Chapter - II

RESOURCE BASE

The coastal districts of Orissa have immense resource poten
tiality for the growth of various industries. It has varieties of
cement materials of industrial importance. The study of growth of
industries and their prospects largely depend upon the resource base
of the region under study. Therefore, the resources available in the
study region have been brought into account on the basis of the
available data.

2.1. AGRICULTURAL RESOURCES :

Agriculture being the main activities in the coastal districts of
Orissa has provided employment to about 69% of its total work force as
per 1991 census. The net sown area (NSA) of this region is 1.571
million hectares representing 61.38% of its total geographical area as
compared to the State's NSA of 25.66%. About 37.23% of the NSA in the
coastal districts were irrigated in 1991 as against 35.57% in 1981.

With the increase in irrigation facilities it is marked that the gross
cropped area in the region has increased from 3.02 million hectares in
1981 to 3.786 million hectares in 1991, representing the cropping
intensity of 133.72% and 170.46% respectively. Thus the area
cultivated more than once were found to be of 45.73% of the NSA in the
study region in 1991 as against 28.13% in 1981. From these discussions
it is clear that about 67% of the geographical area of the coastal
districts of Orissa are already devoted for cultivation and further development of agriculture is only possible by adopting intensive methods of cultivation by adding modern inputs.

Agricultural resources from a sound base for industrial growth in an agrarian economy as it provide raw-materials for agro-based industries. The coastal districts produce a wide range of crops, among which cereals like paddy, oil seeds like groundnut, sesame and mustard, cash crops like jute and vegetables and fruit crops like coconut and cashew form the major raw materials for agro-based industries.

2.1.1 AGRO-BASED INDUSTRIES RAW MATERIALS:

The study of agro-based industrial raw material resources, such as, paddy, wheat, oilseeds, fibre crops, sugarcane, fruits, vegetables etc., are relevant not only in terms of its present industrial utilisation as raw materials but also its potentialities for further growth of industries in the coastal districts.

Among the cereals, paddy dominates the agricultural scene of coastal districts of Orissa. It occupies an area of 1946.5 thousand hectares or 92.3% of total area under cereals in 1991. Its production amounted to 1613 thousand tonnes representing 94.04% of the total cereal production in 1991. Amongst the three types of paddy cultivated in the region, winter paddy (Sarada) dominates with 87.51% of total paddy land and 84.24% of total paddy production. Winter paddy is followed by Summer paddy (Dalua) whose share is only 7.98% of the total paddy land and 11.27% of total paddy production. The autumn
paddy (Biali) accounts for 4.51% of land and 4.49% of production. Summer paddy production are largely dependent upon the monsoon rain and traditional methods of cultivation. The production can be increased by adopting better input like high yielding varieties of seeds, fertilisers, pesticides, perennial irrigation system. Paddy as an industrial raw material supported more than 85% of the small scale agro-based industries of the organised sector in 1991. These units are simply engaged in paddy milling. Apart from these there are a large number of rice hullers scattered in the rural area about which reliable data are not available. Mostly the paddy-based industrial units are engaged in dehusking. The use of rice-bran for industrial purpose is not developed as yet. The steps for encouraging the units to extract the rice-bran oil and units to produce straw boards from husks should be taken.

Wheat is the second important cereal crop in coastal districts of Orissa. It is cultivated in 18,167 hectares representing only 1.22% of the total land under cereal crop in 1991 as against 14287 hectares in 1981. The production of wheat recorded a growth of 43.05% during 1981 and 1991. Inspite of the growth of production of wheat the region remains as a deficit area. The production could not meet the requirements of the flour mills of the region. Therefore, wheat is brough from outside the state. This can be partly avoided by encoura­ging the wheat croping.

