CHAPTER V

"KINDS OF LAND AND AGRICULTURE"
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Land, that is available everywhere in the world is however not same in its quality and contain. The nature, composition and contain of land led it to be divided into different kinds. In the epigraphic records we come to know about different kinds of land both in the Indian and Orissan context. It is further explained according to their own way by the ancient texts of India.

In Orissa the land grants of the Somavamsís Bhaumakaras, Bhāñjas, Sulkis, Gaṅgas, Sailodbhavas and others mention the different kinds of land while handing over the rights over the lands to the donees. The Nīhinā grant of Mahāśivagupta refers to Marshy land, plain land (Sajālisthāla), ditches (Gartta) and sterile soil. The Dhenkanāl plate of Kulastambha refers to forest, water and land while the grants of Yośobhanjadeva mention thicket forest etc. in the copper plate.

In the inscriptions references are there to Śunyakshetraṁ and Prastara Kṣetraṁ Pramukham. D.C. Sircar thinks the above as fallow and mainly rocky land.

The copper plate charters issued by the kings have made mention of different kṣetras, Pasture land (Gochara or Sadvāla), Khātas, Gartikās, Jota and Jotikās, Chaṭṭa, ārama and khaṇi. The inscriptions also furnish evidences
Sadvala, Khātas, Gartikās, jotas and Jotikās. Ghaṭṭa, ārama and Khāni. The inscriptions also furnish evidences of Khilabhumi and vastū bhūmi.

For the purpose of revenue during the Gaṅgas three different kind of lands were in use by the people. They are wet land, dry land and garden land.12 The later Gaṅga inscriptions from Orissa made mention about different kind of land existed in the Orissan region. They are Saṣyabhumi (corn field), Jaḷa Kṣhetram (wet land), vastū bhūmi (house plot), goṇapāṭha (cattle tracks), gopacāra (Pasture land), jodāṭavī (jungles), tāḷa vana (palm groves) and niśādhī bhūmi,13 etc. During them forest land was reclaimed for cultivation.14

The Jatā-Singā and Duṅguri plates of Mahāśiva-gupta refer to ārama (Parks) and Udyāna (garden),15 while the Narasimhapur plates16 of Mahābhavagupta Udyotakesāri mention different kinds of land like gartta (ditches) and Usara (barren/sterile land). Tala as a kind of land mention in the sanakapāṭ inscription of the time of Śivagupta Bālārjuna.17

Arjun Joshi mentions in the region of his study, a classification of soil adopted for revenue purposes. They are Jal soyem, Jal doyem, Jalāwał, Upland,
alluvial, khāri, bāri etc. However he has not mentioned the source of his classification.

On the basis of all these above we can get the following kinds of land available in Orissa. All these land type may not be available at all places in the region of our study but found in different parts of it with reference to the nature, contain and geographical position.

1. Kshetra, sasyabhūmi :-

In the inscriptions of Orissa references are made to cultivable land or arable land in the name of Kshetra or sasyabhūmi. The Terāsiṅgā plates of Tustikara refers to Debhogaka Kshetra which was donated by the king to the donee. During the rule of other dynasties different kshetras and khaṇḍa Kshetras are mentioned in their inscriptions.

The Orissa State museum plates of Mahāsiva-gupta Yayāti records the donation of Kudukulo khaṇḍa Kṣetra along with other villages. The Gaṅga inscription records it as Sasyabhumi. In all cases the arable lands are situated all around the villages. It is divided into large and small plots by kshetralih or surrounding ridges. Many of those plots and land bore names of their own.
Because in the epigraphic records some names are mentioned about which the inscriptions are silent that they are names of the villages. Again they do not appear to be so, for the reason they may be regarded as the names of arable plots or large tracts. A number of such names may be cited from the inscriptions. They are Ghaṇṭakarna Kṣetra, Akshaloṅka, Kusuma Gaddi, Gābhura, Vāṅgānvaya etc. Some lands bore the names of caste or officers by whom it was owned. For instance Vaiśyāgraḥāra, saṁanta bhūkti viṣaya, Kumbhāra padraka as mentioned in the Orissan inscriptions.

