of the ensuing crop." Referring to Orissa W.W.Hunter mentioned, "Money loans and paddy loans were not unknown in Orissa before its annexation by the British." It was a fact proved by history that there was an appalling indebtedness of almost every person everywhere engaged in agriculture. In fact credit was essential for the development of agriculture. In this context Fredrick Nicholson mentions, "Neither the nature of land tenure nor the position of agriculture affects the one fact that the agriculturist must borrow due to the fact that an agriculturist's capital is locked up in his lands and stocks. Hence credit is not only essential but inevitable, and as such, it is not necessarily objectionable, nor a sign of weakness." But agricultural operations in Orissa were a gamble in rain. Only in normal years could the cultivators expect some profit from agriculture, but normal years were few. Thus the self-employed cultivator in Orissa did not

earn enough to maintain himself, not to speak of building up a capital for agriculture. As a result, the peasant in Orissa was almost doomed to live a precarious life and bound to incur debt at a usurious rate of interest, i.e., 25 per cent, 50 per cent and even 100 per cent\textsuperscript{26} from the village Mahajanas and Sahukars. In 1929-30, the provincial Banking Enquiry Committee presided over by J.A. Hubback made an investigation into the indebtedness of the rural population. The Committee reported, "In the Orissa coastal districts much of the annual borrowing for seed and maintenance is in kind. The general rate is 25 per cent payable soon after the harvest, the loan running for a period of 4 to 8 months only. For seed grain, however, 50 per cent is frequently demanded; on the other hand, an occasional rate of 20 per cent is met with. For cash loans the rate of 18 per cent for the full year is not frequent but the general rate is either 25 or 37\% per cent, ...... The village co-operative societies lend to their members at 15 per cent as a rule, though a few have managed to get the rate down to 12\% per cent."\textsuperscript{27} Thus chill penury and chronic indebtedness among the raiyats were the chief bottlenecks on the path of agricultural improvement.

\textsuperscript{26} Maddox Report, Vol.I, p. 135.
Factors responsible for the increase in Agricultural Indebtedness:

Land Revenue Assessment:

The prime factor of agricultural indebtedness was overassessment of land revenue. It compelled the cultivators to borrow money from the moneylenders to make payments to the Government. The wrong policy and faulty system of execution of the programme of reorganisation of the land revenue system caused chaos and confusion in the economic sphere of Orissa. It resulted in ruination of the Oriya landed aristocracy and utter impoverishment of the agricultural classes, just after the advent of the British in Orissa. In this connection Ewer reports, "Orissa was more heavily assessed under the British than under the Marathas and the revenue jama of the British exceeded that of the Marathas by Rs.3 lakhs."29

The fixity and inelasticity in the collection of land revenue stimulated agricultural indebtedness. During the time of the Maratha, punctuality in payment was not rigorously demanded. Sometimes zamindars were allowed

sufficient time for paying up their arrear dues. During natural calamities, the Marathas were very considerate of the difficulties of tenants and zamindars and even granted some remissions. But the British were very indifferent in this matter. In 1804-05 some zamindars wanted deductions on account of the flood, but the Collector of Cuttack did not accommodate them. The estates were sold up one after another and passed into the hands of Bengali zamindars. But even this failed to meet the revenue demand and collection fell as low as 65 per cent. Then the paikas of Khurda revolted because of over-assessment.

TRANSFER OF AGRICULTURAL LAND UNDER PROPRIETORY RIGHT

At the time of the advent of the British the ownership of land was vested in the State. If the peasant failed to pay his debt, the money lender could not evict him or sell his holding. Thus the circumstances were unfavourable to the money lenders. But when the British came, they unified and simplified the pattern of land ownership throughout the country. They granted full proprietary rights to the cultivators over their fields, so that they could freely sell, mortgage and transfer

such land. When the British granted the tenants full proprietary rights over their land and the right to transfer it, the peasants discovered that it had an unlimited power of credit.32 The property could now be used to secure loans.

The law of the land as the British administered it through the civil courts established by them only helped increase the debt of the cultivators. When there were no such laws and law courts, the creditor had no easy way of recovering a loan. But now both the Indian contract Act and the code of civil procedure were in his favour. He could attach the debtors cattle and implements and even arrest and imprison him.33 The Registration of Documents Act, 1864 and the Transfer of Property Act, 1882, allowed claim to be systematically recorded.34 Gradually the money lending classes appropriated the tenants' land. In the Banki Sub-division of Cuttack the Mahajanas had added the land by purchase were found to have acquired nearly 85 per cent of the acreage in some villages in this way. The figure reached 400 per cent during the thirty years from 1888-89 to 1919-20.35

Extravagance of the Cultivators:

British officials often asserted that the peasants of Orissa were extravagant and did not save anything in prosperous years. According to the Collector of Cuttack, "There is nothing to indicate any change in the method of life of the cultivators who are extremely conservative and as a rule not prudent and calculating. In a year of plenty they do not care to keep a sufficient stock in hand for the year's consumption and sell off a large portion to pay their rent to the zamindars and to purchase un-necessary articles of luxury for themselves. If the crop failed they were compelled to borrow paddy at 25 per cent of interest from local Mahajans and their indebtedness increase. Owing to reckless expenditure on marriages and other ceremonies the peasants were forced to borrow money.

Natural calamity was another cause of agricultural indebtedness. If the harvest failed, the cultivator borrowed money or paddy from Mahajananas on a good security. Poor harvests rendered the payment of interest and the repayment of the principal difficult. In this context N.N.Banerjee mentions, "A tenant holding 10 manas of land earned Rs.155 per

36. Report on the Land Revenue Administration of Lower Province, 1907-08, p. 49.
annum, but his ordinary expense was Rs.172/- per annum in 1893."38 And this formed a vicious circle.

**Extent of Agricultural Indebtedness:**

During British rule the problem of agricultural indebtedness assumed serious proportions. In this connection N.N.Banerjee remarks, "Dealing now with the actual condition of the people, I may assert with some degree of confidence from enquiries made by me in every part of the district among ordinary ryots, village headmen, mahajans, managers of estates, Government officials and many others who are likely to be correctly informed on the subject that very nearly 75 per cent of the agricultural population is in debt.39 In Bamanghati sub-division of Mayurbhanj 80 per cent of the agricultural population was in debt from 1902 to 1906.40 Such a state of affairs also prevalent in other parts of Orissa. Almost all the agricultural population in Orissa was in debt. The Oriya cultivators were in favour of paddy rather than money loans to compensate their deficit.

39. Ibid., p. 36.
40. Final Report on the Settlement of the Bamanghati Sub-Division, 1902-1906 (Cuttack, —), p. 74
Paddy loan:

Agricultural loans were most common among the ryots who lent grain to one another. Sawai and Panchpoi were two such paddy loans. Towards May, June and July the cultivators borrowed grain at 25 per cent interest and paid the loan off in the month of December. Cultivators borrowed paddy from mahajanas for food in Baisakha or Jaistha (May and June) and paid it off at the time of harvest with an interest of fifty per cent. This grainloan was known as Derdhi which really means one and a half times. The worst paddy loan was Dwigoon, a word that means double. Cultivators borrowed paddy at the seed time for broadcasting from mahajanas on the condition of repaying twice the amount borrowed at harvest time.

In Bhaga' the land was cultivated by another person at his own cost, subject to payment of half the produce to the owner of the land. Sanjadiyh was similar to bhaga with the difference that while bhaga was given out for one year only, sanjadiyah was given for several years. But a certain portion of the loan, much less than half, had to be paid to

42. Banarjee's Report, p.38.
43. Ibid.
the owner, whether the cultivator reaped a bumper crop or not. In the Dadani loan, money was lent to cultivators before or at seed time on the condition that the same would be repaid in grain at harvest time.

Money Loans:

Apart from the grain loans, a cultivator often borrowed money to make up his deficit. In Tamasook loan the mahajan lent money on the strength of a written and stamped bond, which was often registered, at a rate of interest varying from one rupee to three rupeestwo annas per cent per month. At every renewal of the bond, the unpaid accumulated interest was added to the principal. Regarding this system, Banerjee remarks, "A debt of Rs.100/- stood at Rs.600/- at the end of ten years, even after paying certain sums of interest in the interval". In Hatudhari or raka loan small sums not exceeding Rs.10/- were lent on interest at one anna, sometimes two or four annas in rupee per month. In Bandhak or Rahan Bandhak, gold and silver ornaments and brass plates were mortgaged and in return money was lent to the cultivators at 6 paisa per rupee in a month. In Dakhali Bandhak a loan was secured by mortgaging a piece of land

48. Ibid.
to the mahajan who then cultivated it till the loan was paid. In Kantakabala\textsuperscript{50} money was lent on mortgage of land or other valuable property. If the money lent was not repaid within the stipulated time, the peasants' right over the land or property was forfeited to the mahajan.

**Steps taken by the British Government to revive the condition of indebted peasants.**

The indebtedness of the agricultural population was a standing obstacle on the way of the improvement of agriculture. Unless people were free from debt they could not adopt better and more costly methods of cultivation. The slipshod method of cultivation adopted by the peasants was in some measure due to their indebtedness.\textsuperscript{51} They carried on their agricultural operations under the unpleasant recollection that a portion of their produce would pass off to their creditor. Hence, Several steps were therefore taken to improve the condition of the peasants as well as of agriculture in general.

To mitigate the condition of the peasants during natural calamities the government was in favour of Taquavi

\textsuperscript{50} Banarjee's Report, p. 38.
\textsuperscript{51} Final Report on the Settlement of the Bamanghati Sub-Division, 1902-1906, p. 25.
loans which had already been introduced by the Moghuls. To help the cultivators and to rescue them from the ravages of floods the Government distributed taquavi loans among them so that they were able to make good their losses either by transplantation of paddy once again or by sowing rabi crops.\textsuperscript{52} Under the scheme of taquavi advances, Rs.58,945/- were paid to the ryots of Mayurbhanj at an interest of $3\frac{1}{2}$ per cent per annum in 1905-06.\textsuperscript{53} But the Taquavi Act could not be regarded as productive. To some extent it protected the farmers from famines and floods.\textsuperscript{54} But the Committee expressed the view that taquavi as a system of finance was unpopular because of the rigidity of its repayment schedule.\textsuperscript{55} Two other Acts were thereafter passed to improve the condition of the peasants. These were the Land Improvement Loans Act, XIX of 1883, and the Agriculturists' Loans Act, XII of 1884. On the recommendation of the Famine Commission of 1880 the Land Improvement Act was passed under which loans were given at a very low rate of interest for reclamation of waste lands or for improving the already existing holdings.\textsuperscript{56} From 1904-05 to 1907-08, a total sum of Rs.19,663/- was given to the cultivators under the Land Improvement Loans Act in Mayurbhanj.\textsuperscript{57}

\textsuperscript{52} Administrative Report of Bihar and Orissa, 1926-1927, (Patna, 1928), p. 84.
\textsuperscript{53} Report on the Administration of Mayurbhanj, 1905-1906, p. 25.
\textsuperscript{56} Report on the Administration of Mayurbhanj, 1905-1906, p. 27.
\textsuperscript{57} Report on the Administration of Mayurbhanj, 1904-1905, to 1907-1908, p. 28.
The Agriculturists Loan Act was somewhat more successful than the sister Act. But the main problem was that the relief did not reach the bonafide cultivators. The condition of security was strict and the desire of the sub-ordinate officials to avoid all risks of loss in collection was strong. The Famine Commission of 1901 opined that more might be done by the development of joint security. One of the three great objects of the Act of 1884 was to provide loans to the peasants through the village communities or other associated agriculturists on the principle of joint responsibility.

**Role of Co-operative Movement:**

The Indian Famine Commission of 1901 recommended landmark proposals regarding agricultural indebtedness and improvement of agriculture. These were:

(a) Suspension and remission of revenue and rent during natural calamities.

(b) Establishment of Agricultural Co-operative Banks.

(c) The system of granting taquavi loans.

(d) Organic changes in the existing agrarian system which had led to undue indebtedness and efforts at the improvement of agriculture.


Under the recommendations of the Famine Commission of 1901, Co-operative Agricultural Banks were started in various provinces. The commission had pointed out that the shahukar, far from being a help to agriculture, had, in fact, become an incubus on it. Therefore the aim of the bank was to save the cultivators from the clutches of the exploitative village mahajans. Some of the objectives of the Agricultural Bank are given below.

(i) To enable its members to obtain loans at reasonable rates for agricultural purposes.

(ii) To provide them with a secure place in which to deposit their small savings.

(iii) To encourage thrift by holding up the principle that money should not be borrowed except for productive purposes.

(iv) To promote co-operation among all the members of the village community in all agricultural affairs.

In 1895-96 Frederick Nicholson laid importance on the co-operative movement to develop the economic condition of the tenants. The Famine Commission of 1901 was also of a similar view. The co-operative movement, however, really

began to function with the passing of the first co-operative Societies Act of 1904 when Registrars of Co-operative Societies were appointed for different provinces. Under this Act, several co-operative societies were established in Orissa. Further, in 1912, an amending Act was passed in order to give official encouragement to the farmers.

The object of the Co-operative Movement was to establish an organisation under which the peasants could obtain the advances necessary for carrying on cultivation without having to pay usurious rates of interest and without being given undue facilities for incurring debt. Then it was decided that Central Co-operative Banks should be invited to concentrate their efforts in two directions, namely, the development of facilities for members of primary societies to obtain improved seeds, implements and manures on credit and the promotion of agricultural propaganda among primary societies by trained kamdars. Before 1926 there were 59 central banking unions, including an apex bank called the Bihar and Orissa Provincial Co-operative Bank, 199 guarantee unions and 6962 primary societies of which no fewer than 6,008 were agricultural societies. The number of members of the primary societies was nearly 200,000 in Bihar and

64. L.S.S. O'Malley, Memorandum, Material Condition of the People of Bengal, Bihar and Orissa, 1902-12 (Calcutta, 1912), p. 6.
Orissa. Then village granaries were established on a co-operative basis. A few large and prosperous villages in every pirkh or region were selected for this and after the paddy crops were harvested, the villagers were asked to contribute some amount of paddy to the village granary. Gradually the village granary took the form of "Grain Golas" where members deposited produce instead of cash and from which they could obtain loans for the purchase of seeds against these deposits. The increase of grain golas was most marked in Angul where the inhabitants were realising the very great value of these golas during famines when local Mahajans were unwilling to lend grain for use as seed.