Groundnut, sesamum (Til), mustard, Linseed, castor, sunflower and coconut are the principal oilseeds grown in coastal districts. Groundnut dominates over other crops accounting 68.72% of area under
oilseeds, followed by Til with 16.22% of area. As regards others mustard 12.34%, Linseed 1.84%, castor 0.56% and Sunflower 0.23%. Coconut plantation is very common in the coastal strips. The concentration of oilseed crops are found mostly in Jagatsinghpur, Kendrapara, Jajpur, Ganjam and Bhadrakh districts. As an industrial raw materials oilseeds support several oil extraction units belonging to medium and small scale categories. It has got tremendous potentiality due to the scarcity and the cost structure of edible oil in the State. **Orissa is the third largest producer of Jute in the country.** Jute cultivation is entirely concentrating in the coastal districts due to the climatic favourabilities. From the study of the production data of jute during last seven years (1983-91) it is observed that the production of jute recorded a sharp decline due to the reduction in price and demand as most of the jute mills became sick. The synthetic fibre got priority over the jute fibre. However, in the coastal districts of Orissa most of the jute produced for consumption in the jute mills at Dhanmandal and Rupsa. Looking to the demands of these two mills the production of jute is surplus in the region. So more small scale units should be encouraged to avoid distress sale of jute at a lower price.

The most important plantation crop in the coastal districts are cashew nut, coconut and sugar cane. Cononut provides rawmaterials for oil mills, coir industries. Likewise cashew nut processing units can be established depending upon the production of cashew nuts. Sugar mills in the small scale category can utilise the sugar cane. There is
a good scope for developing small scale units and household industrial units by utilising the products. Fruits and vegetables are also figuring considerably in the agricultural product range. The price of these commodities sometimes record much how figures due to excess surplus seasonally. This can be avoided by setting up fruit and vegetable preservation industries. There are inadequate number of cold storages in the region, which can be increased. Other units to manufacture potato chips, pan masala from papeya and coconut and other such categories can be established. However, the study region has vast potential of agricultural resources, which can be utilised for the growth of industries.

2.2. LIVE-STOCK RESOURCES:

The coastal districts of Orissa are considerably rich in livestock resources in comparison to the other parts of the state. As per 1977 livestock census, there were 7,358 million livestock in the coastal districts of which cattle were 5.217 millions, buffaloes 0.342 millions, goats 1.263 millions, sheep 0.485 millions and others 0.051 millions. In terms of percentage to the Orissa State total they were 39.50%, 25.18%, 36.97%, 33.87% and 21.83% respectively. Besides these, there were 2.671 million poultry in this region representing 28.14% of State's total in 1977. The distribution and poultry with respect to individual districts of the Coastal Orissa revealed that Balasore accounts for 10.34% livestock and 11.51% poultry followed by Bhadrakh (9.24% and 15.39%), Jajpur (11.56% and 11.34%), Cuttack (15.51% and 10.28%), Kendrapara (11.39% and 10.43%), Jagatsinghpur (11.43% and 10.68%), Puri (10.68% and 10.57%), Khurda (9.57% and 9.43%) and Ganjam (9.28% and 10.37%) respectively in 1977 (Livestock Census-1977).
Despite having such a huge livestock resources the costal districts are lagging behind in livestock based industries. This is because, unlike developed countries, the primary function of 5.56 million livestock population are ploughing and cart pulling than diary product extraction. The milch bovines constitute only 36.28% of the total bovin population as against draught animals of 46.28% in 1977. The quality of milch bovines in Orissa is very poor as compared to other Indian States like Punjab, Haryana, Rajsthan and Gujurat. On an average, a cow in Orissa yields only 158 litres of milk and a she buffalo 338 litres per annum as against the national average yield of milk of 167 litres per cow and 504 litres per buffalo (Sinha-81). Orissa as a whole stands at the buttom of the list among the States of India, in per capita milk production (Tripathy-83) Further the lactation period of cows and buffalo in Orissa is also shorter due to their poor health. Nine costal districts produce only 762 thousand litres of milk annually of which about 61.8% is utilised in the existing processing plants located at Phulnakhara, Jagatsinghpur, Bhubaneswar and Nimapara. Thus, it is clear that there are ample scope for setting up of a few medium and small scale milk processing units. Besides milk the other raw materials for industrial use from livestock are raw hides, bones, most of which are sent to Industries at Calcutta, Vishakhapattnam and Madras. If tanneries and processing units would have been here in this region those could have been easily utilised. The cattle feed and poultry feed units could be easily established which could provide food to the livestock.
2.3. FOREST RESOURCES:

