Ascendence of Industries: Growth and Expansion in Medieval Odisha

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Abstract:
In the Medieval period from 14th to 17th centuries, Odisha witnessed a massive uprise of industrial growth. Though widely established identity for its agrarian and provincial trade with many European settlers, industrial sectors ranging from textile to boat building factories greatly strengthened and empowered the socio-economical position of Odisha. The various types of textile, jewellery, ivory and perfumery production of medieval Odisha clearly reflect the taste of people which underwent a change. Thus the industrial life of the people was full of activities. Industries provided them with employment and manifold economic benefits.

Keywords: Lakh, Sankharis, Kumbharas, Gur, mahua, atar

Being situated on the shore of the Bay of Bengal and having enjoyed all the privileges to develop her maritime activities, Odisha from time immemorial had her reputation as a seafaring country. In the glorious ancient period the Kalinga ship helped the people of Kalinga in establishing colonies in the Indian Archipelago. It is said, the people of Kalinga were the pioneers in colonizing the far off lands of Sumatra, Java, Indonesia, Burma, Siam and other places. The main ports of Odisha from which the Kalinga ships plied were Mausolin (Masulipatnam), Kalingapatnam, Chilka, Puri, Chitrotpala, Hijli, Tampalipti, Harispur and Balasore. The maritime trade with Indian Archipelago, Burma and other Islands brought a vast amount of wealth to Kalinga. The glories and prosperity of ancient Odisha was probably due to her foreign trade and commerce with the distant lands.

So long the Hindu Kingdom of Odisha was independent and Hindu Kings gave encouragement and offered royal patronage, the maritime trade was very thriving and considerably adding to the national wealth of the century. With the advent of the Muslims to Odisha (from the year 1568) change took place not only in the political condition of the country but also in its social and economic condition. After the Muslim conquest of Odisha during the time of Akbar, the centre of gravity, being changed some of the Southern ports of Odisha including Chilika and Chitropala lost their former glories. The northern ports, particularly Balasore, Pipili and Harishpur came to much more provision than before. This brought the traders of these countries into direct contact with India. The Portuguese being the first of them to come here, were followed by the Dutch, the English and the French, all of whom had trading settlements in different parts of India and obtained certain concessions from the Mughal ruling authority at the centre and its governors in the Subas.
The 17th century, more particularly, remained as an important period in the annals of Odishan history under these favorable circumstances Balasore, Pipili and Hariharpur grew into prominence as important commercial and naval centres on the Odisha coast.

A survey of Odisha’s economic life must be viewed with the forces of continuity and chance that took place during the centuries when she was under the Muslim administration. As regards the land arrangements and officials, the Mughals after the conquest of Odisha, did not bring revolutionary change. Rather they retained the main features of the Hindu system with Persianised nomenclature. Unlike a few officers like Subahdar, Diwans, Fajdar, Amil, Amin, Karori, Chaudhury, Ganungo, Talukdar and Maqaddam got introduced into the administrative circle. Since land revenue constituted the major source to the imperial exchequer, in Odisha revenue settlement, land measurement, revenue assessment and collection became more systematic, better organised and scientific. The introduction of Akbar’s uniform land measure Jarib, called Barah Dati Padika, extension of cultivation issue of Patta to the rent payers, fixation of jamma in rupee, and preparation of rakaba accounts in person, the court language, remained as important contributions of Muslim administration.

**Industries:**
Although agriculture formed the main feature of the economic life of the people, yet, several craft and industries were equally present in Odisha during the period under survey. As it seems, a considerable portion of Odisha’s population earned their livelihood working as manufactures of various kinds of agricultural and non-agricultural products. The abundance of the products was such that even after the full needs of the people were met, there was left considerable surplus for export.

1. **Textile Industry:**
Textile industry was one of the premier industries of medieval India. The centres of textile industry spread over different areas of the country such as Surat, Gujarat, Chanderi in Malwa, Burhanpur in Khandesh, Mysore and northern parts of the Madras presidency Jaunpore, Banaras and some other localities in the united provinces, Bihar, Odisha and Bengal.
It was also one of the principal industries of medieval Odisha as it is known from the contemporary Persian chronicles, accounts of the foreign travellers’ factory correspondence and the diaries of the Agents of the English traders. Abdul Fazl (1595-1596) in the Ain-i-Akbari mentioned the manufacture of cloth in Odisha. Sujan Rai, a century later, in his Khulasat-ut-Tawarikh (1695-99) refers to the production of the good cloth in Odisha. Foreign travels from Ralph Fitch (eighties of the sixteenth century) to Alexander Hamilton (1708) have also made mention of production of cloth in Odisha. Clothes were manufactured from various kinds of fibres e.g. Cotton, Silk, Tussar, Tasar and Wool.