The whole cultivable land was divided into plots by ridges (Kṣetralih) to demarcate each plot from the other. Another purpose served by it was the preservation of water in the corn field for cultivation.

2. Gochara, vraja, Sadvāla and Go-Pracāra-

The English equivalent of all these synonymous terms is pasture land or grazing land for the cows and oxen. The Gaṅga inscriptions clearly mention about different terms like Gohari, Go-patha, Go-pracāra etc. Other inscriptions also mention about pasture land (gochara or Sadvāla). It is an area situated outside the village but adjacent to arable land and sometimes it spread up to the village boundary. As seen in the inscriptions the cultivable land
have been donated along with these above mentioned lands which clearly indicate that they were situated near the village—cultivable land. Here in these inscriptions though we hardly found the word Goṣṭha; it was different from the above and can be regarded as a cow-pen or cow-station where cows or cattle in general belonging to the whole village took rest or collected together before their start for the grazing ground. The word is even used to-day, by the villagers in Orissa, for cow's sheltering place after they are taken for grazing from home.

Rājapatha, Gopatha etc.

We have definite references in the inscription to roads, streets and tracks. The Gaṅga inscriptions (although later to this study), mentioned the names rājapatha and Gopatha at the time of donation. Of these the rājapatha or public road was probably passing through important villages and connected to a centrally located important place. Besides, the visiting of royal officers to villages, travellers travel to different areas of the kingdom and probably the visit of medics suggest the existence of roads and paths connecting the neighbouring villages. Moreover there were roads, streets and lanes within the village and probably called grāmapatha. All these were kacchā roads and in rainy season created much problem for they used to
become impossible due to mud and slipping.

Other roads called gopatha, gomārga or govāṭa were lying outside the habitation area but within the village periphery. Though these were called in the names related to cattle, those were not only the path of the cows to their pasture ground but also the path of the people to their corn-fields and other places of the village area. Sometimes these paths were very narrow with hedges on both sides. It was called in the name of 'Gohari' as mentioned in the Gaṅga inscriptions. These were just tracks made on the ground either done by village people or through the constant movement of cattle in the morning and evening. Again many of these passed near the arable land and used by the people for bringing different materials for cultivation to the land and taking the corns to their home.

Jala-sthāla, Sajalasthāla etc.

These terms are mentioned in different inscriptions of Orissa. It is said that, these terms meant for marshy land, land under water or plain land. But the terms jala-sthāla or sajalasthāla may be a combination of two terms jala or sajala and sthāla. Because in the inscriptions the term is mentioned alongwith Matsya and Kachhapa means fish and tortoise (Savītapāranyah sajalasthāla matsa kachhapaḥ...).
Here the view of A.K. Chaudhury seems to be correct. He says, jala appears to include all the rivers, streams, tanks, reservoirs, springs etc., lying within the donated area; Sthala signifies all the plain lands not under water. Since water is essential both for living of man and agriculture and land was the means for this end village or plots of land was donated with all water and lands situated within that area.

Gartta, Garttikā, Khāta etc.

The terms are found in the inscriptions of Somavamsīs, Early gaṅgas and others. Its English equivalent are ditches hallow, drain or trenches. Gartta was probably larger ditch while Garttikā was relatively smaller one. They were both natural and artificial. Natural ditches were formed due to some intrinsic action of natural elements like water, wind, earth-quake etc. Artificial ditches were made due constant bringing of earth from particular places for house making, repairing, bricks making, house polishing & other works. The Nidhānpor copper plates of Bhāskara-varman refer to one Kumbhākaragartta is an example of it. Ditches are sometimes made as the boundary marks of the villager or part of land as evident from the Dharmalingesvara plates of Devendra-varman of Eastern Gaṅga dynasty. The Garttas were filled up with water during the rainy season and it was used for various purposes by the village people.
6. **Uṣara**

It is a kind of land found mention in the Nibinna grant\(^50\) of Mahāsivaguptā, and Narasimhapur\(^51\) plates of Udyotakesāri. The meaning of Uṣara is barren or sterile land. However, it seems that it remained uncultivated land due to its unproductive nature for some defects in the soil.