The establishment of Co-operative credit societies in different parts of the government estates of Banki and Dompara in the district of Cuttack improved the condition of the tenants. J.F.W. James reported that there were societies at Nuaparhi and Mirzapur in Balasore and at Nimapara in Puri. But the ones in Banki and Khurda were eminently successful. In 1909-10, co-operative societies were established in different parts of Mayurbhanj such as at

Baripada, Morada Nangalkatta, Kuamara and Bangiriposi. All the societies were trying to improve the condition of the individual members. In the Patana State of Orissa the Co-operative Department was started on the 29th October 1934 and the Central Co-operative Bank, Limited, Bolangir was registered on the 19th November 1934. The establishment of such societies and the Central Bank proved to be a blessing to the poor agriculturists and artisans as they could now obtain loans at an interest of 7½ to 8 per cent as compared to the 25 to 50 per cent which they had to pay to usurious money lenders. In 1914 the people of Daspalla started co-operative Credit society with a capital of 940 maunds of paddy at the cost of Rs.937 and the amount reached 1266 maunds in 1921 which was worth Rs.2,813. In this connection W.W.Dalzeil wrote in 1932, "The Co-operative Movement has made considerable progress since 1912. In 1912 there were 2 central societies with a working capital of Rs. 1,13,671 and 82 affiliated societies. The figures reached in 1928 were 10 central societies with a working capital of nearly Rs.40 lakhs and 1730 affiliated societies in Orissa.

On the 1st April 1936 Orissa became a separate province with areas taken from Bihar and Orissa, Madras and the Central Province. In Bihar and Orissa, the calendar year was the co-operative year while that in the Madras presidency was from the 1st July to the 30th June. There were no co-operative societies in the areas transferred from the Central provinces. Soon after the formation of the new province, it became necessary to fix its co-operative year. In May 1936 a conference was held at Puri and it recommended that the Co-operative year of Orissa would be the same as in the Madras presidency, viz, from 1st July to the 30th June.\textsuperscript{75} The provincial Government accepted this recommendation in 1937.\textsuperscript{76}

Thus it appeared that the Co-operative Movement had been instrumental in bringing about great improvements in the economic, financial and moral condition of the agricultural masses and that its advantages were being greatly appreciated by the people.

\begin{footnotes}
\item[75] Report on the Working Co-operative Societies in North Orissa for the period from January to June 1936 (Cuttack, 1939), p.1.
\item[76] Provincial Government of Bengal, May 18, 1937, No.1462 - E.
\end{footnotes}
AGRICULTURAL EDUCATION:

Improvement of agriculture cannot be wrought only by the initiative of government agencies, agricultural enquiries and experiments. Agricultural development presupposes mutual understanding among the cultivators. Endeavours should be made to get them agriculturally educated through lessons in self-help and reciprocation.

In 1889 the Home Department, by their resolution on Technical Education, imposed upon both the Agricultural and Educational Departments the further obligation to 'take positive measures for the education of the rural classes in the direction of agriculture.' 77 Further at the Agricultural Conference at Simla in October, 1890, Edward Buck stressed the importance of agricultural education. This matter at last took a new shape when the Famine Commission of 1901 remarked, 'Without agricultural education, agricultural improvement is impossible.' 78 Consequently the Imperial and Provincial Agricultural Departments took necessary steps for promoting both agricultural improvement and agricultural education. 79 Though various attempts were made for the

development of agricultural education, the result achieved by the end of the nineteenth century was not remarkable, certain remarkable steps were, however, taken in the beginning of the 20th century. A scheme was submitted by the Government of India on the 4th June, 1903 for the establishment of an agricultural research institute and an agricultural college at Pusa in north Bihar. In 1905, the Government of India sanctioned Rs.24 lakh for the development of agricultural research, experiment, demonstration and education in the province of Bengal, Bihar and Orissa. In 1926 the Royal Commission of Agriculture recommended the establishment of agricultural colleges in each province and the appointment of a staff of experts for the purpose of research as well as instruction. In pursuance of this scheme Colleges were started in different provinces. But no steps were taken to open an Agricultural College in Orissa even after such a recommendation. In the absence of any agricultural institution in Orissa, the cultivating classes were given useful practical training in agriculture through different farms and schools. Practical training for some of the cultivators was continued at the Cuttack Farm in 1909-10. Attempts were made to extend the system

80. Sixth Report on the progress made in giving effect to those recommendation of the Royal Commission on Agriculture in India which concern the Government of Orissa, 1936-37, p. 21
to other farms with the help of the local agricultural associations. At the recommendation of the board of Examiners, the Government introduced a course for improving the agricultural classes in schools at Cuttack, Gaya, Dumraon, Hazaribagh and Bardhaman. But this course was closed down in 1909-10.83 Then a proposal for teaching agriculture in certain selected high schools came under consideration. But the want of suitable trained teachers to teach the subject stood in the way and so nothing came of the proposal.

Agricultural classes were opened in the Baripada H.E. School in Mayurbhanj in August, 1905, where boys of the 4th and 3rd standards (i.e., class VIII and IX) were taught elementary lessons on agriculture by Mr. Ghosh.84 To encourage agricultural education stipends were sanctioned to qualified students at the end of the year. The teaching of agriculture in the middle English, upper primary and lower primary schools of Mayurbhanj had, also been under consideration. With this object in view on "Agriculture Primer" in four parts had been translated into Oriya and printed at the State press at the cost of the State.85 The "Sarala Krishivijnan" by N.G. Mukharjee, translated into Oriya, was published in 1905 and introduced in the agricultural classes.86

85. Ibid.
86. Ibid., p. 82.
No remarkable progress was made in the field of agricultural education on ordinary schools. So it was decided in 1910-11 that agricultural classes in ordinary schools should be discontinued. A simple course of nature study was prescribed in its place for such schools. 87 It had been decided to award prizes from the funds of the Agriculture Departments to "Guru" teachers and students of Guru or teacher Training Schools, and Middle and Primary Schools for the encouragement of nature study and study of plant life. An experiment was proposed to be carried out first in Orissa in 1910-11. 88 Towards 1912-13 it was reported that the experiment was working satisfactorily. 89 Then in 1917-18 a subject called nature study and plant life was introduced into the syllabus in Middle English, Guru Training and primary schools in Orissa. 90 In 1917-18 eight cultivator-students were under training at the Cuttack Farm, of whom four completed their training. Nine out of twelve students, including one Oriya and two Biharis, passed the Certificate Examination in March, 1919. During 1919-20 nine students were under training at the Cuttack farm. Apart from this, training was given to six non-stipendary and seven stipendary students at the various farms at Cuttack, Ranchi,

88. Ibid.
Dumraon, Sabour and Sipaya. The stipendary students were then shifted for a two years' course to Sabour.\textsuperscript{91}

After the abolition of the Agricultural College at Sabour in 1922, the farm staff and Kamdars of the co-operative department were trained on the district farms and the co-operative training classes were opened at the Cutatack and Sabour farms in 1930-31.\textsuperscript{92} In 1936-37 a scheme was under consideration for imparting agricultural training to teachers of middle vernacular and middle English schools so that simple lessons on agriculture with practical demonstrations could be introduced in the schools of Orissa.\textsuperscript{93} Agricultural training was also introduced in the Elementary Teachers' Training School at G.Udayagiri.\textsuperscript{94} The school had 40 to 60 acres of agricultural land and the students utilized that area for small demonstrations and as a training farm. At Serango there was a similar school for the training of teachers for the Parlakimendi Maliah.\textsuperscript{95} In Jeypore there was a similar school where agricultural training was imparted.\textsuperscript{96}

\begin{itemize}
\item \textsuperscript{91} Administration Report of Bihar and Orissa, 1919-20 (Patna, 1921), p. 43.
\item \textsuperscript{92} Administration Report of Bihar and Orissa, 1930-31, (Patna, 1932), p. 96.
\item \textsuperscript{93} Sixth Report on the Progress made in giving effect to those recommendation of the Royal Commission of Agriculture in India which concern the Government of Orissa, 1936-37, p. 20.
\item \textsuperscript{94} Government of Madras, Revenue Department, G.O.No.246, February 8, 1930, p. 15.
\item \textsuperscript{95} R.D.Anstead, Director of Agriculture to the Secretary to Government, Development Department, April 19, 1928, Dis. No.D.722/27, p. 15.
\item \textsuperscript{96} Munro's Report on Development of Agriculture, p. 15.
\end{itemize}
The attempts made by the government to spread agricultural education among the cultivators in rural areas were beyond doubt, steps taken for positive aspects of agricultural improvement. The some extent agricultural education could wipe out some of the drawbacks of agriculture, i.e., the superstitions and conservative attitudes of the peasant of Orissa. Gradually cultivators became more enthusiastic about modern methods of cultivation.

AGRICULTURAL DEMONSTRATION AND PROPAGANDA:

Agricultural demonstration and propaganda played a vital role in the improvement of agriculture in Orissa. Started towards the final years of the nineteenth century, it did not receive a definite shape till 1929. The Board of Agriculture in India passed a resolution in December 1929 recommending that a review of all the methods and extent of agricultural propaganda and other extension work carried on by the Board should find a place in the agenda for all future meetings of both the Agricultural and the Animal Husbandry wings of the Board. This resolution was given effect to and the subject was included in the agenda

97. Sixth Report on the progress made in giving effect to those recommendation of the Royal Commission on Agriculture in India, which concern the Government of Orissa, 1936-37, p. 9.
of subsequent meetings. Agricultural propaganda and extension work continued to receive the active consideration of both the Imperial Council of Agricultural Research and the Government of India. In 1937 John Russell and Dr. Wright made recommendations regarding the work of the Council.\(^98\)

An Inspector of agriculture and seven field workers (kamdars) were appointed in 1924-25 to carry on the work of agricultural propaganda in Orissa.\(^99\) Various improved seeds and manures were distributed among the cultivators of the division after sufficient canvassing and demonstrations. During 1924-25 the distribution of superior varieties of seeds and their cultivation on drained paddy lands were undertaken, chiefly in the cane growing tracts of Puri district and to a certain extent in Cuttack district.\(^100\) Nearly 850 mounds of cane seeds of the varieties Co. 213 and M.2 were supplied from the Cuttack farm to members of co-operative societies. The cultivators also followed the advice given to them about the method of cultivation, manuring and draining of the crop. Efforts were made in 1925-26 through sustained canvassing to popularise the cultivation of sugarcane. The establishment of a small cane

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98. Sixth Report on the progress made in giving effect to those recommendation of Royal Commission on Agriculture in India, which concern the Government of Orissa, 1936-37, p.9.


100. Ibid.
seed and demonstration farm at Banki in 1925-26 very greatly accelerated the substitution of Co.213 for Mungo. The Central Banks of Puri, Khurda, Cuttack and Kujanga also took an active part in the work of propaganda. The Divisional Development Board held three meetings in 1925-26 and the Balasore Agricultural Association held one meeting at Balasore.

In 1923-24, 12,136 lbs of Cuttack Nos.I,II,III and Dahia varieties of paddy were distributed free of cost through Central Banks. In 1925-26, grass seeds for 20 acres were distributed for trial in the flooded tracts of the Puri district. In Nuagaon circle it did well and gave an outturn of 10 maunds per acre whereas in other places the outturn was 5 maunds per acre.

The propaganda work was steady and satisfactory in Orissa towards 1929-30. The activities were chiefly confined to the following.

(1) Introduction, and extension of the use, of improved crops. The seeds included sugarcane (Co.213 and Co.205), paddy (Cuttack, Nos.I,II,III,V and Dahia), Patatoes, groundnuts and fooder crops.

102. RAAGBO, 1929-30, pp. 106 to 107.
(2) Introduction and popularisation of improved implements, i.e.g., the three-roller cane crushing mill, the Rahat pump, the Punjab plough and Gur Boiling pans.

(3) Introduction of improved manures and fertilisers, Green manuring, Ammonium sulphate and Ammophos.

(4) Improved cultural methods.

(5) Demonstrations of appropriate methods of irrigation.

(6) Propaganda through the press.

Sugarcane No.213 was rapidly extending over the Orissa range and the acreage under the crop increased considerably from 1929-30 onwards. From particularly from Balugaon north Orissa, it was filtering into Ganjam district (Madras). From all over the range it was gradually filtering into the various feudatory states bordering the British territory. It was rapidly replacing the local varieties of which very little was now left. It was being taken up in a large number of villages where cane multiplication had been unknown. Sugarcane No.205 had established its reputation as a successful and paying crop for the flooded tracts of Orissa. In Kujanga, Puri and Balasore the area under the crop was rapidly increasing.

103. RAAGBO, 1930-31, p. 121.
104. RAAGBO, 1934-35, p. 152.
* for details see Appendix - C.
The recommended varieties of paddy like Dahia and Cuttack No.I,II,III and V did not prove their yielding power to be superior to the local varieties. In certain places there were extensive areas under Cuttack No.I and II by natural spread. So it can be paid that, the propaganda work with regard to paddy was not very effective.

In the case of groundnut, the area of its cultivation was gradually extending in Angul, Balasore and Banki. In Banki the area went up to 380 acres in 1929. The crop was recognised to be very profitable in these places, but its extension was rather slow. 105 on account of the peculiarity of the soil and the prevailing wet condition, the situation with regard to this crop did not materially advance in Cuttack and Puri districts.

The cultivation of potatoes was becoming popular in suitable centres in Orissa 1929-30. But its cultivation did not quite pick up, because good seeds were not readily available. In 1929-30, Rs.2,415 worth of potatoe seeds and Rs.114 worth of onion seeds were supplied to the Central Co-operative Banks and the public by the Department Agriculture, which had sent an overseer to Patna to purchase the best seeds available. 106

106. RAAGBO, 1929-30, p. 112.
Propaganda through the Press:

Propaganda through the Press was taken up with a view to furnishing the interested public and cultivators with information on agricultural methods by means of short articles in the Oriya language in the vernacular weekly, 'Utkal Dipika.' The editor, Rai Sahib B.C.Pattanaik, had agreed to set apart some space for the purpose in every issue of the paper. The notes were much appreciated. Apart from these the Bihar and Orissa Agricultural Journal also helped the cultivators a lot by telling them about the improvement of agriculture. The Government took the following steps for the demonstration of development of cultivation and agricultural propaganda.

(a) Towards 1936 a change was effected in the method of propaganda. Demonstration was confined to certain defined centres. A survey of agricultural conditions was made and there after, a programme of general improvement was drawn up which was to be in operation for a fixed period of five years. When a centre had achieved a fair amount of success at one place, it was to be shifted to another place.

107. Sixth Report on the Progress made in giving effect to those recommendation of the Royal Commission Agriculture in India which concern the Government of Orissa, 1936-37, pp. 3-5.
108. RADO, 1936-37, p. 5.
(b) Four predominantly sugarcane areas were selected in 1937 for the improvement of the cultivation of sugarcane by intensive propaganda and demonstration. The cost was met from the grant from the Sugar Excise Fund.

(c) Attempts were made to start special demonstration farms. Two special farms, one for growing fruits of the temperate climate and the other for growing English vegetables in the off season and for the cultivation and cure of turmeric. One was established in the Agency tract of Ganjam at a height of 2,500 ft. and the other in the Koraput district at an elevation of slightly over 3,000 ft.

