CHAPTER-III

AGRICULTURAL ACTIVITIES
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Agriculture constituted the main occupation of the people of the Orissa States. Nearly 90 per cent of the population depended on it for their livelihood. The other opportunities for earning livelihood outside agriculture were quite limited.

Cultivation was conducted in two methods common to all the states i.e. shifting cultivation and settled cultivation according to the nature of the soil. Shifting or Dahi or Jhum cultivation was practised among the tribal communities in the vast tracts of lofty hills and dense forests. Wet or settled or regular cultivation was practised in the plain areas where water facilities were abundant.¹

SHIFTING CULTIVATION

In nearly all the states, the most primitive system of cultivation "dahi" or "jhum" was pursued alongside regular systematic cultivation. In the states of Athmallik, Dasapalla, W.W. Hunter, Statistical Account of Bengal, Vol. XIX, District of Puri and the Orissa Tributary States, London, 1877, pp. 262-63.

¹
Keonjhar and Pal-Lahara where the country consisted for the most part of vast tracts of lofty hills and dense forests, the system of dahi cultivation was followed to a very large extent. In more open country, such as in parts of Boud, Dhenkanal and Mayurbhanj regular plough cultivation was universal. In all the states, however, both systems existed side by side.

As the tribal people lived in the forests since time immemorial, they had a deep conviction that the forests belonged to them and they enjoyed a natural right to use the forest lands for cultivation the way they wished.

Podu or shifting cultivation was the most predominant form of tribal agriculture in Orissa states. It was practised on a rotation basis on the hill-slopes and hill-tops.

Under this method, the trees, bushes, etc. of a patch of forest lands selected for the purpose were cut down during the dry winter months of December to February and were left to be dried. The dried debris were burnt to ashes in the last part of March or April, just before the outbreak of

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The field became ready for the seeds after a few showers. The soil was not ploughed or up-turned but prepared very clearly with digging stick or hoe. The seeds were either broadcasted or put into holes made by digging stick or big knives.  

A piece of land was used for two to three years sowing successively different crops after which the land became unsuitable for cultivation due to soil erosion and exhaustion of fertility. Then, they abandoned it and allowed it for recuperation and moved to another patch of forest land where they repeated the same practice. The tribes again came to the same plot after an interval of a few years which was usually longer than the period of cultivation.

The chief characteristics of the shifting cultivation were (1) rotation of fields, (2) use of fire for clearing the land, (3) keeping the land fallow for a number of years.

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4 L.E.B. Cobben Ram-Say, Inspection Notes of Athmallik, Boud and 7 Transferred States for 1906, No Place, 1906, p. 3.
for regeneration of forests, (4) use of human labour as chief input, (5) non-employment of cattle and (6) use of very crude and simple implement such as dibble, stick, scrapper, etc.

A large variety of crops were grown under shifting cultivation. Paddy, maize and different types of millets, cotton, mesta, pulses, beans, mustard, yams, sweet-potatoes, chillies, ginger, turmeric and many kinds of vegetables were raised by them from the same plot.\footnote{L.E.B. Cobden Ramsay, An Inspection Note on Athmallik, Boud and 7 Transferred States for 1906, p. 3.}

Podu or shifting, as evident from the above, was an extravagant and unscientific form of land use. The technique of cultivation was inherently defective, wasteful and unproductive. It was self-destructive in nature. The annual average income yielded per acre of land under shifting cultivation was estimated to be as low as Rs. 57/-. Shifting cultivation which characterised the tribal economy was an indicator of its backwardness.

Apart from the fact that podu was economically unsound, it had several other evil effects. It destroyed the valuable
forests for the sake of less valuable crop bringing in an imbalance in the delicate ecological condition. It led to acute soil and fertility erosion which caused the spring below the hills to dry up. Shifting cultivation caused very heavy floods down the rivers endangering life and property during monsoon and reduced water supply in these rivers in summer which in turn adversely affected the second crop. Shifting cultivation was a process by which a sizeable amount of state's forest wealth and its benefits were sacrificed for a petty short-term gain.