1. **Cotton Products:**
Among the textile products cotton goods held foremost place. Though Ralph Fitch actually did not visit Odisha, he mentioned the production of ‘very much’ cotton cloth in Odisha in the eighties of the sixteenth century. Peter Mundy (1628-1634) referred to the availability at Patna of various kinds of clothes manufactured in Odisha e.g. Hammams, Ambavies, Cassas, Charconnas.
Following are the different varieties of cotton clothes manufactured in Odisha.

**Sannoe:**
Sir William Foster has defined it to be a kind of white cotton goods. According to Miller, Balasore was a centre of trade in fine white calicoes called Sanas. In the opinion of Sir Richard Cornal, Temple it is probably Sanu, Bengal Cotton goods and possibly the same as Salu a cotton cloth, usually of Turkey red. On the other hand a detailed explanation has been given in it in the case of Salu. So, John Irwin’s view that Sannoe is a plain cloth of ordinary quality manufactured chiefly in Odisha could be taken as correct.

**Cassa:**
This perhaps, represents, Arabic Khassa which means special, choice, select. It is a plain muglin of good quality.

**Dimity:**
It has been mentioned in the list of piece goods without any explanation in Hobson- Jobson. Webster has defined it as a cotton fabric with raised strip or cords employed for hangings and furniture coverings and sometimes used for garments.

**Hammam:**
It is derived from the Arabic hammam a “Turkish bath”, so named for its use in the bath and is a cloth of thick stout texture.

**Calico:**
In calico were included Muglin, long cloth and chintz and in fact it was a generic term for cotton cloth.

**Battili:**
It is derived from the Portuguese word beatilla, ‘Velling’ (a curtain) and is a kind of Muslim fabric.

**Tschen (Sahon):**
Probably the word is derived from Hindi Sahon, eudruing and is a superior strong calico.

**Charcome:**
Hindi charkhana chequered muglin. It is very similar to the doreas (Stripped cloth) and the difference was in respect of the breadth of stripes and their closeness to each other as well as the size of the squares.

**Ambari:**
Derived from pension amari is compied hawdah.

**Seerband:**
Hindi, sirband turban J. Taylor has described it as a kind of muglin.

**Lungi:**
Hindi lungi perhaps has its origin in Persian lung and lunggi, loin cloth. It is a scraf or web of cloth to wrap round the body.

**Romal or Rumal:**
A handkerchief.

**Do-Suti:**
Hindi do-suti, do-suta ‘double threaded’. It is thus a kind of cheap cotton cloth woven with double thread.

**Ginghams:**
As defined in the Oxford English Dictionary, it is a kind of cotton or linen cloth or dyed yarn often in stripes or checks and it is derived from the Malay word ginggang.
Salampores:
A kind of Chintz.
The production of cotton goods instead of being confirmed to certain places was diffused throughout the country. The main centres of production were Mohanpur, Balasore, Balaramgarh, Soro, Bhadrak, Jajpur, Cuttack, Balkkada (Balikuda), Hariharpur, Harispurgarh, Puri, Ganjam, Gingelly coast etc.

II. Silk Products:
Odisha produced varieties of Silk goods during the period under review. Among them were the taffetas. The word taff etc. is derived from the Persian taftam, which means to twist, Spiu. It was a trade term for silk piece goods introduced into Bengal by the Europeans who found the Persian word toftan already in use to denote Silk pieces goods. Sometimes this name was also applied to plain woven silk or light thin silk stuff with considerable luster (Sic) or gloss.

William Bruton in 1633 refers to the production of taffetas at Puri. Production of Silk cloths has been referred to by Alexander Hamilton at Balasore in 1708. But he has not mentioned the names of the cloths produced there.

III. Tsar Products:
Odisha also produced clothes of tsar massively. Both Ralph Fitch (1585-86) and Alexander Hamilton (1708) observed that the products were made of grass. In the opinion of Yule, Burnell and Sir William Foster these goods were made of ‘rhea’ (a kind of grass) or some kind red species. In the opinion of John Irwin, the goods were made of a kind of wild silk known as tussar seem to be more realistic than of others.