(d) Practical training was given to young men both in the central and in the small farms in improved and modern methods of agriculture. The facilities available included training in the cultivation of fruit trees and the manufacture of gur and white sugar.

(e) Demonstrations by peripatetic parties were carried out in the cultivators' fields on the use of the Punjab plough and implements for the cultivation of sugarcane, e.g., hoes, ridging ploughs etc.

(f) A new scheme for getting the agricultural classes familiar with the work done in the Government farms was taken up in 1936. Buses were chartered and persons
interested were brought twice a week to certain farms where all the activities were explained to them by the officers in charge. These trips became very popular. Propaganda was also carried on by notices in the newspapers and wide distribution of leaflets in the vernacular containing simple instruction in respect of particular phases of agriculture.

A scheme was taken up under which private owners were given the services of Kamdars and other agricultural officers free and seeds and grafts at cost price to cultivate their land according to the rotational programme drawn up by the department.

(g) The Agricultural Department and the Co-operative Department worked in close union for the introduction of improved seeds, manures, implements and methods of cultivation.

(h) Steps were taken for the dissemination of the knowledge of the principles, practice and improvement of agriculture through the distribution of leaflets and bulletins, Public lectures were organised at various places and there was even an arrangement made for answering people's queries.

(i) Instructions were imparted to the school boys at Dolshahi, (near Bhadrak) Agarpara, Bhogarai, Tihiri, Ertal, Harishpur, Sidhewarpur and Rambagh where gardens were maintained to different vegetables and fruit trees.
Thus did the Government take several steps to popularise the new and scientific methods of cultivation among the farmers of Orissa. The Department of Agriculture issued leaflets both in Oriya and in English narrating the activities of the Government farms in 1936. These were widely distributed through the Department's own officers, and through schools and newspaper. The publication of a leaflets on papaya, for example, had a very satisfactory result. It created a demand for seeds of the improved variety of papaya all over the province which was met by the department. A bulletin of the Aul farm and a leaflet on "Subsidised Farms" were issued in 1938. The followings leaflets were issued in 1939-40.  

(1) Leaf-eating caterpillars of jute.  
(2) Improve your jute.  
(3) Paddy recommended for cultivation in flood prone tracts.  
(4) Salt-resistant paddy.  
(5) New Paddies for dalua lands.  
(6) Paddies for Marsh lands.  
(7) Recommended varieties of Sarad paddy.  

For intensive propaganda work each sub-division was provided with an overseer and three kamdars to demonstrate recommended seeds, manures and implements and to effect

109. RADO, 1939-40, p. 35.
other improvements on cultivators' lands. In 1940-41 the practice of free supply of seeds was discontinued except in the case of vegetables, jute, fodder and potato. The Sawani and loan systems introduced earlier were gaining ground and the cultivators were coming forward in large numbers to grow the crops recommended by the department.

Agricultural shows and fairs:

Agricultural shows and fairs played a significant role in propagating various improved seeds, manures, implements and agricultural culture. The Bengal Agricultural show was held at Calcutta in 1864. In this show various agricultural products were displayed by various producers of Orissa. The details are given next page. (Names are spelt as they have been in the original.)

111. RADO, 1940-41, p.9.
<table>
<thead>
<tr>
<th>Quality No.</th>
<th>Variety Name</th>
<th>Place where produced</th>
<th>Name of Producer</th>
<th>Exhibitor</th>
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<tr>
<td>1.</td>
<td>One sort Rice</td>
<td>Jhukur, Cuttack</td>
<td>Luchmenarain Roy</td>
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<tr>
<td>2.</td>
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<td>-do-</td>
<td>-do-</td>
<td>-do-</td>
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<td>3.</td>
<td>-do-</td>
<td>Lajook Budden Moujah Nolung, Bhuddruck</td>
<td>Moonshee Abdool Gunney</td>
<td>Abdool Qadre and Shaik Dhoma</td>
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<tr>
<td>4.</td>
<td>One sort white</td>
<td>Moujah Lorab, Bhuddruck</td>
<td>Prem Bullub Roy</td>
<td>P.B.Roy</td>
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<td>5.</td>
<td>One sort Red Gungaballie, Paddy</td>
<td>Byang, Bhuddruck</td>
<td>Binodoo Madhub Bose</td>
<td>B.M.Bose</td>
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<td>6.</td>
<td>One sort Kalajeera paddy Simla</td>
<td>Bhuddruck</td>
<td>Kisser Chandra Misser</td>
<td>K.C.Misser</td>
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<td>M.A.Gunney</td>
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<td>9.</td>
<td>One sort Nursheeng Chog</td>
<td>Pooree</td>
<td>Jogga Das</td>
<td>Jogga Das</td>
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<td>Naloo Panee</td>
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<td>Nonboo</td>
<td>Siebeer, Pooree</td>
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**Miscellaneous Cereals**

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**Kullaees**

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<td>Shaike Shome</td>
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<td>Saeibeir, Cuttack</td>
<td>Rughunath Doss</td>
<td>R. Doss.</td>
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</table>
Agricultural shows were held in 1929-30 under the three central co-operative Banks, at Kujanga, Nimapara, and Baliana (Khurda). There were practical demonstrations of ploughing, soil making, hoeing and gur making in these shows. The usefulness of the improved seeds and manures exhibited were explained to the cultivators. There were talks on the improvements that could be made in different regions and these talks were highly appreciated by the public at large. There were two agricultural and industrial shows were held at the Ravenshaw College and at Angul in 1930-31 where various agricultural products, gur-making and lifting water by the Archimedean Screw were demonstrated. The All Orissa Agricultural and Industrial Exhibition was held at the Cuttack Muncipal Office compound in 1935-36 on a very big scale. The Agricultural Department presented exhibits of different kinds such as rice, pulses, vegetables, fruits, cane, refined gur, S.B. sugar, white sugar, fruit syrup, sugarcane seeds, manures, implements, dairy animals and poultry. In the Industrial and Agricultural Exhibition held at Banki in the Cuttack district in 1936, there was a section in which the cultivation and rotation of the various crops under the

113. RAAGBO, 1929-30, p. 113.
114. RAAGBO, 1930-31, p. 124.
115. RAAGBO, 1935-36, p. 156.
coastal conditions were demonstrated by actually growing the crops in the exhibition ground and also through posters. Other items were a model house for the cultivators, a model cowshed and poultry yard and horticulture. The Department also participated in certain minor shows which were held in the Sambalpur district. Cultivation of fodder was actually demonstrated in some of these shows.

The peasants were thus brought face to face with the modern and scientific development in agriculture. Their mental horizons widened and they began to produce more and better crops.

AGRICULTURAL MARKETING:

Marketing centres are meant for the exchange of goods and services either through barter or through money, but agricultural marketing usually means much more than the act of exchange. It includes a great variety of acts to facilitate exchange such as processing, storage, transportation, grading, inspecting, pricing, advertising, wholesaling and ratailing. In short, agricultural marketing refers to everything that is done to a commodity from the time it leaves the farm until it reaches the final consumer.

116. Sixth Report on the progress made in giving effect to those recommendation of the Royal Commission on Agriculture in India, which concern the Government of Orissa, 1936-37, p. 4.
The reports of the Royal Commission on Agriculture in India and the Central Banking Enquiry Committee drew attention to the loss which occurred through the ineffective marketing of agricultural produce and put forward recommendations for improvement.\(^{117}\) The Commission also put emphasis on the fact that the prosperity of the cultivator and his progress in efficiency depended upon sound marketing. It recommended that provincial departments should appoint a whole time senior Officer to investigate marketing condition.\(^{118}\) In his letter to the Governor, C.A. Henderson, of Ganjam, stressed that the problem of marketing was the first thing to be considered in dealing with the question of increased or improved cultivation.\(^{119}\) The establishment of the office of the Agricultural Marketing Advisor to the Government of India was sanctioned soon afterwards.\(^{120}\) According to the Government of India Act, 1935, the provinces were responsible for agricultural markets and for the production and distribution of goods, and the Central Government was responsible for the federal agencies for research.\(^{121}\) Therefore, the marketing of agricultural produce was a matter of provincial concern. The Central Banking Enquiry Committee pointed out the need for some

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118. A.M. Livingstone, Recent Progress of Agricultural Marketing work in India and suggested lines of future (Government of India, Delhi, 1937), p. 20.
119. Govt. of Madras, Bd. Procd., (Revenue), Land Revenue Settlement, February 28, 1929, Miss No. 612, p. 18.
120. Sixth Report on the Progress made in giving effect to those recommendation of the Royal Commission on Agriculture in India, which concern to Government of Orissa, 1936-37, p. 17.
121. Imperial Council of Agricultural Research Department, Resolution No. F/16M/34, January 10, 1935.
Central agency to advise on and assist in co-ordinating provincial activities, particularly in the case of agricultural produce intended for export, and to give assistance to provincial organisations by way of advice and research. It further recommended that this task should be undertaken by the Imperial Council of Agricultural Research.

The Royal Commission on Agriculture and the Banking Enquiry Committee recommended the development of marketing facilities for agricultural products with a view to improving the economic conditions of producers in India. The Commission opined, "The action to be taken has to deal with the main marketing problems including propaganda and the supply of information about external markets regarding Indian products, the grading, sorting and bulking of the main staple products, special market organisations for perishable commodities, information to Indian producers of consumers' requirements, both in India and abroad, the planning of production on the basis of quality and demand, the establishment of regulated markets, the undertaking of market surveys for the purpose of developing a common plan throughout India, the establishment of properly organised futures markets, commodity exchanges and warehouse."

122. Imperial Council of Agricultural Research Department, Resolution No.F/16M/34, January 10, 1935.
The question of agricultural marketing was also discussed at the Provincial Economic Conference held in 1934. As a result of this discussion, it was found that provinces were unable to finance provincial marketing staffs.\textsuperscript{124} The Government of India made a grant to the ICAR of 10 lakhs of rupees for expenditure in the provinces in addition to providing the central marketing staff. Most of the provinces had supplemented the minimum staff of three Assistant Marketing Officers paid from the Council's grant and each province had provided a provincial Marketing Officer to control the local staff.\textsuperscript{125} This opinion of the Conference was also supported by the Royal Commission on Agriculture and the Central Banking Enquiry Committee.\textsuperscript{126}

The majority of the Indian states agreed to co-operate and the investigation of marketing conditions throughout the whole of India and Burma began properly in the middle of 1935. The work undertaken by the Central Marketing staff in conjunction with the local marketing staffs in the provinces and states was divided roughly into three main divisions,\textsuperscript{127} viz., (i) Investigation work, (ii) Determination of Grade Standards, and (iii) Development.

\textsuperscript{124} Agricultural Marketing in India, ICAR Department Resolution File no. 16M/34, January 10, 1935, p. 4.
\textsuperscript{125} Ibid.
\textsuperscript{126} Ibid.
\textsuperscript{127} OSA (Acsn.No. 1808), Sundargarh District Records.
(i) **Investigation**: 

This category of work was carried out by the central and provincial marketing staffs jointly. This included a series of marketing surveys with immediate reference to the more important commodities, grouped as follows.

1. Crops  
   (a) Cereals (Wheat, barley and rice )  
   (b) Oilseeds (groundnut, rapeseed and linseed)  
   (c) Plantation and special crops (tabacco, fibres and fruits)

2. Live stock  
   (a) Bullocks  
   (b) Buffaloes

   After the completion of this marketing survey a clear picture of the system of marketing commodities came out, not only in each of the provinces separately, but in respect of inter-provincial, inter-state and foreign trade, so as to provide an all-India picture of existing conditions and a common basis for future progress.

(ii) **Development work**: 

So far as development work was concerned, the provincial marketing staffs had the most important role to play. The development work aimed at securing a more
extensive use of the agreed commodity standards, the elimination of waste and a better organisation of producers for marketing purposes. The whole object of development work was designed to secure better price returns for producers.

(iii) **Grade Standards**

Grade standards was work of a technical character relating to the chemical and physical characteristics of such products as oilseeds, grains and fruits, and the testing of grading techniques and equipment under practical conditions.

With a view to studying agricultural marketing in detail and developing the marketing of agricultural produce, a scheme of agricultural marketing in India was inaugurated by the Imperial council of Agricultural Research of the Government of India with effect from the 1st January 1935. This scheme embraced the old joint province of Bihar and Orissa as one unit, an arrangement which continued even after the establishment of the new province of Orissa. The Bihar and Orissa scheme formed a part of the all-India scheme to be worked as a section of the Department of agriculture. It worked under the guidance and technical

advice of the Agricultural Marketing Adviser to the Government of India. The Imperial Council of Agricultural Research financed the scheme, the provincial Government contributing to the pay and travelling allowance of the Senior Marketing Officer.  

The provincial Marketing Office was started on the 11th March 1935 with its headquarters at Patna. B.N. Sarkar of the Bihar Agricultural Service was the Senior Marketing Officer and under him, there were three Assistant Marketing Officers such as P.C.Verma, M.H.Jani and P.R.H. Acharjee. In 1937 the Imperial Council of Agricultural Research sanctioned the post of an Assistant Marketing Officer, a clerk and a peon for a survey of Orissa. M.M.Pradhan, the Manager of the Cuttack farm who had worked temporarily as Assistant Marketing Officer, was appointed to this post in September 16, 1937 with his headquarters at Cuttack. The work of survey of the production and marketing of different commodities was under the supervision of a Joint Marketing Officer for the two provinces of Orissa and Bihar. Before the creation of the province of Orissa, consolidated data and information had been collected and

130. RADO, 1936-37, p. 17.
draft reports prepared. Figures and information were separated for the preparation of separate reports for Orissa in 1937. In Mayurbhanj the Maharaja appointed a Senior Marketing Officer and a Junior Marketing Officer in June 1936, for conducting a marketing survey of the agricultural produce of the state along the line laid down by the Agricultural Marketing Adviser to the Government of India.

It was intended to carry out a complete survey of the marketing of all important agricultural produce in due course. For the first year it was decided to take up ten commodities of an all-India significance, viz, rice, wheat, groundnut, linseed, tobacco, fruits (citrous and deciduous fruits and banana), hides and skins, cattle (oxen and buffaloes), eggs and milk.

At the same time it was decided to carry out a survey of markets, fairs and hats as well as of co-operative trading societies and to investigate into the question of suitable containers and standardization of packages as well as technical matters relating to quality grading and standardization of commodities. For the purpose of this

133. Royal Commission on Agriculture in India which concern the Government of Orissa, 1936-37 (Cuttack, 1938), p.9.
135. RADO, 1936-37, p. 17.
survey the province of Bihar and Orissa was taken as single unit so that all figures such as imports and exports would refer to the imports and exports of the whole province. A plan was drawn up for carrying out the survey and a certain amount of work was done in preparing the statistical background of some of the commodities under survey, for example, crop atlases showing areas of concentrated as well as sparse production.