**Khila:**

Khila was another kind of land found in the records of Orissa.\(^52\) Khila means uncultivated land or fallow land (Aprahata Sthāna). It was part of arable land left uncultivated for one year or more than this.

**Tala**

The word 'tala' used in different senses like tarutala,\(^54\) kharātala, pāṇitala, pātāla, bhūtala, Samatala etc. by people from very ancient time, does not suit the 'tala' mentioned in the land grants. The term 'tala' mention in the Orissan inscriptions,\(^55\) refer more correctly to the lower parts of a thing. As such 'tala' refers to a kind of low land or land lying under water during rainy season. The term "Bhūmi parvati tale" mentioned in the Kambakaya plates\(^56\) of Udayāditya of the time of Devendravarmā clearly substantiates the fact that the land was situated at the base of the hill i.e. a low land.

**Jhāta, Vitapa etc.**

Both the terms bear same meaning i.e. shrub, thicket etc, many of the Bhanja inscriptions refer to
'viṭapa' along with aranya. The word Jhāḍa of present Orissa is a corrupt form of Jhāṭa. Jhāḍa also refers to the same shrub, thicket, bush as Jhāṭa or Viṭapa refer to. Thus, it is the type of land situated close to the village area filled with shrubs and bushes but not with tall trees.

The deep jungle lands are referred to in the inscriptions as *vana*, *Araṇya*, *Joḍātavī*, *jungle* etc. The Dhenkanal plate of Kulastambha refers to forest along with water and land. These are uncultivated woody lands full of trees, shrub and wild animals. It was cleared and converted into cultivable land by people as per need (kriṭtāraṇya bhūbhāga). Those who for the first time cleared it, was recognised as the owner.

The inscriptions of Orissa mention different terms viz. *Arama* *Udyana* *Tālavana* *Vāṭika* etc. While donating a village or parts of it to the donee. The meaning of the above kind of lands are parks, garden, palmgrave and orchards (fruits garden) respectively. Village had orchards of mangoes and other fruits is clear from the word *vāṭika* used in Gaṅga inscriptions.
The references to giri and Parvata in the inscriptions substantiate the fact that some villages had giri (hills) and parvata (mountains) within their periphery. The hill and mountains are mostly full of impregnable jungle. It was non-arable land however rich with fuel, timber, honey etc.

Vastubhumi

It refers to home-steam, habitat, house plot etc. In many inscriptions of Orissa we find the word mention along with others. It was the habitat area i.e. the village proper.

Jalakshetram :-

These terms on land found mention in the Bhanja and Ganga inscriptions. It refers to wet land, marshy land, land under water or plain land.

Pāl or gadi

It is the alluvial land available along the river sides or banks of the principal rivers. It is found mention during the Bhanjas of Khijinga-kotā and others as mentioned by A. Joshi of which no source is cited.
Jaldoyem, Jalawal and Jal-soyem:

These terms on land types are opposite to each other. It was prevalent during the Bhanjas. Jalsoyem is an inferior kind of wet land along hill sides. Jalawal and Jaldoyem are the superior and less superior but not inferior quality of wet land. It had the provision of good water facility either by the natural source or artificial source. The above is the land classifications by A. Joshi during the Bhanjas of "khijjingakottā"of which, the source is not cited.

Uddesa:- Uddesa though not generally found in Orissan inscriptions, its record in the inscriptions of Bengal led us to think that in some form it was prevailed in the area close to Bengal, at least in the northern part of present Orissa. It refers to lands like mounds, heights and elevations. But in the Orissan context it perhaps along with these above also include the non-plain arable lands of west, south & northern parts. These lands are dry but fit for agriculture having ridges round to hold water properly.