About 39% of geographical area of Orissa is under forest cover. Forests are of considerable importance for the state as it contributes more than half of the non-tax revenue to the Government. But the coastal districts lack in forests compared to the rest of the state. The coastal districts have 3547.48 Sq. Kms. of forest area representing only 15.54% of its geographical area and 5.26% of the total forest area of the state in 1991. The forests of coastal districts are dominated by tidal and mangrove forests which are of little economic significance. The main species are Guan (Exocarcia agollocha), Rai (Rhizophora Mucronata), Sundari (Harietera Minor) and Ban (Avicennia alba), Creapers of varied species, canes and other minor types of trees have led to the description of tidal forest of Mahanadi Estuary known as 'Little Sundarban'. However, the coastal belt casuarine plantation has met the demand for fuel. In the interior of the coastal districts, there exist some patches of tropical deciduous forests. These patches are found in Chikit and Khallikote in Ganjam district, Banpur in Khurdha, Sukinda and Korei in Jajpur, Athagarh in Cuttack, Nilagiri in Balasore districts. The main species of trees are sal(Shorea robusta), Asan (Terminallia tomentosa), Bija (Pferocarpus masupian, Kuruma (Adina Cordifolia) and Dhawara (Anogeissus Latifollius) (Sharma, 87).

But for the industrial purpose the existing raw materials of the region are not sufficient. Those are brought from the neighbouring districts. Among the existing forest-based industries, the paper mill
at Choudwar, a large number of saw mills and carpentry industrial units and Bidi industries are worth mentioning. Besides these industries there is a scope of large varieties of industries in the coastal districts, such as, cashew nut processing plant, Bamboo and Cane product manufacturing units by utilising the available forest resources inside the region and the supplies from outside.

2.4. MINERAL RESOURCES:

Mineral resources play a vital role in the industrial scenario of a region. Unfortunately, the coastal districts of Orissa do not possess large reserves of minerals of varieties to be used as industrial raw materials. The major mineral areas of the region are Sukinda of Jajpur district with iron ore and Chromite mines and Ganjam coast with rare earth. Some patches of fire clay and limestone are found in Cuttack and Khurdha districts respectively. Depending upon the supplies of the raw materials of the regions the industries cannot thrive. So major imports are made to cater the demands of mineral resource in the existing industries.

The important mineral based industries of the region are Ferrochrome industries located in Bhadrakh, Jajpur and Cuttack districts, Sponge Iron and rolling mills located in Cuttack, Balasore, Bhubaneswar and Ganjam districts and glass and ceramic industry located at Barang of Cuttack district. Besides there are large number of small scale industrial units spreading all over the region. The Orissa Sands Complex of Ganjam, Paradeep Phosphates of Jagatsingpur district are worth mentioning.
From the study of the requirements of industrial minerals of the region, it is revealed that most of the requirements are met from the import from outside sources, though Orissa State as a whole occupies a prominent place in the mineral resource reserve in India. The steps should be taken to utilise the minerals of the State to establish industries in the coastal districts as they possess better infrastructure and industrial environment. (Fig.2.1)

2.5. **FISHERIES RESOURCES**:

Fishing is the main occupation of most of the people of coastal belt of Orissa. There is a huge potential of fisheries resources in the coastal districts of Orissa. These districts have a coast line of 431 Kms. with Chilika lake of Puri and Ganjam district border. The fisheries resources of the region are exploited from three sources, such as, (a) Marine fishing, (b) brakish water fishing and (c) inland fishing. In 1981 coastal districts of Orissa caught 19862 tonnes of fishes of which marine fish accounted for 11,828 tons (59.63%), brakish water fish 5,342 tons (28.38%) and inland fish 2,692 tons (11.99%). Subsequently, in 1991, it increased to 56,740 tons of which marine fishing accounted for 67.37% (43,900 tons), and brakish water fish 20.16% (17,840 tons). This growth of marine fishing during the decade was due to the operation of increased number of mechanised boats which explored beyond the indigenous zone, that is, with in five fathoms of water from the shore line.

Production of marine fish with respect to individual districts of coastal Orissa reveals that Balasore accounted for 29.17% followed by
Jagatsinghpur (25.6%), Kendrapara (12.6%), Puri (17.92%), Ganjam (15.11%), in 1991. Regarding the fishing centres there were in all 58 centres in the coastal districts of Orissa of which 11 centres are equipped to handle mechanised boats. The year-wise operation of mechanised boats is given in Table 2.1.

**TABLE - 2.1**

**FISHING CENTRE-WISE OPERATION OF MECHANISED BOATS**

(Fig. in nos.)