Balasore was a centre for production of herba goods. A. Hamilton opines that of herba goods produced there (Balasore) gingham, peniascoes and some other goods (name not mentioned) were not worthy. Near Balasore was the country (Mayurbhanj) of Raja of Tillibichrumburg (Tribikram Bhanja [1660-1668] ) from where greater quantity of ‘tasar’ was procurable while ‘ginghas’, taffetyes and other sorts of goods’ were found by Walter Chavell to be manufactured in its neighbourhood and brought to Balasore.

IV. Woolen Products:
We have no direct reference to the production of woolen goods in Odisha during the period under review. But woolen clothes were worn by the people at Puri and Sheep were available at the coast of gingelly. These facts lead us to presume that some woolen goods were produced in medieval Odisha.

2. Ship and Boat building industries:
The question of building ships and boats at a place depends largely on the facilities in assembling the ship and boat building materials like steel, iron, fuel, cloth and timber. In the middle ages timber was the determining factor and ship and boats could be built at places where suitable timber could be procured. As well these materials were available in medieval Odisha, the industry for building ships and boats developed there. Timber came from the Jungle of Odisha .Iron (available at the Nilgiri hills, between Balasore and Bhadrak and Ganjam) and cloth manufactured in various places of Odisha were also procurable. Moreover, many ship wrights lived at different places of Odisha.
As regards the construction of merchant ships we have a few references from the writings of European merchants and travelers. In 1633 the English factor William Bruton mentioned Balasore as a “Sea-town where shipping was built”. In 1934 the English East India Company being in need of a smell vessel for the transport of goods to the gibber vessels in the Bay, purchased a partially built vessel of about 1 no. tons from the ‘governor’ (Officer-in-charge) of Balasore and soon after completing, it named it the Thomas. In 1650-1651 Captain Durson, an interloper built at Balasore a ship of 200 tons in partnership with a moor of Balasore (perhaps a Muhana Madam residing at Balasore) for trading from port to port. Balasore was an important centre for building naval crafts. When in 1664 Shaista Khan, the Subahdar of Bengal made vigorous attempts to strengthen the naval fleet for suppressing the piracy of the Maghas and Feringees on the coast of Bengal, Balasore was made an important ship building centre. As described by Bowery, various boats were found in the Bay of Bengal such as Patilla (Great flat bottomed vessels), the doaks boats, Budagaroo (a pleasure boat) and purgoos. The purgoos were found at Hugli, Balasore and Pipli and were used in loading and unloading ships. Another type of boats which were seen in Odisha were the Malangi boats mainly required for transporting grains and such other things in the river to the ports.

From the letter of Khan-i-Dauran regarding the summering of master crafts Men and Blacksmiths from Harispur, one will be surprised to know that Hanspur (Hanspurgarh) was also a ship-building centre with considerable local craftsmen in medieval Odisha. The ship building industry provided employment to many local craftsmen and artisans who earned their livelihood. The local people were allowed to ply in the local ships and boats for their trade in sea and were earning their livelihood.

3. Iron Industry

It was one of the well-developed industries of medieval Odisha. Many people earned their livelihood working in the smelting of iron and preparation of different tools used for various purpose. While referring to the early medieval period, R.L. Mitra opines that iron was obtained from Talcher, where it is smelted to this day and was of excellent quality. William Hedges the Agent of the English in Bengal (1682-84) says that large quantity of iron was found in the Nilgir Hills (in Odisha) in 1683. Alexander Hamilton (in 1708) while traveling from Bhadrak to Balasore found on the way iron as a product of the place. He also referred to the production of pretty good iron in the woods of Ganjam.

The years that preceded the Muslim rule in Odisha has been considered as a great age of temple building. In the temples of medieval Odisha there was profuse use of iron beams. Further the fine workmanship on stone indicates that iron instruments of great fineness were used. All this proves that iron industry was in flourishing condition in medieval Odisha .Besides, during the period under discussion, various kinds of weapons and armament made of iron were manufactured. The sculptural and epigraphic sources of Odisha give example of battle-axes, swords, shields, daggers and its varieties. Brajanath Badajena in his work Samara Taranga (completed in 1781) refers to weapons and instruments (musical) like, Kunt, Gupti, Pharasa, Tangi, Katuri, Chakra, Banka Chhuri or Banka Katari, Chhara, Badi Bandhuka, Bhala Balama, Barchha, Damp Nagara, Nagara Mahuri, Chadaka Nail (flint gun), Tarabara, Peta (gauntlet), Dhupa (one edged sword), Khadga (double edged sword), Jajala (Jiujal), Babau (roughly a shield with piercing append age), Dholaki, Swara Dhala (shield) etc. The manufacture of all these weapons and instruments provided employment to many people.