With the interest being taken by the states in the proper conservation of their forests, this system of dahi cultivation had received a check. In a few instances the tribals had been removed from their jhume within the reserved forest arena and assigned prescribed areas within which to practise this form of cultivation or settled on the open country being provided with land, bullocks and seeds. There were no serious efforts to induce the tribals to give up this destructive form of cultivation by offering lands and advances

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6 Report on the Administration of Bengal, 1897-98, p. 5.
for seed and plough bullocks. 7

SETTLED CULTIVATION

Wet cultivation or the regular plough cultivation was practised by the people of the plain and open areas.

Paddy was extensively grown. Apart from the cereal crops like rice, wheat and millets like chana, maize, jana, suan, bajra, etc., pulses like greengram, black-gram, horsegram, rahar were grown. The chief oil-seeds grown were mustard, linseed, sesameum and castor seeds.

The cultivation of cotton had considerably declined owing to the importation of English and Bombay yarns into the states. It was cultivated on a very small scale by poorer classes of ryots. The cotton wool was spun into thread and made clothes.

Sugarcane was the most profitable crop while its cultivation was expensive. It was cultivated to a very

limited extent by intelligent and well-to-do ryots. It was grown on lands adjoining bandhas, tanks or streams as there were facilities for irrigation. The method applied was very elaborate and laborious.

In the states tobacco was grown in a very small quantity. It was cultivated for the ryots' own consumption. 8

The condition of crops depended not only on the quantity of rainfall but also on fair distribution of rainfall throughout the year. In time of the short rains, the cultivators felt the pinch. In order to protect the crops from the drought, there existed some irrigation facilities. Artificial irrigation was resorted to from the tanks, wells and the rivers. There was no regular canal system of irrigation. Several rivers like Mahanadi, Brahmani, Baitarani, Bubalanga and their tributaries were flowing through the states. But none of them were harnessed for the purposes of irrigation.

During drought, people of riparian tracts irrigated their land from the chuas or holes made on the sandy river bed to store up water mainly for this purpose. The villages

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laying on the foot of the hills were irrigated by several streams passing through the area. These were natural sources of irrigation and served the end. Sapua stream which started from Hindol State was of considerable importance in Dhenkanal and Athgarh States from irrigation point of view. These springs did not help much to irrigate the lands.  

AGRICULTURAL IMPLEMENTS

The implements ordinarily used for cultivation were few and of simplest nature. Plough was the principal agricultural implement used for cultivation. It was made of three small pieces of wood. It was very light. With it a pair of bullock could plough one-half to three-fourths of an acre per day.

Another agricultural implement was the mai or harrow consisting of two straight pieces of wood joined together with rags. It looked like a narrow ladder being about six feet long and nine inches in width. The bullocks were harnessed to this and it was dragged across the field by the animals with the

9 The Completion Report on the Settlement of the Hindol Feudatory State, 1910-14, p. 3.
cultivator standing over it. Thus the clouds were broken and the land was given a level surface.

Hoe or Bidu was used to tear up or scratch the surface of the soil with a view to loosen or soften it and to kill weeds. It was a thick piece of wood about 5 feet in length. It was drawn over the fields by the ploughing bullocks when the seedling had taken roots.

The tenants also used dal or small toothed sickle for cutting grains, kodi or spade to dig earth, sabal or iron rod for digging holes. On the earth, gainty or pick-axe to assist himself in his cultivation. 10

Hardly any modern machinery was used. What was worse was that, even ordinary implements were centuries-old. The use of iron ploughs was almost unknown to the cultivators, till the end of the 19th century.

MANURES

The commonly used manure was cow or buffalo dungs. Ashes were also used as manures as also the rotten residues of the

households.

The more enterprising tenants used mud as a manure from old and silted tanks. Such mud manuring was considered very beneficial as it was believed to enrich the soil and increase its productive power. The accumulated experience of the value of mud-manuring had given rise to the proverb: "Khata Barose Panke Puruse" i.e. cowdung manuring sustained the productive power for a year while mud-manuring did so for a generation.