The marketing staff in their work covered only that portion of Orissa which formed a part of the old province of Bihar and Orissa. Therefore, the reports completed during the year did not embrace a large part of Orissa which had been annexed to it from the presidency of Madras. The matter was brought to the notice of the Imperial Council of Agricultural Research with the result that the Staff of marketing survey was strengthened by the addition of a separate Assistant Marketing Officer for Orissa and it was further decided that surveys should be undertaken in future for, and the reports published there of would deal with, the province as a whole as it then stood.

137. RADO, 1936-37, p. 17.
There was little or no organised effort on the part of the cultivators in the marketing of their produce. Cultivators generally sold their produce individually to the Beparis or businessman who brought it to the wholesale markets and then it went on changing hands till it reached the consumer. There was practically no standard of weight, quality or method of business, and the whole thing was a scramble of little men for profits anyhow. During the course of the survey it was found that weights and measures, which formed the basis of the purchase and sale of agricultural produce, varied from place to place, so much so that four or five systems of weights were found to be prevalent in almost every district of the province. There was no guarantee that the ratio between the different systems were maintained in the actual weights used. Enquiry showed that it was rare to find a constant ratio between any two systems.

The survey of marketing had not been completed and all the relevant facts had not been collected by 1936. The main barriers to improvements in the marketing of agricultural produce are given below. 138

(1) Weights and Measures:

The systems of weights and measures prevalent in the province were in a hopeless state of confusion. It would be

difficult to put agricultural marketing on a sound basis if the weights and measures were left alone as they were.

(2) **Marketing of clean produce**:

The enquiries had shown that the quantity of 'refraction' (dust, dirt etc.) present in the marketed produce varied from about 3 per cent to about 20 per cent. The producer thus got his price reduced not only for bad quality but also by an amount equivalent to the cost of carrying and cleaning the dust at the terminal markets where labour was dear and godown rent was high. The cultivator did not clean his produce because there was no extra dues paid by the buyer. Because of the confusion of weights and the absence of quality grades or standards, there was no incentive to market clean produce. Grades and standards of quality were therefore requisites for a healthy marketing system.

(3) **Market quotations**: 

The lack of a market quotation system was another barrier to a proper agricultural marketing. It was realized that the spread of information on market quotations at
standard weights and for standard grades, would popularise the standard weights as well as quality grades.

(4) **Confusion in the movement of produce:**

Due to a lack of market intelligence, the buyers and sellers nearest to one another did not always come together to trade. The result was an unnecessary movement of produce over long distances.

(5) **Market Charges:**

Enquiry revealed considerable variations in the charges realised by aratias from buyers and sellers in different places. It was desirable to examine the possibilities of regulating the charges.

For the formation of regulated markets and the improvement in the marketing of agricultural produce, the third joint conference between the central marketing staff and the Senior Marketing Officers of provinces and states was held at Simla on September 8, 1937. In this Conference it was unanimously agreed that the tola would be equal to 180 grams, the Seer to 80 tolas and the maund to 40 seers. In connection with the proposed Weights and Measures Bill,

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139. OSA (Acc.No.1558), Sundargarh District Records.
140. *Agricultural Marketing in India* (Delhi, 1937), p.7.
the Senior Marketing Officer also studied the working of the Bombay weights and measures Act at Dhulia jalgaon and Bombay. Under the Government of India Act, 1935, provincial governments were responsible for weights and measures, while the Central Government was concerned only with the establishment of standards of weight.\textsuperscript{141} with the introduction of systematic weights and measures the main barrier to the improvement in the marketing of agricultural produce was removed. Apart from this, the following points were agreed upon with regard to regulated markets.\textsuperscript{142}

(a) The Market Acts for the establishment of regulated markets in the Central Provinces, Bombay, Madras and Hyderabad state were commended to the notice of other local governments.

(b) More rapid progress was to be made in establishing regulated markets under the existing Market Acts, which extended to all cases to cover all agricultural produce dealt with in a regulated market.

(c) To ensure rapid progress it was essential that a government department should be directly responsible for taking the initiative in the establishment of such a market.

\textsuperscript{141} Sixth report on the Progress made in giving effect to those recommendation of the Royal Commission on Agriculture in India, which concern the Government of Orissa, 1936-37, p. 18.

\textsuperscript{142} Ibid.
(d) It was also necessary that local marketing staffs should be closely associated with the concerned departments.

(e) In the course of the survey of markets and fairs then in progress, Senior Marketing Officers in the provinces and states should investigate into and report on particular points in detail which were essential for an improvement in the running of regulated markets.

Regulated markets, established and working on proper lines, constituted one of the essential features of organised marketing. A large number of markets and village hats in the province were visited in this connection. The Senior Marketing Officer visited the regulated markets in the Central Province, Bombay and Madras, to study their working in detail. In particular, he visited Akola, Nagpur, Malkapur, Jalgaon, Dhulia, Amalner and Cuddalore. The drafting of a Bill to introduce and run regulated markets in Orissa was taken in hand in 1940-41.

**Progress of Agricultural Marketing in Orissa**

K.Gopalan took charge as the Senior Marketing Officer of the independent Agricultural Marketing Scheme for Orissa
on the 14th July 1939.\textsuperscript{143} There was a survey of the marketing of paddy and rice, wheat, egg, cattle, hides and skins, groundnut, potatoes, fruits, coconuts, ghera, tobacco, sugar and gur, fish, turmeric, cashewnut and lac. During this survey weights and measures and markets and fairs were also studied. Besides, supplementary information on various commodities like wool from sheep, oil seeds, animal fat, railway freight etc. were collected.

In 1939-40 a Special Officer was appointed to carry out a survey of the marketing of turmeric in the Khond agency. He worked under the control of the Senior Marketing Officer and was assisted in his survey by the marketing staff. In 1940-41 this survey was extended over the whole province and a detailed report on the marketing of turmeric in Orissa was compiled.\textsuperscript{144}

For the development of the marketing of jute in Orissa a Co-operative Jute Marketing Society financed by the Indian Central Jute Committee was started at Kendupatna in the Cuttack district in 1939-40. Another Co-operative Jute Marketing Society came into existence at Danpur in 1940-41.

\textsuperscript{143} RADO, 1939-40, p. 37.
\textsuperscript{144} RADO, 1940-41, p. 59.
With a view to enabling the members of the society to earn higher profits, a system of grading was introduced in 1939. Messrs. Sinclair Murrey and Company was specially appointed for the purpose of grading. The Company was requested to purchase jute from the Society at the rate of 40\frac{1}{2} seers per maund instead of the usual rate of 41 seers. The grading and the concession of half a seer per maund provided an impetus to other jute growers to enlist themselves as members and sell their jute through the Society. The co-operative jute sale societies working in the Cuttack district were supervised from time to time and the work of jute grading at these centres was inspected. Arrangements were made to inform the various jute sales societies about the daily extant price of jute at Culcutta\footnote{Report on the Marketing of Jute in Orissa (Cuttack, 1942), pp. 37-38.} In order to familiarise the growers with the technique of improving the cultivation of jute in Orissa, a pamphlet about the improvement of the quality of jute fibre was prepared by the marketing section and distributed to the cultivators. Improved seeds of C.Capasularis obtained through the Indian Central Jute Committee were also sold to the members of the Jute Marketing Society at Kendupatna.\footnote{RADO, 1940-41, p. 62.}
Chakki atta of Messers. Kasambhai Manji was graded under a certificate of authorisation issued by the Agricultural Marketing Adviser to the Government of India in 1939.148 Towards the close of 1939 the roller mill atta of Messrs. Bhima Ice Factory and Flour Mills was graded. During 1939-40, 1,253 maunds of Chhaki atta and 117 maunds of roller mill atta were graded. In 1940-41, two atta grading stations were opened at Sambalpur and Bargarh.

Two grading stations of rice were opened at Sambalpur and Balasore in 1940-41. Several samples of Sitasal and Patnai rice were collected and sent to Delhi for analysis. Rice available in Sambalpur was found in mixed lots and therefore the grading of rice was not possible at the time in Sambalpur district.

A scheme was prepared with a view to popularising the preparation of Chaki (Solid) and refined gur in different sugar-cane producing areas of the province. Under this scheme six men who were trained at Banki in making chaki gur were appointed and posted at Parlakimedi, Bhubaneswar, Kunjanga, Bhadrack, Angul and Bargarh to demonstrate to the cultivator, the improved method of gur preparation.149 The scheme was put into operation in the 1st week of January 1945.

149. RADO, 1944-45, p. 51.
Market News Service:

For the development of agricultural marketing, reliable information relating to the prices of agricultural commodities were published. Further the price of important agricultural commodities were collected and arranged to be published thrice a week in the local English and Oriya newspapers, such as the New Orissa, the Asha and the Samaja. In 1940, the Agricultural Department took up the publication of a monthly trade review in the local papers, both Oriya and English. 150

EXTENSION OF CULTIVATION

During the period of Mughal and Maratha rule no systematic revenue administration was introduced in Orissa. No attempt was made to evolve any regular system of assessment which has approved by the State. This created a lot of problems with regard to land revenue which was responsible for a deterioration of cultivation in Orissa. Landlords as well as peasants were fed up with the exactions of the Marathas. Even after the British occupied Orissa in 1803, the same condition prevailed up to the end of the first half of the nineteenth century. But the second half of the

150. RADO, 1940-41, p.39.
nineteenth century however, witnessed some extension of cultivation. A series of canal and embankment works were undertaken to mitigate the banal effects of droughts and floods respectively. Further the British government also emphasised on development of farming system, agricultural education and agricultural propaganda and demonstration which accelerated the extension of cultivation in Orissa.

Extension of cultivation in Cuttack District

In September 1804 the Commissioner of Cuttack issued instructions for the first regular settlement of the province which was subsequently embodied in Regulation XII of 1805. After one year there was a triennial settlement. The British argued in support of the settlements and stated, "One of the most important objects in view was to bring deserted villages into cultivation."\(^{151}\) Liberal terms were imposed upon those who brought waste lands under cultivation, subject to certain conditions. The Commissioner's instruction to the settlement staff was, "You will bind the engaging parties, however, in the most positive manner and under a severe penalty, not to bring or entice ryots from lands already cultivated, but to collect

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their ryots from without the Company's territories." 152

During the early years of their administration the British tried to tackle the situation in an intelligent manner and sought to appease both the Zamindars and the peasants. The Collector of Cuttack directed the settlement operations, fixing the amount of assessment of each estate upon, 'principles of equity and moderation, rather than trying to raise the collections to the utmost height.' 153

However, cultivation was extended steadily under the settled British Government. According to the statistics of temporarily settled estates, extension of cultivation began to occur from the settlement of 1837. The cultivated area of the Cuttack estate was 697,000 acres in 1837 154 and the next 60 years witnessed an increase of nearly 39.97 per cent, the area shown as under cultivation at the 1897 settlement being 975,575 155 acres. In permanently settled area the increase was greater. The extension of cultivation was general throughout the district and went steadily up with the growth of population. 156 During the last part of the nineteenth century the floods of 1886-87, 1888, 1889 and 1891 and the cyclones of 1885 and 1891 hindered the extension of

153. Ibid.
154. L.S.S.O'Malley, BODG, Cuttack, p.91.
156. L.S.S.O' Malley, BODG, Cuttack, p. 91.
cultivation. Most of the area was inundated by flood and in
Coastal areas the standing crop was swept away by the salt
water. Due to certain prejudices the cultivators were
unwilling to use canal water. Therefore the canal system was
not a special cause of the extension of cultivation in the
nineteenth century. In spite of such obstacles the area
under cultivation gradually increased. W.W.Hunter collected
statistical data of Cuttack from "The Statistical Report for
October 1876" which mentioned that the cultivated land was
55 per cent of the total land in 1876. But towards 1897
the cultivated area grew to 69.5 per cent of the total
area.

With the growth of population there came to be
greater pressure on the soil. From 1881 to 1911 to
population of Cuttack district increased steadily. In the
decade from 1881 to 1891, population increased by 7.9 per
cent. In the next decade the extension of the railway to
Orissa acted as a stimulus for emigration. Consequently the
increase (6.5 per cent) recorded by the Census of 1901,
understates the natural growth of the population during this
period. Migration was further stimulated between 1901 and
1911 by a series of floods resulting in crop failures and

157. W.W.Hunter, A Statistical Account of Bengal, Vol.XVIII,
p. 105.
outbreak of cholera, so that there was a decline of 2.4 per cent in the rate of expansion. The years 1911-21 witnessed the first actual setback due to floods and epidemics. But the years from 1921 to 31 witnessed an increase of 5.43 per cent in the population. The following table gives an idea of the growth of population in Cuttack.\textsuperscript{159}

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881</td>
<td>1,792,938</td>
</tr>
<tr>
<td>1891</td>
<td>1,935,375</td>
</tr>
<tr>
<td>1901</td>
<td>2,060,313</td>
</tr>
<tr>
<td>1911</td>
<td>2,109,139</td>
</tr>
<tr>
<td>1921</td>
<td>2,064,678</td>
</tr>
<tr>
<td>1931</td>
<td>2,176,707</td>
</tr>
</tbody>
</table>

The cultivated area of Cuttack also kept on increasing. In 1882 it was 1043,490 acres, but towards 1910 it increased to 1087,027 acres.\textsuperscript{160} Further, it increased to 13,33,340 acres in 1932.\textsuperscript{161} During the 50 year under reference, it increased by 27.7 per cent, whereas during the same years the population increased by 21.3 per cent. From 1936-37 to 1939-40 the area of cultivation did not

\textsuperscript{159} W.G.Lacey, Census of India, 1931, Vol.III, Bihar and Orissa, Part-II. (Patna, 1932) p.4.
\textsuperscript{160} James Report, p.11.
increase because of floods. But in 1940-41, though the net cultivated area decreased, the total cultivated area increased. The total cultivated area of 1940-41 was 1,470,900 acres including 365,433 acres shown more than once. In 1936-37 the area shown more than once was 177,820 acres. The double-cropped area reached more than 100 per cent towards 1940-41 and 520,780 acres toward 1946-47, which was nearly 200 per cent of the double-cropped area of 1936. On the other hand the net cultivated area decreased to 1079,960 acres, a decrease of 266,662 acres which was 20 per cent of the net area of 1936.

The above statistics proves that there was a steady extension of cultivation in Cuttack. Two major factors were responsible for such an extension. One was that the advancement in cultivation kept pace with the increase in population. The second was that due to availability of irrigation cultivation had practically reached its expected limit. The most remarkable progress in Cuttack was the increase of the double-cropped area, which was the result of irrigation.