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<td>Paradeep</td>
<td>302</td>
<td>314</td>
<td>350</td>
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<td>2</td>
<td>Chandipur</td>
<td>115</td>
<td>131</td>
<td>262</td>
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<td>Kirtania</td>
<td>10</td>
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<td>Dhamra</td>
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<td>44</td>
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<td>26</td>
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<td>6</td>
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<td>-</td>
<td>1</td>
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<tr>
<td>7</td>
<td>Kasaphala</td>
<td>-</td>
<td>19</td>
<td>19</td>
<td>100.00</td>
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<tr>
<td>8</td>
<td>Talchua</td>
<td>-</td>
<td>12</td>
<td>18</td>
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<tr>
<td>9</td>
<td>Chudamani</td>
<td>-</td>
<td>22</td>
<td>41</td>
<td>-</td>
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<td>10</td>
<td>Chandnipala</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
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<tr>
<td>11</td>
<td>Bideipur</td>
<td>-</td>
<td>-</td>
<td>1</td>
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</table>

SOURCE: Directorate of Fisheries, Orissa, Cuttack.
As regards the potentiality of marine fishing it is estimated that the coastal districts has an annual potentiality of 1,20,000 tonnes of catch. Against this, the total catch was only 56,740 tonnes (NCAER, 77). Thus the exploitation is less than the half of the existing potentiality. If the exploitation rate can be increased. The scope for development of boat manufacturing industries, fish processing industries and sea-shell industries will be possible at a speedier rate. Salt production centres in the sea beaches can be modernised as there is no centre of production of iodised salt in Orissa.

2.6. HUMAN RESOURCES:

Quality of human resources play a vital role in the process of development of industries. The industrial work force must be highly skilled, efficient and technically sound for a healthy industrial environment. The coastal districts of Orissa has 11.42 million population as per 1991 census in an area of 22802.32 Sq. Kms. They constitute 39.72% of the total population within an area of 16.79% to the total area of the State. This is due to the climate, physical conditions, agricultural potential, urbanisation and other such concentration of activities in these districts. Coastal districts accounted for 42.63% of the total urban population of the State with highest degree of urbanisation in Ganjam followed by Cuttack, Balasore, Bhadrakh, Khurdha, Jagatsinghpur, Kendrapara and Jajpur. As regards the number of urban centres there are in all 32 urban centres of which there are 5 centres with more than one lakh population. They
PERCENTAGE OF POPULATION AND AREA OF DISTRICTS

POPULATION INDICATED BY OUTER SECTORS

AREA INDICATED BY INNER SECTORS

Fig. 2.2
are Cuttack, Bhubaneswar, Puri, Balasore, Berhampur in which 59.62% of total urban population live. Rest 27 towns provide residence for 40.38% urban population (Fig.2.2.).

The decennial growth of population the nine coastal districts is found to be of 22.49% during 1981-91 as against 25.40% in 1971-81 and 21.12% in 1961-71. The pattern of population growth with respect to individual districts reveals that Jagatsinghpur district registered the highest rate of growth (27.68%) followed by Khurdha (25.18%), Balasore(24.42%), Kendrapara(23.68%), Bhadrakh(23.46%), Jajpur(22.23%), Cuttack(22.06%), Puri (21.32%), and Ganjam (18.28%) during 1981-91.

2.6.1. Literacy:

Levels of literacy is one of the criteria to determine the quality of labour force. In the coastal districts of Orissa 51.26% of the total population are literates in 1991 as against 47.07% in 1981 and 35.23% in 1971. But there is a wide gap in the literacy rate among male and female population. A district wise distribution of literates indicates that Ganjam district leads all other coastal 1districts. The total literacy campaign by the district administration provides encouraging results. Among the literates the share of technically qualified persons are highest in Cuttack district (18.32%), followed by Jagatsinghpur (14.15%), Kendrapara (13.32%), Balasore (11.62%), Khurdha (10.43%), Ganjam (9.05%), Puri (8.86%) and Bhadrakh (7.34%), Jajpur (7%) (TLC,91).
2.6.2. Economically Active Persons:

As per the 1971 census, the economically active persons are those whose main activities are participation in any economically productive work through their physical or mental activities (Tripathy, 73). In other words, they can be termed as 'Working Force'. As per the census data the working force of coastal districts of Orissa are 29.72% in 1991 as against 28.63% in 1981 and 27.14% in 1971. But the picture is changed while the same is treated separately for rural and urban areas. In the urban areas the economically active persons are more because of the availability of scope for engagement. Basing on this criteria it is observed that the participation rate (i.e., percentage of workers to that of total population) of the rural areas of the coastal districts constitute 23.71% as against 38.54% in urban areas in 1991 while it is 22.38% in rural and 34.16% in urban areas in 1981.