Rotten leaves from orchard and tank earth were used where available. Ashes of wood, leaves and twigs were generally pitted with cowdung which had the value of manuring.

Bones were found in abundance. They were never used for manure as the local people had a strong superstition against its use. 11

The use of inorganic fertilizers was virtually unknown. A large part of animal manure, i.e. cow-dung, night-soil and cattle bones was wasted.

11 Utkal Dipika, 17 June 1893.
CATTLE

The agricultural condition of a country could not be improved without a steady improvement of its cattle wealth. It was undoubtedly an important and component part of agriculture. Only bullocks and male buffaloes were used for ploughing. The low-class people were sometimes seen to use barren cows for ploughing.

The cattle were in miserable condition. They were generally undersized. No pulses were given them to eat and they were left to depend on a somewhat precarious sustenance by grazing. In the hot summer days when the grass on the fields was withered and dry, the unfortunate cattle got a handful of straw thrown to them but it was usually quite inadequate to their appetite. Beyond this no care whatever was taken of them.\(^1\)

The cattle were miserably housed. The condition of the cattleshed was very pitiable almost everywhere. Overcrowding was the general rule. One would often see small rooms packed

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with cattle beyond their capacity. Calves were sometimes killed as a result of overcrowding in which they were trampled over to death by grown-up cattle. Frequent occurrences of rinderpest and cattlepox was nothing but the result of the insanitary condition in which cattlesheds were kept.

The cattle were liable to infectious diseases like rinderpest and food and mouth diseases. It claimed a heavy toll of the cattle. Little attention had been paid to control these diseases.

The breed of the cattle was inferior. Nothing was done to improve it. Good bulls were not imported for the purpose. Castration of young bull of degenerated stocks was not resorted to as a safeguard against the further multiplication of poor breed of cattle.

Grass, straw and the paddy husk constituted fodder. The straw available for the cattle was very scanty on account of the fact that a large part of the straw went to thatch houses. The cattle depended more on the grass in the fields than on anything else. Fortunately for them there were jungle leaves but in that case even most of them were not edible.

All these factors were responsible for the underdevelopment of cattle wealth. It was one of the causes
of the agricultural backwardness.

IRRIGATION

Irrigation was a matter of prime importance in a country of which the population subsisted almost entirely on agriculture. The political Agent tried to impress upon the chiefs that the soundest and most profitable investment of surplus funds which the states could make was in irrigation works within their own borders. The durbar administration encouraged and assisted the people to repair the old bandhs, tanks and wells and the construction of new ones. Major portion of the irrigation works were due to private enterprise, showing both appreciation of the value of irrigation and determination to give practical shape to such appreciation.

The state of Mayurbhanj displayed considerable interest in irrigation works. Two notable irrigation projects, one at

13 Sambalpur Hitaisini, 5 September 1904.

Baiidiha and the other at Haldia were undertaken and completed. These two projects irrigated 12,200 acres of land. Under the Baiidiha Irrigation Project, a diversion weir had been erected across the hill-stream Palpala in the village Baiidiha 10 miles from Baripada. The weir was 600 feet long, 40 feet in height and had a crest of 5 feet. It had a catchment area of about 50 square miles. The canals took off from the reservoir, the one at the right side, 8 miles in length and the left one 4 miles with 7 distributaries extending up to 30 miles. The cost of the project was 4.56 lakhs. It irrigated nearly 6,200 acres.

Halidiha Irrigation Project was a reservoir. The reservoir along with canals was completed in 1921. The dam constructed across the river Chipat was about 2,580 feet long and the irrigation canals were 12 1/2 miles in length. There were 13 distributaries covering 28 miles. The cost of the project was 6.52 lakhs. This project had a catchment of 30 square miles and irrigated about 6,000 acres.