164. RADO, 1946-47, p.4.
Nearly 90 per cent of the cultivated area in Balasore was given over to rice. Consequently, the condition of the people in this district was even more precarious than that of their neighbours, for they had to depend on this single crop for their very existence. Increase of 5.2 and 7.7 per cent respectively were recorded in the population of this district at the Censuses of 1891 and 1901, and in the latter year it had 1,073,643 inhabitants. In 1902 there was a serious failure of crops and with only one exception they remained below normal throughout the whole of the intercensal period. Droughts and floods were responsible not only for poor harvests but also for violent outbreaks of malaria, and emigration was very common. The net loss of population during this period was, however, a slight 1.7 per cent compared with that incurred between 1911 and 1921.

The outturn of the winter paddy crop was very disappointing in these years. As a result of the failure of the monsoon in 1918 the outturn of the winter rice went down. Influenza caused terrible mortality in 1919 and was followed by a particularly severe outbreak of cholera. The actual

decrease in the population of the district, as revealed by the Census of 1921, amounted to 7.1 per cent. The population of Balasore at different Censuses is given below. 167

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881</td>
<td>947,407</td>
</tr>
<tr>
<td>1891</td>
<td>996,971</td>
</tr>
<tr>
<td>1901</td>
<td>1073,643</td>
</tr>
<tr>
<td>1911</td>
<td>1053,565</td>
</tr>
<tr>
<td>1921</td>
<td>980,504</td>
</tr>
<tr>
<td>1931</td>
<td>990,600</td>
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</tbody>
</table>

Winter rice was the most important crop in Balasore accounting for over 93 per cent of the whole cropped area in 1909-10. 168 The increase in cropped area in the Sadar sub-division was 5.7 per cent whereas the population as a whole had increased from 1891 to 1911 by over 8 per cent. Towards 1909-10 the increase in the cultivated area in the Bhadrak sub-division was only 0.29 per cent and the increase in population was 2.9 per cent. Thus the pressure of population on soil increased.

According to S.L. Maddox, out of a total area of 1,095,778 acres in Balasore, the net cultivated area was 775,975 acres in the 1897 provincial settlement. Towards 1901-02 the net cultivated area was 852,000 acres and the area cropped more than once was 5,300 acres. During these five years there was an increase of 76,025 acres in the cultivated area. But towards 1912 the cultivated area decreased to 800,840 acres. Gradually thereafter the area under crop increased. In 1932 the cultivated area reached 899,794 acres which was an increase of 12 per cent over that of 1912. From 1936-37 to 1938-39 there was no marked extension of cultivation. The cultivation of paddy decreased considerably due to unfavourable conditions. During this period the cultivated land increased from 915,400 acres to 921,759 acres. However, the double cropped area increased from 2,830 acres to 6,595 acres in 1943-44. Towards 1946-47, 74 per cent of the total area was cultivated. During the 10 years from 1936 to 1947, cultivation increased by 5 per cent. In 1946-47 the net cultivated area was 989,479 acres against 915,400 acres in 1936. Due to the development of irrigation and the grant of

174. RADO, 1943, p. 69.
loans under the Grow More Food campaign for reclamation of waste lands, excavation of new tanks, renovation of old tanks and purchase of bullocks and ploughs there was an extension of cultivation in Balasore.

PURU:

Between 1881 and 1901, the percentage of increase in population recorded in Puri at the two successive censuses was 6.3 and 7.6. The first ten years of the 20th century were unfavourable. In 1901 and again from 1905 to 1908 crops were much below normal and in 1908 there was famine in limited areas.175 At the same time an epidemic of cholera of an unusual severity made its appearance. During 1911-21, the population decreased by 7 per cent. Puri thereafter achieved an increase of 8.77 per cent during the years 1921-31. The population of various censuses of the district is given below.176

176. Ibid.
The Nayabadi settlement was completed in Puri in February 1856. The then Collector of Puri, Ananda, remarked, "Khurda is one of the best cultivated estates I have ever seen in India. The people are contented and prosperous as they have reason to be satisfied with the terms of the new settlement. I have no doubt that long before its expiry in October 1880 every bigha of culturable land will have been brought under plough." The remarks of the Collector came true in 1880 when 26,540 acres of culturable land had been reclaimed. But in settlement of 1880, W.C. Taylor was strongly in favour of prohibiting further extension of cultivation. His opinion was that, the remaining waste lands were of poor quality so that their reclamation would not benefit the people as a whole. He further opined that

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
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<tr>
<td>1881</td>
<td>888,592</td>
</tr>
<tr>
<td>1891</td>
<td>944,998</td>
</tr>
<tr>
<td>1901</td>
<td>1,017,254</td>
</tr>
<tr>
<td>1911</td>
<td>1,023,402</td>
</tr>
<tr>
<td>1921</td>
<td>951,651</td>
</tr>
<tr>
<td>1931</td>
<td>1,017,284</td>
</tr>
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</table>

178. Ibid.
increase of cultivation notoriously encouraged increase in population. So the scanty produce from the newly reclaimed lands would only increase the pressure on the soil. But the Board did not follow Taylor's suggestion and stated, "After considering all the arguments that have been advanced, Dampier sees no reason to question the policy of the Government in directing that the extension of cultivation shall be the chief object to be kept in view." 180

The Government of Bengal also supported the Board's view and stated, "........... it is clearly the policy of the Government to encourage extension of tillage and the rules proposed by the Board appear, with one slight exception, well calculated to secure this end ..........." 181

The following rules were framed in 1881 to encourage the reclamation of new land. 182

(a) New lands would be free of rent for the first three years of the lease. The rent would be four annas per acre for the next three years and eight annas per acre, for the remaining period of the lease.

(b) New Pattas would confer full rights of occupancy and other rights and privileges of the settlement raiyats of the Government.

After the settlement of 1881, cultivated land increased by 24,816 acres by 1898 in which year the total cultivated land was 253,600 acres out of the total area of 567,000 acres in Khurda.

Towards 1900 the cultivated area was 282,047 acres out of a total area of 619,013 acres in Khurda. There was an increase of 28,447 acres during two years. There was thus a remarkable effort at reclamation of culturable fallow land.

In the provincial settlement (1890-1900), out of the total area of 655,777 acres (excluding Khurda) the net cultivated area was 464,752 acres which was 71 per cent of the total area in Puri district. But towards 1910-11, out of the total area of 1,599,360 acres, the net cultivated area was 750,100 acres. Therefore, between 1900 and 1910-11 cultivation was increased by 295,448 acres which was 63 per cent of the acreage of 1900. In 1936-37 the net cultivated

183. Report on the Khurda Settlement of 1897-98, p. 239.
area was 539,672 acres and the area cropped more than once was 218,326 acres whereas the total area was 1,599,860 acres.\textsuperscript{187} The net cultivated area was only 33.7 per cent of the total area. But in 1940-41 the net cultivated area decreased to 487,339 acres.\textsuperscript{188} Thus there was a considerable failure in the extension of cultivation. In 1943-44 the net cultivated area increased to 714,121 acres which was 44.6 per cent of the total area.\textsuperscript{189} Towards 1946-47 the net cultivated area reached 783,635 acres which was 49 per cent of total area.\textsuperscript{190} During the ten years from 1936 to 1947 cultivation increased in acreage by nearly 45.4 per cent.

\textbf{SAMBALPUR:}

Of the two sub-divisions of Sambalpur district, Bargarh was larger and slightly more thickly populated. The staple crop of Sambalpur as rice which occupied 85 per cent of the gross cultivated area in 1931.

Between 1881 and 1891 the population of the district increased by 11.7 per cent. A great famine occurred in 1900 in which no less than 108 persons per square mile lost their

\textsuperscript{187} Agricultural Statistics, 1936-37, pp. 1-4.
\textsuperscript{188} ARDO, 1940-41, p. 95.
\textsuperscript{189} Season and Crops Report, 1943-44, p. 7.
\textsuperscript{190} ARDO, 1946-47, p. 167.
lives. The next Census of 1911 showed an increase of 16.5 per cent in the population of the district. During 1911-12 there was a further increase of 6.08 per cent. Owing to an outbreak of cholera in 1918 and a flood in 1920 the rate of growth of population was lower than in the previous decade. A large number of people left their homes in search of employment outside the district. During 1921-31 the increase of population was 11.59 per cent. Both the sub-divisions made considerable progress in this. The population of Sambalpur at various censuses is given below. 191

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881</td>
<td>554,165</td>
</tr>
<tr>
<td>1891</td>
<td>618,825</td>
</tr>
<tr>
<td>1901</td>
<td>638,992</td>
</tr>
<tr>
<td>1911</td>
<td>744,183</td>
</tr>
<tr>
<td>1921</td>
<td>789,466</td>
</tr>
<tr>
<td>1931</td>
<td>880,945</td>
</tr>
</tbody>
</table>

In 1876 the total Khalsa area in Sambalpur district was 576,273 acres of which 375,507 acres were cultivated. But towards 1889 the area under cultivation was double of

that of 1876. In this connection, Nethersole who was in-charge of the settlement of 1889 in Sambalpur remarked, "It is of course out of the question that cultivation should have increased so enormously in the short space of 12 years. This is an instance of the inaccuracy of the 1876 settlement which can be easily demonstrated." However, in the Khalsa portions of the Bargarh and Sambalpur tahasils, the area in cultivation varied in different parts. But the average was 65 per cent in Bargarh and 46 in Sambalpur. A very considerable portion of the area under cultivation was annually left fallow, consisting mainly of the high land which grows crops other than rice and which requires periodic rest. In 1888 the area recorded as new fallow land, i.e., fallow for 3 years or less, was 19 per cent in the Bargarh tahasil and 13 per cent in the Sambalpur tahasil. Towards 1889 the total cultivated area was 617,906 acres of which 1,374 acres were double-cropped. In the system of cropping, rice overshadowed everything else, covering, as it did, nearly 77 per cent of the cropped area. Pulses such as mung, harad (arhar) and kulthi came next in importance accounting for 13 per cent. The remaining area was almost wholly under cotton which covered 4 per cent whereas sugarcane and miscellaneous crops covered one per cent.

193. Ibid.
Dewar's Settlement of Sambalpur in 1906 showed that the total cultivated area was 1,037,384 acres whereas the area out of cultivation, i.e., fallow for more than three years was 139,775 acres. Thus, the total area was 1,177,159 acres. In 1889 only Khalsa areas were measured, but in 1906 both khalsa and zamindary areas were surveyed. This resulted in a considerable increase of both the cultivated and the occupied areas. The total land of Sambalpur district was 1,910,423 acres in 1906. The occupied area for agriculture increased by not less than 16 per cent after 1889. On the other hand the area in regular cultivation increased by 7 per cent after the Settlement of 1888. The largest increase in the cultivated area occurred in the zamindaries, where extensive areas of culturable waste land were available. In 1906 the extension of cultivation in Sambalpur tahasil was due to the introduction of railways. The extension of cultivation was the least in the plains of Bargarh where the land had long been under close tillage. Apart from this, there were other influences at work to prevent further extension.

A lack of natural vegetation speedily exhausted the shallow soil, and when a sharp rise in the price of rice followed the opening of the railway, there grew a tendency to concentrate upon rice land and to neglect the

195. Dewar's Report, p. 27.
uplands. Moreover, land that was in regular cultivation was much more closely worked than it had been in the previous years. All the rice lands were cropped annually, the best uplands being cropped at least every second year. This change was partly due to natural causes, but had been hastened by the advent of railway communication. The farmers found that it was no longer convenient for them to distribute their capital and labour over both rice and miscellaneous crops. In earlier times they used to grow oil seeds, pulses and cotton needed in their own household. But with rice cultivation paying over 100 per cent, they concentrated their resources upon that and bought their other necessaries more cheaply than when they had grown them. The only exception to the rule was that there was less fallow land available in eastern zamindaries where there was forest land close to the railway line.

From 1906 to 1926, the occupied area of the whole district increased from 1,177,159 acres to 1,325,004 acres, an increase of 12.5 per cent. But the increase was more remarkable in the zamindaries of Bargadh and the Borasambar zamindari. This was due to the rapid development of this zamindary. After the completion of the railway line from

198. L.S.S.O'Malley, BDG, Sambalpur, 1909, p. 120.
Raipur to Vizagapatam there was rapid extension of occupied areas in the zamindari estates. During twenty years, the area under rice increased by 24 per cent, sugarcane by 70 per cent, urid and mung by 22 per cent and wheat by 408 per cent. The development of irrigation in Sambalpur brought about a rapid extension of cultivation. During this period the irrigated area increased by 42 per cent.

From 1906 to 1936 the net cultivated area in Sambalpur increased from 1,037,384 acres to 1,156,125. The increase of the net cultivated area was 11.4 per cent whereas the total area had increased by 78.8 per cent by 1936. There was no appreciable extension of cultivation during this period. From 1937-38 to 1946-47 the net cultivated area of Sambalpur increased from 1,167,106 acres to 13,23,514 acres whereas the total area remained the same as in 1937-38, i.e., 34,37,218 acres. During these 10 years the net cultivated area increased to 15,6,408 acres which was 13.4 per cent of the acreage of 1937-38. On the other hand, the double-cropped area increased considerably. In 1937-38 the double-cropped area was 28,950 acres, but towards 1946-47 it was 69,883 acres, an increase of nearly 141.3 per cent.

204. Ibid.
ANGUL:

Angul was by far the smallest and the most lightly populated district in the province. Less than one-third of its total area was fit for cultivation and in the Khondamals sub-division the proportion was ever less. An increase of 5.7 and 12.9 per cent respectively in the population of this district were recorded in 1891 and 1901. A severe outbreak of cholera, also occurring in 1900, caused an enormous loss of life in this district. Between 1901 and 1911 the population dropped by 3.9 per cent. From 1911 to 1921 there was a further decrease in the population by 8.46 per cent.205 The decrease was due to emigration caused by the failure of the monsoon in 1918. The distress was felt more acutely in the Sadar sub-division than in the Khondmals, where the aboriginals managed to find some sustenance in the fruits and edible roots available in the jungles. Rice had to be imported from Cuttack and Sambalpur; loans and gratuitous relief were given on a generous scale. Meanwhile an epidemic of influenza caused much havoc throughout the district. On the whole, the decade from 1911 to 1921 was marked by a lack of prosperity. The period from 1921 to 1931 was however, healthy and prosperous. During

this decade population increased by 29.5 per cent. The population of Angul, as ascertained by the different censuses, is given below.\textsuperscript{206}

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881</td>
<td>160863</td>
</tr>
<tr>
<td>1891</td>
<td>170058</td>
</tr>
<tr>
<td>1901</td>
<td>191911</td>
</tr>
<tr>
<td>1911</td>
<td>199451</td>
</tr>
<tr>
<td>1921</td>
<td>182574</td>
</tr>
<tr>
<td>1931</td>
<td>223736</td>
</tr>
</tbody>
</table>

From 1885 to 1906, cultivation had extended rapidly in the Angul sub-division. In 1855 the cultivated area was 54109 acres,\textsuperscript{207} but towards 1891-92 it increased to 136,869 acres.\textsuperscript{208} During these 37 years cultivated area increased by 153 per cent. In 1901-02 the net cultivated area was 281,600 acres and the area cropped more than once was 18,700 acres whereas the total land was 1,075,840 acres.\textsuperscript{209} In 1905-06 the net cultivated area was 282,014 acres and the area available for cultivation, other than fallow, was 64,296 acres.\textsuperscript{210} Therefore there was ample room for the extension

\textsuperscript{206} W.G. Lacey, Op.Cit., p. 4.
\textsuperscript{207} L.S.S.O'Malley, Bengal District Gazetteers, Angul (Calcutta, 1908), p.97.
\textsuperscript{208} Ibid.
\textsuperscript{209} Angul District Gazetteers Statistics, 1901-02(Calcutta, 1905), p.6.
\textsuperscript{210} L.S.S.O'Malley, BDG, Angul, p.97.
of cultivation in Angul. But towards 1910-11 the net cultivated area decreased to 234,800 acres. On the whole from 1882 to 1911 the net cultivated area increased from 136,869 acres to 234,800 acres. During these 30 years, the net cultivated area increased by 78 per cent.