Khari:-

It is the village side land receiving water of houses and street drains. As mention by Arjun Joshi, it
is land classification of Khijjingga-kotta where he has not cited the source. But even to-day this land in the same meaning available in the whole of Orissa, which clearly indicates that it was a land type of Orissa as a whole in ancient time.

Bāri

It is the land attached or very close to the habitation area i.e. house meant for vegetation, keeping fodder and for other such purposes.

Khāni

Khāni refers to mines and quarries. It is found mentioned in the Narasimhapur plates of Mahābhavagupta Udyotakesāri and others.

Ghāṭta

It is the bank of rivers and ponds. Orissa possessed a number ponds, tanks, and rivers. We have many references to their banks in the inscriptions. The Ghāṭta land was important for the people as it was used by them for various purposes.

Patīta bhūmi

This kind of land is found in the Ganga inscriptions. It is otherwise called Nisādhī bhūmi i.e. forbidden land. CVR. Rao says, that “it may refer to burial ground.” If it was burial ground, though not mentioned in other dynasty’s inscriptions, it was also there prior Ganga period. Because the practice of cremating the dead bodies is an old practice in Hindu tradition.
23. **Sunyakṣhetaṃ; Prastara kṣhetaṃ :-**

These two kinds of land are found in the Terāsingā plates\(^{79}\) of Tushtikara. As seems, Sunya-kṣheta probably refers to sterile and high land where there was no chance of cultivation. On the other hand prastara kṣheta refers to rocky and pebbled land. Because of rocky in nature it was also a non-fertile uncultivated land.

**Jota, Jotika etc.**

Though the terms are mentioned in different inscriptions\(^{80}\) the meaning of these is not clear; the Oriya meaning of the term Jota is cultivable land.\(^{81(1)}\) But as these terms are mentioned in the inscriptions\(^{81(2)}\) in a special way alongwith other terms, it seems they were not a land type rather a kind of plouing of cultivable land.

Besides, there were certain other types of land such as taṭāka\(^{82}\) Vāṭaka\(^{83}\) Pāṭaka\(^{84}\) etc. mentioned in different inscriptions of Orissa. Of them we have little idea about some as taṭāka means tank, Vāṭaka may be taken as garden or orchard etc. However many of them are not clear as a kind of land.
All these above were the different kinds of land available in Orissa. For convenient study of them they can be divided into two broad groups: (1) cultivated land and (2) un-cultivated land.

(1) **Cultivated land**:

The cultivated land of Orissa were called in the name of Kṣetra, Kṣhetta, Śasyabhūmi, Udyāna, vāṭikā, jala-kṣhetram, jalawal, pal or Gaddi, Khāri, bāri, etc. Probably all those plots were there as such as they are at present. Again we can subdivide the cultivated land into two groups i.e. lands watered by river ponds or other similar means (artificial watering or irrigation) and land watered by rain.

(2) **Uncultivated land**:

The rest of the land types mentioned in the previously discussed list can be termed as uncultivated land. They were named suitable to their nature and uses. They were Uṣara, Gartta, Khila, jalasthala, Gochara, Gopatha, vāṭa, rāja-patha, vana, aranya, joḍātavi, prastara and others.
Agriculture means the works like cultivation, transplanting of seedlings, rearing and maintenance of live stock, forest operation, fishing, hunting and harvesting etc. By the end of the Vedic period the gradual plough based agricultural penetration to eastward initiated. To some extent it crystallised a complex social formation marked by peasant communities, created within tribes, interspersed with settlements of servile or semiservile labourers working under land owning masters.

Agriculture was the mainstay of the people in Orissa. Almost all the families possessed some amount of land of their own or as tenants. Even religious institutions, officials, brāhmaṇas were granted with lands for maintenance. Those lands were cultivated not by themselves but mostly by temporary tenants on share croppers' basis.