2.6.3. Occupational Structure:

As per the 1981 census, the occupational categories of economic activities are grouped as (a) Primary sector, (b) Secondary sector and (c) Tertiary sector. This sectoral distribution of workers are different from the occupational structure outlined by 1971 census, where nine categories of economic activities such as, (i) cultivators, (ii) Agricultural labourers, (iii) Livestock, hunting, fishing etc. (iv) Mining and quarrying (v) Manufacturing, (vi) Construction, (vii) Trade and commerce, (viii) Transport & Communication, (ix) Other services were given. The following table show the change in occupational structure of worker kin different sectors during 1981 and 1991 (Census-81).


TABLE - 2.2


FIGURES ARE IN %

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<td>No.</td>
<td>Districts</td>
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<td>Secondary</td>
<td>Tertiary</td>
<td>Primary</td>
<td>Secondary</td>
<td>Tertiary</td>
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<td>1.</td>
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<td>84.42</td>
<td>4.32</td>
<td>11.26</td>
<td>78.76</td>
<td>3.46</td>
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<td>83.16</td>
<td>2.47</td>
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<td>Kendrapara</td>
<td>79.22</td>
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<td>3.16</td>
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<td>4.</td>
<td>Jajpur</td>
<td>75.63</td>
<td>6.56</td>
<td>17.81</td>
<td>69.21</td>
<td>4.31</td>
<td>26.04</td>
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<td>5.</td>
<td>Balasore</td>
<td>77 82</td>
<td>3.11</td>
<td>19.07</td>
<td>74 18</td>
<td>6.09</td>
<td>19.73</td>
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<td>6.</td>
<td>Bhadrakh</td>
<td>73 86</td>
<td>5.02</td>
<td>21.12</td>
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<td>3.36</td>
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<td>7.</td>
<td>Puri</td>
<td>78.56</td>
<td>5.61</td>
<td>15.83</td>
<td>72 86</td>
<td>4.07</td>
<td>23.07</td>
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<td>8.</td>
<td>Khurda</td>
<td>77.23</td>
<td>6.33</td>
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<td>79.45</td>
<td>3.68</td>
<td>16.87</td>
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<td>9.</td>
<td>Ganjam</td>
<td>81.39</td>
<td>2.86</td>
<td>15.75</td>
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</table>

SOURCE : Data computed of Census of India, Series-16

The analysis of the above table exhibit that the workers in Secondary and tertiary sector are significantly low in all the districts as compared to the dominating primary sector. This is due to the lion share of agrarian rural population.
2.7. **RECREATIONAL RESOURCES**

Recreational resources are extremely important from the angle of tourist industries, and the film industries. Coastal districts of Orissa possess large number of places of tourist interest, which can be developed to attract the inland and foreign tourists. In 1991 there are 27 Government recognised tourist centres in coastal districts of Orissa. Among them, Puri, Konark, Bhubaneswar, Gopalpur, Lalitagiri, Ratnagiri, Chandikhole, Chandabali, Paradeep, Narayani, Taratarini and Chandaneswar are most prominent in the tourist map of Orissa. This sector has a brilliant future for development. As regards the film industries, there are various sectors, such as, production of films, distribution of films, cinema houses and advertisements. In the Khurda district there is a film production studio at Bhubaneswar (Kalinga Studio). Besides this, Nandan Kanan, Chilika lake and Puri-Konark Marine Drive and Sea Beach are also utilised for the purpose of out-door shootings. There are 67 cinema houses in the coastal districts of Orissa in 1991 which are facing keen competition with the Video viewing. This sector can be well developed with specific Governmental support.

The study of the resource potentiality of a region is more vital before the assessment of the industrial calibre. The coastal districts of Orissa are rich in various resources as discussed earlier. Besides those resources, the industrial infrastructure are essential for the growth of industries. (To provide such facilities, the State Government has set up an agency called Industrial Infrastructure Development Corporation of Orissa).
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Total Literacy Campaign Cell - Angul.

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