GANJAM:

The last part of the 19th century witnessed several famines which were a major obstacle towards the development of cultivation in Ganjam. In spite of this, however, from the beginning of the 20th century the population increased steadily. According to the census of 1901, the population of the district was 11,41,963. From 1911 to 1921 it rose to 12,28,465. There was a serious failure of crops in 1919 which led to the severe famine of that year. This was followed by an epidemic of terrible proportions which decimated 3.3 per cent of the population of the district. During the 10 years between 1921 and 1931 the population rose by 13.25 per cent and by 1941 it had risen again by 12.19 per cent and reached 15,60,669. Thus between 1901 and 1941 the population rose by 36.7 per cent.


district, the population at the 1921 census averaged 75 per square mile. Land was relatively plentiful. In spite of this the cultivators had often to be persuaded to settle down and cultivate one particular portion of land. It was only when this happened and the cultivator was up against the proposition of getting a living out of a given area of land, that the question of making the best use of such land arose. To solve this problem, Munro suggested, "I consider it useless for any member of the Agricultural Department to try to impart knowledge for which the cultivators have no desire and this really raises the question of the education of the hillmen or the immigration of good cultivators from other districts." 213

Orders were issued from England in 1799 that Lord cornawali's permanent settlement was to be adopted throughout the Madras presidency. A special Commissioner was appointed and between the years 1802 and 1804 the northern districts of Madras were permanently assessed under Regulation XXV of 1802. The assessment was fixed at 2/3rd to half of the gross produce, estimated at an average of the previous 13 years. The amount of assessment then fixed was

213. Bd. Proceedings, (OSA, Ac%No.2837G), November 22, 1876, Ganjam District Records.
unalterable, no increase ever being leviable on account of extension of cultivation to waste land, the disposal of which was left entirely in the hands of the zamindars. In 1808 the Company objected that the Government was losing land revenue because of the permanent settlement. Then the principles of permanent settlement were called into serious question and were considered to be detrimental to the prosperity of the country and the happiness of the people. The Court of Directors prohibited further extension of permanent settlement to any other part of Madras. Therefore the system of village settlement was introduced and finally in 1812 the Court of Directors ordered that in all the areas that had not come under the permanent settlement, the ryotwari system should be introduced. The rules which were framed at the beginning of each ryotwari settlement were terminated at the end of the operations.

However, during the 19th century the land revenue system of Ganjam district was flexible because neither the landlords nor the peasants had any faith in the British Government. This created a lot of problems for the extension of cultivation in Ganjam. The Statistical Atlas of

Ganjam, 1913, showed that the net cultivated area was 2,027,691 acres and the area cropped more than once was 337,001 acres. 216 Paddy comprised 1,213,099 acres which was 51.3 per cent of the total cropped area of 23,64,692 acres. But towards 1923 the net cropped area decreased to 1,415,650 acres and the double-cropped area also decreased to 281,046, acres. 217 During these 10 years i.e., from 1913 to 1923, the net cultivated area decreased by 30.2 per cent. In 1923 paddy land decreased by 12.2 per cent from what it had been in 1913.

In 1936-37 the net cultivated area was 1,119,138 acres and the double-cropped area was 122,208 acres. 218 In comparison with 1923 the net cultivated area had decreased by 21 per cent. In 1939-40, out of the total area of 4,925,490 acres, the net cultivated area was 10,15,212 acres. 219 But towards 1940-41 the net cultivated area declined to 988,804 acres. During this year the Kushikulya flood in August affected the paddy crop. Later on the October and November crops on dry and rainfed lands were seriously affected by a deficient rainfall. Natural calamities thus constituted the major hindrance for the

extension of cultivation. Climate and rainfall kept on being unfavourable right up to 1946-47 for the extension of cultivation. In 1946-47 the net cultivated area was 919,199 acres which was still lower than such area of 1940-41. On the other hand the double-cropped area increased from 134,885 acres to 228,445 acres which was 69.4 per cent more than in the previous years. There was thus nothing to remark about the development of agriculture in Ganjam.

KORAPUT

The history of Koraput has chiefly been the history of primitive tribes. For long ages Koraput remained under the control of autocratic kings. On the 10th July 1855, the Government authorised its Agent to assume "the control, both police and revenue" of Koraput. But the then Governor-General, Lord Dalhousie, objected to such a step on the ground that it would involve the British Government in a protracted jungle war such as that of Ghumusur. So the order of 1855 was withdrawn. At last, in January 1863, the British government assumed direct administration of the areas held under the Maharaja of Jaypore.

The district of Koraput was an unsurveyed tract when it formed a part of the newly created province of Orissa on the 1st April 1936. The aboriginals followed a system of shifting cultivation. So it was well high impossible to find out an exact area of cultivation. As far as it could be ascertained, out of a total area of 63,92,580 acres, the total cultivated area in 1936-37 was 14,12147 acres which was 27.1 per cent of the total area.\textsuperscript{222} The double-cropped area was a mere 2,694 acres. There was no change worth mentioning in the cultivated areas in the two following years. Towards 1938-39 there was an increase of only 6808 acres and the double-cropped area remained the same as before. The cultivated area decreased in 1940-41 by 4,225 acres. Towards 1946-47 the net cultivated area was 14,19,370 acres\textsuperscript{223} while the double-cropped area remained the same as in 1936. From 1936 to 1947 there was an increase of only 0.78 per cent in the net cultivated area of the district.

\section*{EXTENSION OF CULTIVATION IN ORISSA 1900-1936 :}

The orissa division of the presidency of Bengal comprised in 1900 the districts of Cuttack, Puri, Balasore Angul and Sambalpur. The British authorities took several

\textsuperscript{222} \textit{Seasons and Crops Report of Orissa, 1936-37, p.7.}  
\textsuperscript{223} \textit{RADO, 1946-47, p. 167.}
steps for the development of this region under their direct administration. The early years of the 20th century witnessed a remarkable development in the field of agriculture. With the opening of navigable canals* and railways the price of various agricultural products increased. Therefore, the peasants concentrated more on agriculture they had done before. Apart from these the canals and their embankments saved the crops from droughts and floods. No longer were the crops so severely affected by natural calamities, as they had been before. There was a remarkable extension of cultivation as more and more available land was brought under the plough. The process was hastened by a growth of the population. The following table seeks to give a picture of the decadal growth of population in Orissa.224

<table>
<thead>
<tr>
<th>Year</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1881</td>
<td>4,343,964</td>
</tr>
<tr>
<td>1891</td>
<td>4,666,227</td>
</tr>
<tr>
<td>1901</td>
<td>4,982,142</td>
</tr>
<tr>
<td>1911</td>
<td>5,131,753</td>
</tr>
<tr>
<td>1921</td>
<td>4,968,873</td>
</tr>
<tr>
<td>1931</td>
<td>5,306,142</td>
</tr>
</tbody>
</table>

* See Map in Appendix - E.
Between 1901 and 1911 the population of the Orissa division increased by 3 per cent. On the other hand there was a considerable extension of cultivation. In 1901-02 the total cultivated area was 35,94,983. But towards 1914-15 the total cultivated area increased to 45,43,100 acres. Of this cultivated area rice occupied 79 per cent in 1914-15. The cultivated area increased by 26.38 per cent during fifteen years. But it decreased gradually after 1914-15 and in 1920-21 reached 42,44,350 acres. Owing to unfavourable conditions Cuttack, Puri, Balasore, and Angul suffered considerable. On account of the high prices of food grains, cloth, salt, kerosene oil and other essential commodities, the condition of the agricultural classes went down from bed to worse. A severe flood in August 1919 caused great damage to crops in large tracts under Gope, Kakatpur, Nimapara and Balipatna police stations in Puri. The area under fibre-crops also decreased after 1914-15. In 1914-15 the total area of fibres was 42,200 acres, but towards 1919-20 it decreased to 37,900 acres. To escape from the hardships that they had to suffer at home, many people of the agricultural classes migrated to Calcutta, Tatanagar and Rangoon. There was a decrease in the area of cultivation towards 1920-21.

* For details, see Appendix - C.
Towards 1922-23 agricultural labour was becoming scarce owing to the high wages paid by the industries of Jamsedpur, Calcutta and Rangoon. Further, due to the epidemics of small pox and malaria in 1925 the condition of the people engaged in agriculture deteriorated. As a result the worst land was already going out of cultivation.\footnote{229} However in 1925-26 the cultivated area was 39,54,900 acres which was nearly 45 per cent of the total area of the Orissa division. During the 12 years from 1914-15 to 1925-26, more than 12 per cent of the net cultivated area went out of cultivation. But towards 1935-36 cultivation increased slightly to 42,51,400 acres which was 48.26 per cent of the total area of 8808,960 acres.\footnote{230} Paddy was the major crop grown in Orissa. In 1914-15 it comprised 84 per cent of the net cultivated area. But towards 1935-36 the cultivation of paddy increased and it occupied 94 per cent of the net cultivated area. Sesamum and pulses took the second and the third position respectively after paddy. Barley was cultivated only in certain parts of Cuttack. The area under barley was a mere 200 acres in 1914-15 which did not go up till 1935-36.\footnote{231} Jower, too, was

\footnote{229. W.G.Lacey, Op.Cit., p. 60.}
\footnote{230. Season and Crops Report, Bihar and Orissa, 1931-32, p.8.}
\footnote{231. Season and Crops Report of Bihar and Orissa, 1914-15, Appendix-1.}
cultivated only in Sambalpur. The area under jower was 800 acres in 1914-15 and increased to 1,000 acres towards 1935-36. Only 100 acres of Bajra were cultivated in Angul in 1929-30. Groundnut was cultivated only in Sambalpur in 1927-28. It was cultivated over only 10 acres to begin with, but towards 1935-36 the cultivation increased to 1,500 acres. In 1935-36 groundnut was cultivated over 500 acres in Angul & 1000 acres in Sambalpur.

On the whole, out of a total area of 7,981,917 acres the net cultivated area was 3,396,481 acres in 1901-02. But towards 1935-36, out of the total area of 8,808,960 acres, the net cultivated area was 3,819,000 acres in the Orissa division.* During 36 years the net cultivated area had increased only by 12.4 per cent.

EXTENSION OF CULTIVATION IN ORISSA, 1936 – 47

The separate province of Orissa which was created on 1st April 1936 included Ganjam and Koraput. The total area of Orissa (Cuttack, Puri, Balasore, Sambalpur, Ganjam and Koraput) was 20,605,973 acres in 1936. Out of this, the net cultivated area was 64,86,300 acres. It was only 31.4 per

234. Ibid., 1936-37, pp. VI to VIII.
* For detail see, Appendix - C.
cent of the total area. Out of the net cultivated area, paddy occupied 51,50,712 acres which was 79.4 per cent of this net cultivated area in 1936. In 1936 the total yield of autumn as well as winter paddy was estimated at 16,44,081 tons.\textsuperscript{236} From 1939-40 to 1943-44, the acres under the cultivation of paddy decreased. It increased somewhat from 1944-45 to 1946-47 but the outturn of rice went down. The following table seeks to give a clear picture of the area under paddy and the outturn of rice.\textsuperscript{237}

\begin{center}
\begin{tabular}{|c|c|c|}
\hline
Year & Area of the cultivation of paddy in acres. & Total outturn of rice in tons. \\
\hline
1936-37 & 51,50,712 & 16,44,081 \\
1937-38 & 51,48,734 & 16,24,936 \\
1938-39 & 51,47,885 & 13,99,167 \\
1939-40 & 50,82,875 & 13,88,779 \\
1940-41 & 50,69,854 & 13,23,009 \\
1943-44 & 50,79,695 & 13,66,097 \\
1944-45 & 51,73,119 & 13,54,647 \\
1945-46 & 52,07,592 & 13,19,606 \\
1946-47 & 54,03,551 & 14,42,906 \\
\hline
\end{tabular}
\end{center}

\textsuperscript{236} RADO, 1936-37, p.3.
\textsuperscript{237} RADO, 1936-37 to 1946-47; Seasons and Crops Report of Orissa, 1936-37 to 1946-47.
Jute was mainly grown in the Cuttack and Balasore districts. Apart from this very little area was under the cultivation of jute in the Puri and Ganjam districts. In 1936 there were 13,500 acres under the cultivation of jute. Out of these 12,600 acres were in the Cuttack district. The area under jute gradually increased till 1940-41 when there were 30,583 acres under jute of which 26,200 acres lay in Cuttack alone. From 1941-42 the area under jute gradually decreased till 1945-46. In 1945-46 on area of 20,109 acres was under jute and it increased to 23,955 acres in 1947. The following table shows the total cultivated area of jute and its outturn in Orissa.