The water was supplied to the tenants from these two irrigation projects on payment. A sum of Rs. 16,729 was realised from water cess during the year 1930-31. The other states paid little attention to provide irrigation facilities. Irrigation which was the life of agriculture, needed development to a very large extent. The area getting irrigation
facilities from various types of irrigation was 3.5 per cent of the total cultivable area by 1947. The canal system could solve the problem of drought considerably but it was almost completely neglected by the princes.  

INTRODUCTION OF NEW VARIETIES OF CROPS AND EXPANSION OF CULTIVABLE AREA

The value of the new varieties of crops was being recognised gradually. The ruling chiefs of most states actively fostered the planting of coconut, orange, lemon, mango and other fruit trees, stimulated the cultivation of cotton and sugarcane and induced people to try potato and other European vegetables. Model gardens had been opened at various centres and the local industrial and agricultural exhibitions had been held to popularise new crops. However, considerable success had been obtained with experimental crops. The cultivation of subsidiary crops was growing steadily in popularity.

Another important development in the field of agriculture during the period under review was the expansion of cultivable

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15 Nilamani Senapati, Orissa District Gazetteers (Mayurbhanj), pp. 198-199.
area. It took place mainly because of two reasons. Firstly, the aboriginals who used to live on forest produce, podu cultivation and labour since time immemorial, took to regular cultivation in large number. Secondly, a stream of immigration continued to flow into most of the states.

Special attention had been paid by the authorities of the various states to settle the aboriginal ryots like Pans, Sabar, Khands, Bhunyas, Juangs, Hadis and Lodhas with lands on easy terms and inspire them to take up cultivation. Their ignorance and impoverished condition were great barriers in this direction. It was observed:

"The hope had not been altogether frustrated and the pace although slow appears to be sure and the time will only show what is in the womb of futurity and when most of them have taken up cultivation."

The improvement of the means of communication, extension of markets coupled with the increasing contact with outsiders had good effects on the aboriginal hill tribes. They were beginning to realise that the old order of things must change and they should be "useful members of the state or society instead of forest destroyers they have hitherto been."16

Bonai, Athmallick, Rairakhal, Bumra, Gangpur, Daspalla, Boud, Keonjhar, Dhenkanal, Talchar and Mayurbhanj could find lands for many more settlers. So the immigration was actively encouraged in these states for the reclamation of lands. The reclamation of lands by the people inside the states and from outside led, no doubt, to the increase of cultivated lands. But some suggested that the process of jungle clearing caused thereby should be restricted. Such restriction would not only preserve jungle which was a source of many benefits to the country but would give an impetus to intensive cultivation as population increased. 17

SOME MEASURES TO BOOST AGRICULTURE

The Agriculture Department had been opened in several states to encourage and instruct people in the improvement of agriculture. The agricultural officer was making tours to the interior of the state and instructing the agriculturists in improved method of cultivation, the use of agricultural implements, green manures and growing fodder for cattle, and destruction of insect pests, and other important matters concerning agriculture.

Agriculture shows and exhibition were being conducted regularly in different states, prize were given for good exhibitors with the object of encouraging people to grow good crops. Special attention had been paid to the improvement and increase in the number of markets with a view to stimulating the cultivation of new crops. 18

In some states like Dhenkanal, Mayurbhanj and Bolangir, the state gave aid to agriculturists in terms of loans including land improvement loans and agriculturist's loans (TOCCA). Land improvement loan was advanced for any work which added to the letting value of land. The land improvement work included construction of wells, tanks, preparation of land for irrigation, reclamation of land for agricultural purposes. The Agriculturists' Loan was primarily intended for the owners and occupiers of arable land as a matter of relief from distress, for purchase of seed or cattle or any other purpose connected with agriculture. In actual practice, it was found that the persons close to the Raja were benefitted by these two kind of loan. 19


19 Ibid., 1927-28, p. 188.
There were one or two model agricultural farms in every princely State to acquaint the people how to grow various crops and to supply good seeds. One agricultural Overseer was in charge of each farm. These farms no doubt gave an impetus to the development of agriculture. An account of some important agricultural farms are given below.