From the above discussion it is seen that there was profuse use of iron in the construction of temples, buildings, ships, boats, in the manufacture of different kinds of weapons and armaments agricultural
implements and various other instruments and tools. A good number of people who were engaged in the different branches of iron industry like iron smelting and manufacture of iron earned their livelihood. There is no denying of the fact that it was a flourishing industry of medieval Odisha.

4. Work on other metals
Our inscriptive and literary references are many to the manufacture of article of different other metals like gold, silver, bronze, copper and brass. There were different professional classes in the society like Svarnakara, Kansari who manufactured various ornaments and articles of daily use. The wearing of ornaments by the people of medieval Odisha has been mentioned by Abul Fazl and Thomas Bowery. All such ornaments were made out of gold, silver and alloys of some other metals by the Svarnakaras or gold smiths. The profuse use of ornaments both by men and women proves the fact that the craft of jewellery must have been very flourishing and given considerable employment to a large number of people in medieval Odisha. The Kansaris or Braziers manufactured utensils and other articles of brass and copper for the use of people. John Marshal (168-72) found the production of brass ‘oftaes’ (ewers) “challa maches” (basins) at Damton. The issue of large number of copper plates during the period, before the advent of the Muslims into Odisha, suggest that there was the development of copper industry. From the foregoing lines it can be concluded that the crafts and industries kept many people engaged and brought forth a source of income for their maintenance.

5. Industries on Forest Products
The forests of Odisha supplied ingredients of various industries and provided opportunities of employment to the people.

(i) Wood Work Industry
The wood work industry developed in medieval Odisha as it’s known from the archaeological remains, inscriptive and literary references. The carpenters were engaged in this industry. They manufactured the articles of domestic use like bedstads, stool, camp stands, mej (or table; introduced by the Portuguese in Odisha) etc. They also manufactured the articles, used in the construction of places, forts and temples. The Chariots in which the idols of the Jagannath temple of Puri were carried in procession during the car festival was made of wood with much in work and showed excellent workmanship. The cars were engraved with figures of different animals. The other varieties of wood work included the manufacture of boats, carts and palanquins as we have numerous reference (in the travel accounts and factory records) to their use as means of conveyance on land and water.

(ii) Lac
Lac culture was practiced in medieval Odisha. Lac is used of various purpose e.g. in making sealing wax, lac-dye, varnishes, medicinal oil and also in manufacturing bracelets, rings, beads and other ornaments. Production of gum-lac at Puri was seen by William Bruton in 1653. Shak-Lac was produced in the wood in Ganjam in 1708. Lac in its various forms was an article of investment by the English East India Company. In the seventies of the 17th century, Thomas Bowery refers to the export of lac from the coast of Gingelly, without mentioning its destination.
(iii) Stone Industry
From the exquisite memorial still remaining such as the temples at Bhubaneswar, Puri and Konark and also the stone images, sculptures formed in the different parts of Odisha, it can be said without doubt that stone work industry was in a flourishing condition in periods that preceded the Muslim rule. However, with the advent of Muslims there seems a marked decline of this industry. The patronization which the workers on stone received under the Hindu rulers was no more seen under the Muslim administration. They were ultimately reduced to village stone-masons manufacturing the articles for the daily use of the people. Though the stone work industry, during the period under review, was no more prevalent on a large scale, yet apparently to some artisans and masons it provided means of livelihood. As evidenced, Odisha could also export articles on stone to other provinces. Stone dishes and cups made at Balasore were greatly prized in the market of Calcutta where duties were levied on these articles in the fifties of the 18th century.

(iv) Ivory Work Industry
From the existence of large number of elephants in Odisha as known from the Persia chronicles and foreign travelers, during the medieval period, it can be well presumed that Odisha might have a centre of ivory industry. Luxury articles seem to be manufactured from ivory (hasti danta) for the wealthier people.