The elaborate agricultural system was deep rooted in the Society. Legend says, 'Janaka the king of Videha lent his hand to plough which suggests not only the high classes even the kings were so closely attached to cultivation - the root man's life. Generally vaisyas were engaged in agriculture but several brāhmaṇas and Kṣhatriyas had adopted agriculture as their profession.'
The agrarian character of Society is also indicated by the fragmentation of land through the process of partition and gift. The process of partition as quoted from the codes of Nārada and Bṛhaspati suggest the break up of large joint families into smaller units which further necessitated the fragmentation of arable land into smaller plots.

As regard to the soil, the whole of the State is not same everywhere. While in the eastern part it has fertile and plain soil, the western, northern and some area of southern parts comprised of hilly and uplands. The uplands are dry and absolutely dependent upon monsoon rain for agriculture. However these are fertile, light and sandy because of clay or silt deposit due to the coming out of finer particles of the hill area along the drainage lines during rain. The areas are mainly undulating and comprised ridges, slopes and depressions except along the rivers and other sources of water basin.

The arable landmass of Orissa was described as highly fertile. The account of Hiuen-tsang refers to the high fertility of soil in Odra, Kōngoda, Kaliṅga and Kośala. Cultivation in Orissa was mostly dependent upon monsoon. Often it is found to be irregular for the reason Orissa experienced drought, famines, floods etc. However measures were taken to reserve the rain water to avoid the evil
affects of Scanty rainfall. The references viz. Setu Bandha, taka, Puskarini, Sarah (lake), Jalamarga (Canal), Vapi (well) etc. in the inscriptions led us to think that irrigational activities were undertaken to harvest good crops from the land. The Hātigumpha inscription of Khāravela throws light on the same by excavating a canal. The land in the riverbed and that of coastal plain which had water facilities probably produced two crops in a year.

On the question of peasant, Irfan Habib says, "peasant to mean a person takes agriculture on his own, working with his own implements and using the labour of his family." Here he consciously ignored the factor of land control and thereby implying that, a peasant may be an owner, a tenant or in a broader sense, even a labourer without any right of ownership or occupancy. It limits the meaning of peasentry. In this context Raymond Firth gives a broader view. According to him, the peasant category will include in addition to the tiller of the land all those who live by the various forms of labour which are associated with a community of tillers.

In the above context generally the brahmanas are not accepted as cultivators. However as cultivator though they might have not been pioneers with all confirmation it
can be said that many looked after the management of the land and helped in bringing the virgin soil under cultivation. Probably they ushered the process of acculturation in non-aryanised belt.

Like the peasants in the process of agriculture the labourers occupy a unique position. Agricultural labourers are a class of people who owned no land but earn their livelihood mainly from agricultural work. They were of two types: (1) Permanent or Annual (2) Temporary or daily labourers. The permanent labourers were attached to the farm of a land lord permanently or annually and called in different names as Khamāri, Gōti, Haliā etc. The casual labourers were employed daily and seasonally. The permanent labourers were paid monthly and a fixed amount after the end of the agricultural year. The daily wage earners were paid daily. This is a very old practice in the whole of India. Because during the Maurya rule big farms were there where large numbers of slaves or hired labourers were working. Under the supervision of a sitadhyakṣha (superintendent of Agriculture).

Provision of water facility was essential for high yielding. The Mauryas during their time made a great water work called Sudarsana lake. The same water reservoir when got damaged in course of time was repaired and restored by king Rudradāmana-I as known and informed
to us from his Junagarh rock inscription. It again says that while the proposal was rejected by his council of Ministers he himself did it from his own private purse.

Making provisions for irrigational facilities by royal authorities in ancient period is also known from the references of Arthashastra. It prescribes for the regular collection of water tax by the state from the users in lieu of irrigation facilities provided to them.