The agricultural farm was established in Nahehi in the State of Athmallick in 1925. The area of the farm was 48.68 acres. Here the people were given instructions regarding the cultivation of plantation and sugarcane.  

There was one agricultural farm situated at Paljnuri about 11 miles south to the Boudh headquarters. The employees of the farm were making efforts in explaining to the people how cultivation of various crops with better produce be attained if it was done in a scientific way.

Pal-Lanara Fruit Farm was established in 1931. It had an area of 35.21 acres. Fruit trees, such as orange, litchu, mango and plantain were mainly grown here. Grafts of fruit

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plants were prepared in this farm on a commercial basis.

Samakhunta Farm in Mayurbhanj State was established in 1935. It was started primarily for the purpose of multiplication of seeds. It had a total area of 69.35 acres of which 62 acres were under cultivation. Water was provided mainly by the Balidhiha Irrigation Project. The agricultural Overseer, who held the charge of the farm, was assisted by an Agricultural Sub-Overseer and two Fieldmen Demonstrators. The total outturn of paddy was a great boon to the agriculturists as it removed the difficulty of obtaining good seeds and saved the poor agriculturists from the clutches of the Mahajans to a great extent. 21

DRAWBACKS OF AGRICULTURE

Generally the farmer followed the age old method of cultivation. The country plough was still the only implement which was used in all kinds of cultivation. Mechanised cultivation through tractors had not been experimented in any

measure. The general condition of the agricultural class, their poverty and want of adequate irrigation facilities were mainly responsible for the nonmechanization of agriculture. Irrigation facilities were highly deficient in all the states. Although their economy was largely dependent on agriculture, no regular or systematic irrigation facilities had been developed so far. Most states had a satisfactory rainfall but agriculture was frequently effected by drought due to untimely rain and its uneven distribution. Possibilities of irrigation expansion were rendered meagre on account of the undulating terrain and absence of suitable locations for the storage of water. Several rivers like Mahanadi, Brahmani, Subaranarekha, Ib and their tributaries were flowing through the states. But none of them had been harnessed for irrigation purpose. When this would be done, increased volume of water would be available for irrigation with the ultimate of insuring against drought and to raise a sound crop or raise money-crops.

The quality of cow-dung and other organic manures available in the states was insufficient to meet the requirements of the soil. The use of chemical fertilizers like Ammonia Sulphate, Superphosphate, Calcium, Urea and Ammonia-tri ate was almost absent.

The condition of the cattle was poor. Lack of
sufficient feed was the main reason for the underdevelopment of cattle. There was no regular practice of fodder cultivation. It was only during rains that the cattle got sufficient grass from the pastures and forest areas. In the hot summer days when the grass in the fields was dry, the unfortunate cattle got a handful of straw thrown to them but it was quite inadequate to their appetite. Moreover, they were miserably housed. There would often be small rooms packed with cattle beyond their capacity. The weak and unhealthy cattle maintained in an uneconomic manner further contributed to backwardness in agriculture.

Damage by insects to the paddy crop occurred frequently. Damage was also caused to the paddy crops by wild-animals.

Outbreak of pests and diseases were regarded by the Adi-basi cultivators as a manifestation of divine displeasure. A number of superstitious practices were followed by the people to ward off the pest and crop diseases. The cultivators were ignorant of the modern methods of control of pests and diseases. The use of modern insecticides and fungicides were unknown to the people.

The extreme poverty of the overwhelming majority of the peasants left them without any resources with which to improve agriculture by using better cattle and seeds, necessary manure
and fertilisers and improved technique of production. Nor did the cultivator subjected to forced labour and variety of illegal exactions by the Raja and his underlings had any incentive to do so. After all the land he cultivated was rarely his property and the bulk of the benefit which the agricultural improvements would bring was likely to be reaped by the Raja, his subordinates and mahajan are money-lenders.

All these factors led to the stagnation and deterioration of agriculture. The prospect of any long-term agricultural development was associated with adequate irrigation facilities, supply of improved seeds, fertilisers, manures, adoption of scientific technique of agriculture and conferment of security of tenure on the tenants.