(v) Shell Industry
Thomas Bowery in the Seventies of the 17th century refereed to the use of bangles made of conch by the people of Odisha. It is very likely that there conch bangles were the local products. The contemporary literature refers to an occupational social group viz. Sankhari (workers in shells). The Sankharies were engaged in the shells industry. They produced the shell ornaments for the people and thereby earned livelihood.

(vi) Pottery Industry
The potteries of different types and varieties such as cooking utensils, dishes, cups, saucers, pots, lamps of various designs, bowl, vases and toys were commonly used by the people of the medieval Odisha. For centuries together such potteries were in the temples of Odisha more particularly at temples of Puri and Bhubaneswar. The above mentioned fact shows the flourishing state of pottery industry, in medieval Odisha. A professional class viz. kumbharas (potters) who were associated with this industry, earned their means of sustenance.

(vii) Sugar Industry
Sugar industry existed in medieval Odisha. William Bruton refers to the manufacture of Sugar at Puri in 1633. Production of pretty good sugar, both the white and brown sugar he might be referring to an inferior kind of sugar, viz. desi chini ro bhura. A considerable portion of the raw material of this industrial must have been worked up for consumption in the form of gur or jaggery.

Regarding supply of the raw materials of sugar industry we have reference to the cultivation of sugar cane in medieval Odisha. Alexander Hamilton refers to its production at Ganjam in 1708. So it can be held that the sugar industry depended on indigenous production of raw materials. There are references to the export of sugar from Odisha during the medieval period. Sugar was an article of investment of the
English East India Company in Odisha. The English factors purchased sugar from during the thirties and forties of the 17th century. In 1638 the Masulipatam factors received 386 bags of sugar sent from Balasore by the Darling (Ship) and the Unity (Ship). They also asked John Yard, a factor at Balasore, to make further investment in Sugar. The English purchased sugar from Balasore also in 1642. A quite good number of people seem to have earned their living by working in the Sugar Industry.

(viii) Salt Industry
In medieval India Salt was produced from the mines as well as by evaporating sea water. But in Odisha Salt could be obtained only by boiling sea water. Production of salt in Odisha has been referred to by Mandelso in the thirties of the 17th century. Thomas Bowery in the seventies of the 17th century referred to the manufacture of salt in Odisha by the people living by the sea side. According to him many people also during the dry season of the year moved to the seaside to manufacture salt. As known from the English factory records salt was exported from Orissa to Bengal and Patna in the fifties and sixties of the 17th century. These details show that production of salt formed a part of economy of life of some people in Odisha.

(ix) Oil Industry
Oil industry occupied an important place in the economic life of the people. It was an essential industry in the medieval period. Our contemporary record refers to a professional class called ‘Teli’ or Oilman. This class was engaged in the oil industry during the period under discussion. It is seen that oil was locally produced and used for various purposes. Oil was used for local consumption like lighting lamps, cooking vegetable, lubricating tools of different industries, in the shipbuilding etc. Oil was also produced and exported to foreign countries. All this suggest the flourishing condition of oil industry which provided employment to a good number of people in medieval Odisha.

(x) Liquor Industry
References in the literature, trade accounts and factory records show the existence of liquor industry in medieval Odisha. Further, we find that the mentioned of brewers in the inscriptions of the early period. The posts of the period unilaterally condemned drinking of wine. All these prove that liquor was produced in medieval Odisha. Spirits and fermented liquors were usually prepared from the Mahua flower, molasses and other forms of unrefined sugar, sap of the palm tree and rice. William Bruton refers to the non-availability of strong drink at Puri and the strangers bringing it there secretly. The very existence of the liquor industry indicates that people were in the habit of drinking wine. It seems probable that certain sections of the society like Brahmins and Kshatriyas were prohibited from drinking wine. Although drinking wine had no social approval, yet the liquor industry continued to flourish in medieval Odisha.

(xi) Perfumery Industry
It was one of the oldest industries of Odisha. We have already referred to the use of perfumes by the people of Odisha. Use of Sandal paste, rose-water, different atars (perfumed oils) etc. during the period suggest that some people were engaged in the occupation of perfumery. But there were emperors like Akbar, who encouraged the development of this industry. Our available sources of information do not
refer to the export of perfumed articles to foreign countries. It seems that the local manufactures supplied the perfumed articles as required. Such perfumed article seems to have been in demand by the rich and fashionable section of society.