The average rain fall of Orissa in the past and at present has been sufficient to grow paddy. Besides, as referred to in the inscriptions the tanks, small reservoirs, jalāmārga etc. were the source of water for growing different crops. In the eastern part of Orissa i.e. in plain land river water was taken easily for the purpose of agriculture. The peasants also were obtaining water by lifting it by local technique from vāpi(well) and jalāmārga(nālā) particularly for vegetation purpose in the bāri type of land. The inscriptive references jalamārga, taṭāka etc. suggest that the ruler and people were very much careful about water resources, its collection and uses.
Since the inscriptions were mostly religious in nature they are silent on the agricultural equipments and such things like manures, implements, method of cultivation, domestication, natural calamities etc. But on the other hand these are essential elements of agriculture and without a reference to all these a complete picture of agricultural life during the period under research cannot be presented truthfully. In this regard the ancient texts serve the purpose. So far manure was concerned cowdung and remnants of oil seeds were used. According to Harṣa-charita besides cowdung refuse was also used as measure. Like most of the part of the present day Orissa in the past too one crop was raised in a year and thus manures were taken to agricultural fields during the month of Phālguna, i.e. before the coming of monsoon. At the time of sowing seeds manure was scattered all over the field to have suitable proportion.

So far methods of cultivation are concerned again inscriptions do not come to any help. The Harṣacharita of vana refers to three types of cultivation—plough cultivation, spade cultivation and some sort of shashand burn cultivation. The Belwa and Amagachi plates of Vigraha-pāla III refer to plough cultivation in Bengal. Orissa as an adjacent area might have adopted these methods. However plough cultivation seems to be the main method of cultivation as it is in the present day Orissa.
From ancient time to present day the agricultural implements are more or less same though in modern times new improvements have been made. From different archaeological sites of Orissa findings of iron agricultural implements in the form of axes and sickles are significant in this regard.\textsuperscript{107} As said by Arjun Joshi regarding the implements of Khijjiṅgakatṭā kingdom a part of Orissa for which no source is cited by him, the whole of Orissa may be applied to that. The traditional agricultural implements are lungle (wooden country plough), Māi (bida, kanpar) used for soil mulching, Śagaḍa (the wheel cart) for carrying manure and other materials to the corn field and bringing from there the unthreshed paddy and other corn to the farm yard (Khālā), a carrying rod made of a supple piece of wood or bamboo (bhāngi, bhāra), a small axe (burīa, ṭaṅgāri), a big axe (kurāḍhī), a flat piece of iron with a whole to put wooden or bamboo bar (raphā, kueḍ), a slightly flat iron rod for making wholes in wood (bindhāṇi), a slightly flat type axe for clippings wood to make lungle, shagada and such other things (bāṛishi), crow bar (Sābal), sickle (dāā), spade (kodāli), small spade (gochhi kaṭā), baskets called da'/a, for carrying manure, earth etc., big basket called Ťupā‘ for carrying thressed paddy to house\textsuperscript{108} and other (less important but used in agriculture) implements. All these were locally made and need no difficult process. Also they were easy to operate, cheap to purchase and sufficiently available.
To meet the need of agricultural life different species were domesticated. The important ones were cattle, buffalo, sheep, goat, pig, dog, ass etc. and it pre-supposes their settled agricultural life.\textsuperscript{109}

Crops were affected by different natural calamities like (ativr\=asti and an\=avr\=asti), heavy rainfall causing floods and less rainfall resulting in drought, starvation and famine. The Narasimha\textsuperscript{110} and Garuda\textsuperscript{111} Pur\=anas refer to famine and drought. In the Kr\=isipara-sara\textsuperscript{112} there is reference to the prayer to god Indra by the cultivators for good rainfall. So these indicate that due to scanty rain fall crops were seriously affected resulting in drought in which many people and animals even lost their lives. Excessive rain was also causing flood led to the loss of the crops. About the loss of crops due to excessive rain the Oriya proverb says, "no loss due to floods in the month of Shr\=ava\=na, some amount of loss due to excessive rainfall in the month of Bh\=adrava and total loss during the month of \=A\=svina."\textsuperscript{113} Crops were also affected by different pests and insects for which the people probably were following superstitious methods to get rid of them.