<table>
<thead>
<tr>
<th>Year</th>
<th>Area of the cultivation of Jute in acres</th>
<th>Total outturn in bales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1936-37</td>
<td>13,500</td>
<td>28,800</td>
</tr>
<tr>
<td>1937-38</td>
<td>15,610</td>
<td>32,900</td>
</tr>
<tr>
<td>1938-39</td>
<td>24,932</td>
<td>57,700</td>
</tr>
<tr>
<td>1939-40</td>
<td>22,454</td>
<td>47,305</td>
</tr>
<tr>
<td>1940-41</td>
<td>30,583</td>
<td>62,100</td>
</tr>
<tr>
<td>1942-43</td>
<td>Not available</td>
<td>55,973</td>
</tr>
<tr>
<td>1943-44</td>
<td>25,230</td>
<td>66,447</td>
</tr>
<tr>
<td>1944-45</td>
<td>23,905</td>
<td>50,209</td>
</tr>
<tr>
<td>1945-46</td>
<td>20,109</td>
<td>42,844</td>
</tr>
<tr>
<td>1946-47</td>
<td>23,955</td>
<td>57,921</td>
</tr>
</tbody>
</table>

In the cultivation of sugarcane, Koraput dominated the other districts of Orissa. In 1936 sugarcane was cultivated in 31,385 acres of which 10,215 acres were in Koraput. In 1937-38 the area under sugarcane increased to 34,834 acres. But the area decreased in 1938-40 because of unfavourable conditions. The area increased thereafter and kept on increasing till 1945-46. The following table gives on account of the area under sugarcane and the outturn of gur.239

### TABLE - III

<table>
<thead>
<tr>
<th>Year</th>
<th>Area under sugarcane in acres.</th>
<th>Total outturn of gur in tons.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1936-37</td>
<td>31,385</td>
<td>50,951</td>
</tr>
<tr>
<td>1937-38</td>
<td>34,834</td>
<td>63,298</td>
</tr>
<tr>
<td>1938-39</td>
<td>32,020</td>
<td>61,562</td>
</tr>
<tr>
<td>1939-40</td>
<td>32,702</td>
<td>63,980</td>
</tr>
<tr>
<td>1940-41</td>
<td>35,319</td>
<td>68,047</td>
</tr>
<tr>
<td>1942-43</td>
<td>-</td>
<td>63,918</td>
</tr>
<tr>
<td>1943-44</td>
<td>34,624</td>
<td>70,043</td>
</tr>
<tr>
<td>1944-45</td>
<td>36,101</td>
<td>67,640</td>
</tr>
<tr>
<td>1945-46</td>
<td>35,171</td>
<td>68,261</td>
</tr>
<tr>
<td>1946-47</td>
<td>31,423</td>
<td>61,082</td>
</tr>
</tbody>
</table>

Groundnut was cultivated chiefly in the districts of Ganjam, Koraput and Sambalpur. In 1936 the total area under groundnut was 11,984 acres, of which 8,916 acres were in Ganjam alone. Towards 1938-39 Cuttack took the second position in the production of groundnut. The cultivation of groundnut gradually increased till 1940-41.

Coffee was cultivated only in Koraput. In 1936 the area under coffee was 61 acres, but towards 1946-47 it increased to 135 acres, all in Koraput. Koraput also took the first position in the cultivation of oilseeds. In 1936 the total area under oilseeds was 309,592 acres, of which 118,658 acres were in the Koraput district. It was 38.3 per cent of the total area and oil seeds in Orissa. In 1937-38 the net cultivated area however, decreased. But in 1938-39 it again increased to 65,07,729 acres. From 1938-39 to 1946-47 there was no remarkable change in the net area under cultivation, except in the years 1944-45 and 1946-47. In 1944-45 the net cultivated area reached 68,31,179 acres, higher than during the ten previous years. As a whole, during the ten years from 1936-37 to 1946-47, the net cultivated area increased only by 0.44 per cent. On the

other hand, the double-cropped area gradually increased from 1936-37 to 1946-47. In 1936 it was 551,548 acres which was 8.5 per cent of net cultivated area. But towards 1946-47 the double-cropped area was 10,47,456 acres which was 16 per cent of the net cultivated area. It was a good sign of the improvement of cultivation.

RECLAMATION:

In order to remove the shortage of food stuffs, it was necessary to bring more land under cultivation of food crops, specially kharif crops. In the beginning of the year 1937-38, there were 53,08,003 acres of uncluivated land including current fallows in the province. At the close of 1938-39, the area of these lands was 47,85,005 acres. Out of this area that had been brought under cultivation, 1343 acres were reclaimed in 1937-38 and 52,2,998 acres in 1938-39. It was found in 1939-40 that these were still 48,57,992 acres of waste land. The net cultivated area had gone down by 73,153 acres that year because of floods and the resultant famine. So there was no question of the reclamation of any waste land. Further, in

* For detail see, Appendix - C.
the beginning of 1943-44, there were 4,654,286 acres of uncultivated land including current fallow in the province as against 47,57,185 acres in the beginning of the previous year. At the end of the year 1944-45, the area of uncultivated land and current fallows in the province was 45,82,135 acres. Most of these lands consisted of semi-jungles and Anabadi (Old fallows) areas or rocky places. Owing to lack of irrigation, these lands could not produce paddy. The area could not hold enough rain water because it was exceedingly shallow and had un-consolidated ridges. During 1944-45, it was intended by the Government to reclaim 1,00,000 acres of fallow or culturable waste lands. It was proposed to give financial assistance for the reclamation of 33,000 acres. The other 67,000 acres were proposed to be reclaimed by persuading the farmers to take up the task on their own. With such an object in view, a sum of Rs.6,60,000 were sanctioned in 1944-45 as taccavi loans at Rs.20/- per acre with a subsidy of 10 per cent.\textsuperscript{245} Only those farmer who reclaimed the land within twelve months of the receipt of loans and grew food crops on such land were entitled to the subsidy.\textsuperscript{246} The loan was free of interest for the first year and thereafter interest was payable at

\textsuperscript{245} RADO, 1944-45, p. 77.

\textsuperscript{246} Ibid.
Rs.3 1/2 per cent per annum. A loan of Rs.18/- and a partial subsidy of Rs.2/- for the reclamation of an acre of land was not attractive to the cultivators who had to cut down and remove trees and shrubs, level the land and remove the roots, all of which involved considerable outlay. In view of these difficulties, the Government raised, in the last part of 1945, the rate of loans for the reclamation of waste lands from Rs.20/- to Rs.100/- per acre with 20 per cent subsidy.247 Within a very short time thereafter, large areas were reclaimed. In 1944-45, 72,151 acres of fallow land were actually reclaimed through the Grow More Food efforts, both by financial assistance and propaganda, against the target of 100,000 acres. A sum of Rs.6,53,775/- was advanced as loan and subsidy against the allotment of Rs.6,60,000/- The following table gives the targets fixed, the area actually reclaimed and the amount advanced in each district.248

<table>
<thead>
<tr>
<th>Districts</th>
<th>Area allotted for reclamation through financial assistance and propaganda</th>
<th>Area actually reclaimed</th>
<th>Amount allotted through financial assistance and propaganda</th>
<th>Amount actually spent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cuttack</td>
<td>23,500</td>
<td>24,427</td>
<td>Rs.1,50,000/-</td>
<td>Rs.1,48,921/-</td>
</tr>
<tr>
<td>Puri</td>
<td>6,000</td>
<td>3,415</td>
<td>Rs. 40,000/-</td>
<td>Rs. 40,000/-</td>
</tr>
<tr>
<td>Balasore</td>
<td>7,500</td>
<td>9,934</td>
<td>Rs. 50,000/-</td>
<td>Rs. 44,712/-</td>
</tr>
<tr>
<td>Sambalpur</td>
<td>30,000</td>
<td>14,693</td>
<td>Rs.1,91,510/-</td>
<td>Rs.1,91,510/-</td>
</tr>
<tr>
<td>Ganjam</td>
<td>30,000</td>
<td>10,145</td>
<td>Rs.1,78,410/-</td>
<td>Rs.1,74,116/-</td>
</tr>
<tr>
<td>Koraput</td>
<td>3,000</td>
<td>9,537</td>
<td>Rs. 50,080/-</td>
<td>Rs. 54,516/-</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,00,000</strong></td>
<td><strong>72,151</strong></td>
<td><strong>Rs.6,60,000/-</strong></td>
<td><strong>Rs.6,53,775/-</strong></td>
</tr>
</tbody>
</table>

247. RADO, 1945-46, p.70.
248. RADO, 1944-45, p.78.
The efforts at reclamation were gradually increased. In 1945-46, 107,888 acres of land were reclaimed. In 1946-47 the target was 10,000 acres for reclamation for which a sum of Rs.10,00,000 was sanctioned to be paid to farmers as taccavi loans. Out of this amount a sum of Rs.995,719 was actually loaned out, a major portion of it being actually disbursed during the last quarter of 1946-47. As such, land for which loans had been granted could not actually be reclaimed and the target was not reached. The total area reclaimed in 1946-47 was 10,961 acres in which were included areas that had actually been reclaimed during 1945-46.

EXTENSION OF CULTIVATION IN THE TRIBUTARY STATES OF ORISSA.

ATHAGARH:

The first settlement of the Athagarh State was conducted by Babu Ram Prasad Rai, the then Deputy Collector in 1944. In this settlement only cultivated land was measured. Neither the records nor the figures of this settlement were forthcoming. The second settlement was conducted in 1861 by Babu Harekrishna Das, the then Assistant Superintendent. In this settlement the area of the state was worked out at 131,489 acres, of which 21,780

249. RADO, 1945-46, p.5.
acres were cultivated and 109,709 acre were uncultivated. The next settlement was conducted by Gunanidhi Das in 1307 Amli corresponding to the year 1900. In this settlement, the total area of the state was worked out at 108,623 acres of which 30,861 acres were cultivated and 77,762 acres were uncultivated. In 1861 the cultivated area was 16.5 per cent of the total area whereas in 1900 it was 28.4 per cent. A systematic survey was conducted in 1901-02 in which the total cultivated land was found to be 31,292 acres including 2,171 acres of double-cropped land. It was 29.1 per cent of the total area. Of this total cultivated land paddy occupied 24,519 acres which was 78.3 per cent. But towards 1923 the cultivated land increased to 34,108 acres which was 31.7 per cent of the total land. During 24 years cultivated land increased only by 9 per cent. Cereals and pulses were the other major crops of Athagarh.

In 1901-02 the total area of Athmallik was found to be 467,200 acres. Of this 84,200 acres were cultivated land and 13,000 acres were culturable waste land. But towards 1914 the cultivated area was found to be 93,554 acres. During the 15 years cultivated land had increased by 9,354 acres which was 11 per cent of the cultivated land of 1901-02. Towards 1927 the total cultivated area was 98,910 acres which was an increase of 5,356 acres over 1914. According to topographical survey the total area of Athmallik was 455,040 acres. Of this 47360 acres were culturable fallow lands, 48 per cent of the total cultivable land of the State. The pressure of population led to an extension of cultivated land. In the census of 1921 the population was found to be 39,754 but in the census of 1931 it was 64,276. The average cultivated area per head was 1.54 acres which was in-sufficient. This led to a considerable extension of cultivation. Paddy was the staple crop of the state and occupied 49.46 per cent of the cultivated land. Kulthi and Arhar occupied the second and the third place respectively.

255. Feudatory States Gazetteers, p. 115.
In Bonai the first settlement was carried out in 1879 by Mr. Hewitt, but this was a Padika settlement. Another settlement was carried out in 1913 by Mr. Kelly. According to the topographical survey of 1861 the total area of Bonai was 1296 square miles or 829,440 acres. Of this area, cultivated and homestead lands made up 130 square miles or 83,200 acres. A further 104 square kms. or 41,600 acres were under wet rice cultivation. Towards 1912 the total cultivated land was 120 square miles or 76,800 acres made up of 41,782 acres paddy lands and 130 acres of sugarcane land. During fifty years from 1861 to 1912 paddy land increased by only 182 acres. There was thus very little extension of cultivation. The recorded population increased from 32,120 in 1891 to 38,278 in 1901 and to 58,335 in 1911. During these twenty years population increased by 80 per cent. Out of the total population of 58,335 in 1911, the agricultural population was 38,613 which was 66.2 per cent of the total. There was thus a growing pressure of population leading to a need for an extension of cultivation.

258. Feudatory States Gazetteers, p. 144;
In 1901-02 the total area of Daspalla was 363,520 acres of which the net cultivated area was 37,359 acres and the double-cropped area 3,150 acres. The total cropped area was 11.1 per cent of the total area. But the culturable waste land was 42,219 acres which was 11.6 per cent of the total area. There was thus ample room for an increase in the cultivated area. Thus there was no pressure of population on the land and no need for any reclamation.

Towards 1921 the cultivated land was 93 square miles or 59,520 acres whereas the culturable fallow was 70 square miles or 44,800 acres. The cultivated land was 16.4 per cent of the total land whereas the culturable fallow land was 12.34 per cent of the total. C.L. Phillip, the then Political Agent and Commissioner, Orissa Feudatory States, ordered that the abandoned and fallow lands should be cultivated by people free of rent for 5 years. This brought in people from outside the state who wanted to avail themselves of the benefit promised by the political Agent. This resulted in the reclamation of large tracts of fallow land. There was also an increase in the double cropped land, which was no doubt, a healthy sign. N.F. Peek and A.J. Mainwaring, the Assistant Political Agents, noticed with satisfaction during their tours that there was a steady increase of double cropping in the state.

HINDOL:

The first settlement in Hindol was carried out in 1865. In this settlement there was no regular measurement of land. A panchayat was appointed for each village and it was directed to ascertain on the spot and declare on solemn oath and by guesswork the produce of the land held by each ryot. This settlement was known as the Najarkul settlement. The total assessable area of the State was 8,217 acres and the land revenue assessed was Rs.19,077/- at the rate of 2 rupees 5 annas per acre. This settlement was confirmed by the then Superintendent of Tributary Mahals Mr. Ravenshaw, for a period of 5 years. In 1884 the assessed area increased to 31,217 acres and the revenue assessed was Rs.37,355/-. For the first time land was measured and regular papers were prepared. In the settlement of 1901, the assessed land increased to 48,158 acres and the revenue to Rs.55,931/-. However, the total cultivated area was 56,374 acres in 1901 including 6,215 acres of double cropped land. Paddy was grown over 23,852 acres or 42.3 per cent of the total area. After paddy, gram and pulses were the major crops grown in Hindol. Towards 1906 the State came under Government management. A systematic settlement was conducted during

this time. In 1910 the total land was 218,880 acres, of which cultivated land was 58,880 acres. This was 26.9 per cent of the total area. During the ten years from 1901 to 1910, the cultivated area increased by only 4.4 per cent.

KEONJHAR:

Various settlements were carried out in Keonjhar during the 19th century. The first settlement was carried out by Bebarta Chintamani Mohapatra in 1803. The second settlement was conducted by the bebarta of Maharaja Gangadhar Narayan Bhanja in 1858 and the third one by Captain Johanstone in 1867. All these settlements were meant for an increase in rent. But the fourth settlement, commenced in 1898 by Bichitrannanda Das, was important. In this settlement all the land was properly measured. According to this settlement the total cultivated area including orchards was 22,1,453 acres of which 142,451 acres were in upper Keonjhar and 79,002 acres in lower Keonjhar. Owing to enormous extension of cultivation in upper Keonjhar, the cultivated area which was 142,451 acres in 1900 was more than double of what doubled it had been.

earlier. But lower Keonjhar recorded very little increase in cultivation. The cultivated area of 1900 was 352,602 mans or 142,451 acres against 1,39,524 mans or 56,368 acres recorded in the State bhians. The increase was 12.1 per cent. Towards 1901-02 the total cultivated area was 249,600 acres, of which 21,498 acres were double-cropped. The total area of Keonjhar State was 1,981,440 acres, of which 157,534 acres were culturable waste. So there was great room for extension of cultivation in future. Towards 1914-15 the cultivated land was 473,154 acres. The cultivated area thus showed an increase of 89.5 per cent over that of 1901-02.