Industries formed an important aspect of economic life of the people in medieval Odisha. The various industries of Odisha included textile, ship-building, boat building, works on iron and other metals, jewellery, wood work, lac, bee-wax, honey, stone work, ivory work, shell, pottery, sugar, salt, saltpeter refining, oil, liquor and perfumery. Amongst them, textile, iron, jewellery, wood work, oil, sugar, salt saltpeter refining industries were the major ones. The preserve of the European factors and their trade activities in Odisha during the period under survey, gave great encouragement to the textile, ship-building, boat-building, iron, wood work, saltpeter refining, oil and liquor, industries, consequently these industries developed in medieval Odisha.

The various types of textile, jewellery, ivory and perfumery production of medieval Odisha clearly reflect the taste of people which underwent a change. Thus the industrial life of the people was full of activities. Industries provided them with employment and manifold economic benefits.

As a matter of fact the industrial activities of the people adequately catered to the needs of all section of the society. Not only that the manufactured supplied the necessary as well as luxury articles for internal consumption but their surplus products could be exported for high profits. May it be a fact that because of the development of industries the artisans, labourers and to some extent the agriculture got manifold economic benefits.

With her surplus products, agricultural as well as industrial Odisha under the Muslims rule, could conduct widespread intra local, inter regional and foreign trade. At the intra-local, as testified by the European travelers of Medieval Odisha in the hats or the periodical markets even of the smallest village, trade was conducted on commodities like rice, pulses, oil, butter, mild, ghee, vegetables, fruits, salt, sugar, clothes, fish and other necessaries of life in abundance. The intra-local trade or relation suggests that the people were provided with all that was required for life. The commodities of daily necessity if not of luxury, were generally cheap except during natural calamities. The system of barter or cowry currency could well satisfy their needs without any complexity in commercial life.

The vitalization of commercial activity became increasingly apparent, during the period of survey, with the coming of a host European traders belonging to different nations and rise of merchants entrepreneurs at regional level. The involvement of the indigenous mercantile community consisting of Hindu as well as Muslims was considerable. Khemchand, Chintamamam, Shah, Suraj Shah, Kalyan Rai, Rajaram, Ram Narayan and others were the powerful local merchants or brokers of Odisha conducting considerable inter-provincial as well as foreign trade.

Odisha’s inter-provincial trade relationship did not encompass places like Hugli, Patna, Masulipatam, Vizagpatam, Pulicat and Madras. There was also trade contact with some places of Kerala and north India. In the Spheres of external trade, Odisha was commercially linked with Persia, Maldive, Island, Malaysia, Burma, Ceylone, Indonesia and China in Asia, England in Europe and St. Helana in Africa. The Chief Commodities on which the merchants of different agencies traded in Odisha were textile products of various kinds, rice, turmeric, ginger, salt, gingelly seeds, butter, iron, sugar, stone dishes, pepper (short and long), Sandal wood, saltpeter etc. in regard to the export from Odisha and lead, quick silver, vermilion, broad cloth cowries, tobacco, spices, nut meg, various luxury articles and bullion as imports into Odisha. Rather many places of inside and outside India was depend on her commodities.
Conclusion:
The influx of bullion and its impact on the economic life of the people was no less important. Though the pattern of agrarian economy did not undergo a radical change, yet medieval Odisha was gradually making a departure if not a complete break, from the barter system and slowly but steadily heading towards monetization of rural commodity productions. The insistence of Mughal authorities for cash payment of revenue was perhaps met with satisfaction though payment in kind was not unknown. The main concern of any economic historian is to assess the life style and actual condition of the people. An integrated approach to the study of Odisha under the Muslim rule reveals the fact that people generally led a life of simplicity. Far away from the modern sophisticated life, their commits were limited. Luxurious living was confined to a smaller section of the indigenous and immigrated society. A little earning with their earnest endeavors could satisfy a common man.

Further Reading:
4. Datta K.K. Survey of Indian Social Life and Economic Condition in the 18th Century (1707-1813) P.83
7. Mandelso, Johann Alberecht de (1638-1640) in Haris, John, A Collection of Voyages and Trivels, Vol. 11. P. 780
9. Sah, A.P. Life in Medieval Orissa, P.P. 100-102
10. Srivastava, M.P., Society and Culture in Medieval India, P.P. 139-140