The Kr\=isipara-sara gives the details of the belief of seeds sowing. According to it vaish\=akha is the best month for sowing paddy seeds and Sr\=ava\=na is the worst while for transplantation Jye\=st\=ha or As\=a\=dha is the best and Bh\=adrava is the worst.\textsuperscript{114} It says tuesday and Saturday are not good for sowing for rat eating and damage by locusts and insects.
respectively. So also fourth, ninth and fourteenth day of the dark fortnight are not good for paddy sowing. It also gives a list of the nakṣatras favourable for sowing seeds. However, as said the first quarter of ārdra just after the end of Mṛgāsirā was not favourable as because during this time the earth was supposed to have menstruated. But in Orissa it is observed on days before and day after Āśadha Saṁkrānti. It is till to-day being observed in Orissa. In Srāvana transplantation of seedlings began and continued up to Āśvina. But in case of Orissa probably it was finished early in the month of Bhādra. Because most of the cultivable land of Orissa are upland and rainfed. After Āśvina rainfall was occasional in Orissa which can't help for paddy crops. Thus according to rainy season it was finished earlier and water was carefully stored in the cornfield from Āśvina.

The crops were destroyed by animals and birds, for which the farmers use buffalo-skelton on stakes or scare crows in the form of artificial men to save the crops from them. The place where paddy is thressed is called Khalā and with the help of some bullocks tied with a well planned rope (Dāin, medhirājju) to a wooden post at the centre called "Merkhumbha" or 'Medhi', Paddy was thressed there. This work was done in the month of Mārgaśīra in Orissa though Kṛṣiparaśāra says Pauṣa. It is because after harvesting, the people of Orissa worshipped goddess Lakshmi with new paddy in the month of Mārgaśīra and the fixed labourer for
cultivation work, completed their term in the month of Pauṣa.\textsuperscript{124}\textsuperscript{0} Thressed paddy was measured and taken home for storing which was used for various purposes.

Although it is difficult to provide a complete list of different products with the help of epigraphic records, the ancient texts and archaeological remains help a lot in this regard. An examination of the wood remains from Shishupalgarh suggests that there has been no climatic change in this part of Orissa during the last two thousand years.\textsuperscript{125} Thus, with reason it can be argued that, food crops might not have been much different in ancient times from what they are to-day.

The archaeological excavation at Viratgarh in 1924 has brought to light the remnants of burnt rice, mustard, wheat, paddy and other edible grains.\textsuperscript{126} These remnants substantiate the cultivation of those products in Bhaṇja territory of Khijiṅga-koṭṭā in particular and Orissa in general.

Dhānya (paddy) was the chief product and diet of the people. We find references to dhānya in the Hindol plate\textsuperscript{127} of Subhakaradeva and in an inscription of Gaṅga king Ananta-Varman.\textsuperscript{128} The Mānasollāsa, a work of 12th century A.D. by someśvara-III, of Western India refers to eight varieties of dhānya in which Kaliṅga-koṭṭā\textsuperscript{129} (originated in Kaliṅga) found mentioned. Another ancient political unit of Orissa, named
Kosala was favour for three important varieties of paddy. They were sāli, vṛihi and śyāmaka.\textsuperscript{130} Cultivation of rice in Orissa is also substantiated by the material remains found in the excavations of different places viz. Asurgarh on the confluence of the rivers 'Mahanadi' and 'Tel', Viratgarh in Mayurbhanj and others.

During the period of our study large quantities of paddy was produced in Orissa. Abundant production of food grains is referred to in the account of the Chinese pilgrim Hiuen-tsang.\textsuperscript{131} Moreover the availability of rice at a very cheap rate supports this fact. During the Bhauma rule the cost of six āḍhakas of husk rice was only four pāṇas or cowries.\textsuperscript{132}

Though Godhuma (wheat) was not so popular in Orissa for unsuitable climate to grow the remnants found in the excavation at Viratgarh support the view. However it is an important agricultural product of northern India.\textsuperscript{133}