NARSINGHPUR:

The Narsingpur State had three regular settlements. The first settlement commenced in 1885 and was completed in 1888. The second one was held between 1895 and 1899. The third one commenced in 1914 and went on up to 1919. In 1885 the occupied land was 27,304 acres of which 21,728 acres were assessed at Rs.41,772/-. But there were protests against such a high assessment so that it was reduced to Rs.30,000/-. Towards 1899, the occupied land increased to

33,900 acres and the assessed land to 32,980 acres. The revenue collected was Rs.42,575/- The assessed area was 50.2 per cent more then what it had been in the previous settlement. But towards 1919 the assessed area came down to 32,674 acres although the rent was increased to Rs.72,286/-.

The floods of the river Mahanadi deposited sand on the fertile land on the left bank of the river, so that the land became unfit for cultivation. Yet the amount of the total revenue went up because of a change in the method of assessment. In the settlement of 1899, rent had been fixed according to the crop grown on the land. But in the settlement of 1919, land was assessed according to the soil and the number of crops grown on it in a year.

NILGIRI

In Nilgiri the first settlement began in 1849 on the request of the ruling chief, Krushna Chandra Murdaraj Harichandana, and was completed in 1853. According to this settlement the assessed area was 12,255 acres with a gross rental of Rs.16,756/-. Then in 1887 the Government appointed Babu Durga Das Mukherjee to conduct another settlement. He was succeeded by W.B. Ricketts in 1891. Owing to the death of

Mr. Ricketts at the end of 1894 Ring took over charge of the settlement in January 1895 and completed it in 1897. According to this settlement the assessed area of Nilgiri was 26,169 acres with a gross rental of Rs. 54,198.268 During the 45 years (1853-1897) the assessed area had more than doubled. In 1897 the cultivated and occupied area was 55,214 acres. The third settlement was started in 1922. According to this settlement the total area was 181,760 acres of which 60,852 acres were cultivated.269 It was 5638 acres more than what had been previously recorded. Paddy was the prime crop grown in Nilgiri. Of the total cultivated land, paddy occupied 52,461 acres on 86.4 per cent. Pulses and sugarcane were the other major crops grown in the state. The estimated outturn of paddy was 747,180 maunds for a total population of 65239 according to the census of 1921. The average annual consumption per head was about 10 maunds so that the total consumption was about 652390 maunds. This left a balance of 94790 maunds for export.270

270. Ibid., p. 19.
The first settlement in the state of Patna was completed in 1896, covering only the Khalsa areas. The second settlement took place in 1903, but all estates were not surveyed. The settlement of 1919, however, was quite thorough. According to this settlement, the total occupied area was 815,963 acres. Towards 1937 the occupied area was 913,206 acres, an increase of 12 per cent over 19 years. Of this, the total cultivated area was 9,00,063 acres including the double-cropped area of 10,962 acres. Paddy, til, kulthi, kudo and gurji, pulses, sugarcane, castor and tobacco were the major crops grown. Paddy occupied 391,332 acres which was 43 per cent of the total cropped area.

In Patna, several steps were taken to encourage the extension of cultivation. Rajendra Narayan Singh Deo, the Raja of Patna, established a Department of Agriculture and agricultural farms in order to give an impetus to the development of agriculture. Before 1833 no tenant had any right to transfer his land by sale or gift. Consequently land was never looked upon as a valuable property and nobody ever cared to improve his land. This was why cultivation was still in the most primitive stage. Revenue laws of the state

were subsequently changed, authorising transfer of ryoti land by sale or gift. This generated an interest among the people to extend cultivation. Before Rajendra Narayan Singh Deo, the ruler of the state, had discouraged the reclamation of cultivable waste land instead of encouraging it. Farmers who tried to reclaim such land were called trespassers and were subjected to heavy fines. But now the system was changed and there was considerable reclamation of waste land.

The authorities of the state of Patna passed the following in 1937 for the reclamation of culturable waste lands.

(a) All lands recorded as culturable fallow in the Settlement Records could be reclaimed by ryots with the permission of the Ticcadar.

(b) If the Ticcadar did not object to the reclamation of any culturable waste land by any ryot within two years of such reclamation, it was to be presumed that the reclamation was made with the permission of the Ticcadar.

273. Ibid., p.XIII, Appendix - I.
(c) All persons who reclaimed culturable waste lands were required to pay to the Ticcadar rent for the land reclaimed at half the rates prevailing for such land in the village for the period of the current settlement, provided that no rent was to be paid for the period actually spent in the reclamation and for three years after it. No portion of the rents realised by the Ticcadar in respect of newly reclaimed lands was required to be paid to the State.

(d) No person reclaiming any culturable waste lands should be ejected from the same except on evidence being adduced by the Ticcadar in a suit brought by him within two years of such reclamation that the person so reclaiming was undesirable for being a ryot of the village, nor was any person liable to any other punishment for reclaiming such lands.

(e) The Ticcadar was not to charge any fee or Nazar for according his permission to the reclamation of any waste land.

(f) The Ticcadar must obtain the previous sanction of the State authority in Khalsa villages and of the Zamindars and Khorakposhadars in villages under them, if he himself wanted to reclaim any waste land or wanted to give
permission to any of his relatives, and the prayer for such sanction should ordinarily be granted unless on enquiry it was found that reclamation of the lands had already been commenced by some other person or that reclamation by the Ticcadar or his relatives would adversely affect the interest of other ryots.

RANPUR:

Though there were two settlements in Ranpur in 1877 and 1880-81 they were not based on a proper survey and measurement. Another settlement was taken up in 1896. It was completed in 1899 and was given effect to from 1900. The total area of the state was found to be 130,969 acres of which the total cultivated area was 33,871 acres including a double-cropped area of 3,058 acres.274 There was still another settlement in 1943-44. According to this settlement, the total cultivated area was 49,279 acres including 5,626 acres of double-cropped land.275 Within 45 years the total cultivated area had increased by 45 per cent.

RAIRAKHOL:

The total area of cultivated and occupied land in the State including Mafi villages was 55,581.78 acres in 1932 against 44,120 acres found in the previous settlement of 1918. Thus during 15 years the increase was 11,461.78 acres. The increase in population during the decade 1921-31 was 14 per cent while the increase in cultivated area during the period from 1918 to 1932 was 25.9 per cent. So there was no pressure of population to induce the farmers to extend cultivation. The Political Agent and Commissioner ordered in 1928-29 that facilities were to be given to ryots to reclaim Khesra jungles. Those who reclaimed such land were exempted from rent for five years. This order came into effect from 1932. The result was very satisfactory. People come from different parts to obtain lease of culturable Khesra jungles. The result was that 1,700 acres of Khesra and 960 acres of reserved areas were leased out during two years of the 1932 settlement. Paddy was the major crop of the state which occupied 50 per cent of the total cultivated land. After paddy, pulses were cultivated over vast areas.


277. Political Agent and Commissioner of Orissa No.4301-G, July 1, 1930.

The first settlement in Sonpur was carried on in 1893 under the superintendence of Trimbuk Rao Sathe. In this settlement only cultivated land was measured, but the measurement was not quite accurate, so that it was not known exactly how much land was being cultivated. The second settlement commenced in 1910. According to this settlement the cultivated land was 260,193 acres. The third settlement started in 1925. This settlement showed the cultivated land to be 339,612 acres, increased by \( \frac{30.5}{100} \) during the fifteen years after the previous settlement. The fourth settlement started in 1937 and remained in force till 1950. In this settlement the total area of the state was found to be 61,50,40 acres. According to the 1931 Census the total population of the state was 237,920.\(^{279}\) Thus, the extension of cultivation did not keep pace with the growth of population. In 1937 the cultivated area was 347,041 acres,\(^{280}\) an increase of 7,428 acres. Only 7,428 acres had been added over the 12 previous years. The growth rate was only 2.2 per cent of the cultivated area of 1925.


\(^{280}\) Sonpur Statera Land Revenue Assessmentra Sesha Report, 1938 (In Orissa, (Cuttack, 1966), p.8.)
In 1901-02 the total cultivated area of Talcher was 41,978 acres, out of a total area of 255,360 acres. Paddy occupied an area of 26,855 acres which was 63.97 per cent of the total cultivated area. But towards 1911-12 the cultivated area increased and reached 71,144 acres which was 27.88 per cent of the total area of the state against 16.4 in 1901-02. In 1928-29 the cultivated area increased to 79,300 acres which was 31 per cent of the total area. Thus in the beginning of the 20th century the cultivated area was 41,978 acres, but towards 1928-29 it reached 79,300 acres. During these 30 years cultivated land increased by 37,322 acres. But the extension of cultivation was not satisfactory when composed with the growth of population. The total cultivating population was 39,650 in 1928-29. About three fourths of the total area of 79,300 acres was assigned to cultivating classes. Such land totalled 59,475 acres, which came to nearly 1.5 acres per head. Rice was the major product of Talcher and it occupied 56.17 per cent of the total cultivated land. The aboriginal

agricultural classes were very inferior to other such classes. They were far away from modern methods of cultivation and cultivated inferior crops on traditional and wasteful lines.

TIGIRIA:

The first settlement of the state was carried out in 1854. In that settlement land was measured only with a pole known locally as a padika. Land was assessed for rent according to the value of the crops grown on them. There was an amicable settlement in 1876 which lasted till 1880. Nayabadi land was assessed in 1887. The need for a thorough settlement was felt in the first years of the twentieth century and a proposal for this was approved by the Political Agent of the Feudatory States in 1910. In 1886 the total area was 21079.5 acres. Out this, only 10,322.5 manas or 4170 acres were assessed. But in the 1911 settlement the total area reached 29,150.5 acres. Out of this the assessed area was 15106 mans or 6103 acres. There was an increase of 4784 mans or 1961 acres during the intervening 25 years, which was 46.3 per cent of the area of 1886.


286. Government of Orissa, Completion Report of Survey, of the Tigiria Feudatory State, 1913 (Cuttack, ), Appendix- D.
KHANDAPARA:

There were no records to show how rents had been fixed prior to 1849. In those days ruling chiefs generally fixed the rents on the capacity of the land. In 1849 the State was under the Court of Wards and a settlement was carried out under the supervision of Rai Bahadur Ram Prasad Rai, the Deputy Collector, deputed by the Government for the management of the state. The cultivated and occupied area was 51,384 acres in 1910. But towards 1931 it increased to 64,460 acres. During these 22 years the area had increased by 13,075 acres or 25 per cent. Out of this, the total cultivated land of 1931 was 68,694 acres including a double-croed area of 6852 acres.

NAYAGARH:

In 1890 the total cultivated area of Nayagarh was 97,428 acres. But towards 1906 the cultivated area increased to 12,3,402 acres. During 15 years the cultivated area had increased by 26.7 per cent while the population had increased by 19 per cent. Thus, extension of cultivation had more than kept pace with the increase in population.

289. Ibid.
Paddy occupied 68 per cent of the total cultivated land. Further in 1918, the cultivated area was 1,33,764 acres. During the course of these 12 years the cultivated area had increased by 8.4 per cent. On the other hand the population had increased only by 7 per cent from 1901 to 1911 and then it had gone down by 5 per cent during the next decade, 1911-21. Owing to unfavourable conditions a large number of cultivators and labourers during 1911-21 migrated to Burma and elsewhere. Therefore there was no increase in the extent of cultivation in Nayaparh state.

During the first half of the 19th century cultivation was impeded by several factors. Natural calamities like floods droughts and cyclones were some of the primary factors which hindered cultivation and improvement of agriculture. Secondly, during the early period of their rule, the British were intent solely on the collection of revenue. Several injudicious temporary settlements of land revenue were attempted between 1803 and 1837 only for this reason. After each settlement the land revenue was enhanced. This proved detrimental to agricultural development and made both the Zamindars and the peasants suffer. In order to

escape revenue enhancement the peasants threw lands out of
cultivation before settlement operations commenced. Thirdly,
with a view to securing the good will and co-operation of
the landlords in consolidating their rule, the British
authorities promised to extend permanent settlement in
Orissa. But that promise was not kept. Such a vacillating
policy had a demoralising impact on Zamindars who
deliberately did not try to improve agriculture. Fourthly,
the defective agrarian policy of the British in the early
part of their administration stood in the way of the
extension of cultivation. A rule was made according to which
every Zamindari was auctioned at Calcutta. But it was
extremely difficult for the Oriya Zamindars to go to
Calcutta for such an auction. Therefore,
Zamindaries in Orissa passed mostly into the hands of the
Zamindars of Bengal who were absentee landlords who
performed no useful function. They were mere rent receivers
who stayed outside the estates of Orissa. Fifthly, both the
Zamindars and the East India Company gave little attention
towards the development of agriculture. Each one preferred
to increase their income by squeezing others. Sixthly, the
basic cause of the deterioration of agriculture was the
extreme poverty of the overwhelming majority of the
peasants. Most of the tenants were indebted to the village
Shahukars or money lenders. During natural calamities the
condition of the peasants beggared description. They had neither incentives nor resources to improve agriculture by using better cattle or seed or manure. Seventhly, due to a lack of agricultural education the peasants did not adopt improved methods of cultivation. On the other hand, conservativeness and superstitions kept them undeveloped. Their conservative attitude was noticeable in the old-fashioned ploughs, the use of cow dung as the only manure, a strong prejudice against chemical manures and an aversion the new methods of cultivation. Another cause of the deterioration of agriculture was an exhaustion of the shallow soil due to a lack of natural vegetation and the want of any attempt at a regeneration of the soil.

The second half of the 19th century, however, witnessed some extension of cultivation. A series of canal works was undertaken to mitigate the banal effects of floods and droughts. Several embankments were also constructed to control the devastations caused by floods. There was emphasis on agricultural education, a developed farming system, agricultural propaganda and demonstrations which opened the eyes of the peasants towards the development of agriculture and extension of cultivation. The land Improvement Loans Act, XIX of 1883, and the Agriculturists' Loans Act, XII of 1884, helped indebted cultivators to improve their condition. Above all the Co-operative Act of 1904 helped the
cultivators to a great extent in improving their economic condition, so that their attention was turned the development of agriculture. The development of agricultural marketing also immensely helped the peasants of Orissa to sell their products at a reasonable price which made agriculture more profitable. Apart from 60 years' term of the settlement of 1837, a growth in the population was also equally responsible for the extension of cultivation.