Sugarcane was another product. Its cultivation is indicated by the names of places like Guḍapadraka,\textsuperscript{134} Sharkarā-Padraka.\textsuperscript{135} Cultivation of Sugar-cane in Orissa is expected since it was largely cultivated in the adjacent state of Bengal.\textsuperscript{136}
The epigraphic records are silent about the cultivation of pulses. However, taking rice into account as the staple food, we can think of their cultivation in Orissa. Among the pulses (Simbidhānya) Muḍga, Chaṇaka, Varaka, Kulutha, Batura, Masura, and gram were the chief products. The reference to the lighting of lamp in the temples and grant of land to supply oil to the god led us to assume that different oilseeds viz. Tila (Sesame), Sarsāpa (mustard) etc., were produced. Cultivation of Tāmbula (betel leaf) is known to us from the inscription that records the offering of tāmbula to God in the temple every day.

Besides, various kinds of fruits and vegetables were produced. Abundant production of fruits in Orissa is substantiated by the account of Hiuen-tsang. Of the different kinds of fruits mention may be made of mango, bassia latifolia (Madhuka) banyan, palm, coconut, bel (vilva), palmyra (Tāla), tamarind (tentuli) of which the first two were more popular than others. The inscriptions of Orissa also made mention of these trees. Epigraphic records refer to groves of mango and tāla (Palm) etc. Tamarind was an important fruit produced in Orissa. Its larger number of availability as mentioned in the epigraph during boundary marks indicate it. There are good number of references in the inscriptions to Jāmmu, Madhuka, Dhimira etc. trees.
Among the vegetables the main products were Kuśmāṇḍaka, Vartaka (brinjal), Butumba, Kaliṅga (water melon), Kārkenaka, Karkāru, srungataka, Mulaka, Losuṇa, Paṇḍu (Onion), and green leaves. Bāri kind of land was meant for above cultivation. The Kādambari of vāṇa refers to the cultivation of clove and ela (cardamum) in Koḍala. Moreover during the Kalachuris taxes were levied on the selling of black-pepper and ginger in the market. It seems that different kinds of spices were also produced in Orissa.

A less rain requiring product grown widely in Orissa was Kodusa or Kodar. Another main product of Orissa not used as food but as clothes was cotton. Mention of heaps of cotton (tulārāśi) and grant of black soil (kruṣṇa tala) in the inscription support it. The inscription refers to a tree called silk-cotton (Sālmali vṛikṣha) that provided silk-products. The koṣṭhās of Western Orissa are famous for this product. Sana (hemp) was another fibrous produce. The production of different fibrous products are attested by the reference to weaving class people who at different times were kept under the control of the Brāhmaṇa donees.

Thus, varieties of agricultural products were produced in Orissa. They were grown largely depending on the nature and conditions of the soil. We can safely say that Orissa as an agricultural state was no less important than the other parts of India.
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32. Vallalasena, Dānasāgar, P.331.


40. The presence of royal officer at the time of donation of the villages as mentioned in different Inscriptions.

Hīuen-tsaṅ's visit to different political unit of Orissa.


42. Ibid.


44. Kendupatna plates of Narasimha-II (B);
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47. I.O. Vol. IV, PP. 50, 185, 228.


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"Alishilātāla" is mention to mark the boundary line in the chicacole plates of Satyavarman. Here it does not means a hill as said by S.N. Rajguru, rather the lower parts or the base of a rock were the black bees were probably made their hive (Aλi = 'Ali' means black bees);


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Āśvina dhoi,samule yāi." 
√Chakradhara Mahapatra,Oriya Grāmya giti , P.21.


116. Ibid.

117. Ibid,PP.168-170, The nakshatras are Uttarāṣṭīrgunī, Uttarāṣṭīrtha,Uttarāṣṭīrtrapada,Mulā,jyēṣṭha Anurādhā, Māgha,mrigasīra,Rohini,Hastā,and Revati.

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120. Ibid, P.48.

121. Harṣaḥarita,P.229; Subhāsita Ratnakoṣa, V.P.264.
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123. Ibid, VV.PP.58, 269,423.

124\% It is a practice in Orissa continuing till to-day.


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