ECONOMIC PROFILE OF A SELECTED BACKWARD AREA
7.1 GENERAL

7.1.1 The present case study has been selected primarily because it is the study of a railway line that would pass through typical arids which are undeveloped and for which normal financial project appraisal techniques would not be adequate for examining the acceptability. In this chapter we have discussed the economic characteristics of the area.

7.1.2 The zone of influence of the railway line linking Ranchi with Korba is largely in the Chotanagpur division (Ranchi district) of Bihar State and Chattisgarh division (Raigarh and Bilaspur districts) of Madhya Pradesh. The new line is thus stretched from north to south/west linking valleys of Sankh river and Mand river. This has established a connection between Chotanagpur with the eastern portion of Madhya Pradesh i.e. Raigarh and Bilaspur districts which have a lot of industrial and economic potential. The line would also be an extension of the existing narrow gauge line of Ranchi-Lohardaga railway line passing through the subdivisions of Ranchi district.
7.1.3 The district of Ranchi forms part of the Chotanagpur division in the State of Bihar and is situated between 20° - 21' and 23° - 43' north latitude and between 84° - 33' east longitude. Its total area is 18,264 square kilometres and it is the largest district in the Bihar State. It is bounded on the north by the districts of Palamau and Hazaribagh, on the east by the districts of Purulia in West Bengal, on the south by the districts of Singhbhum (Bihar) and Sundargarh in Orissa, and on the west by the district of Raigarh in Madhya Pradesh.

7.1.4 Bilaspur district of Madhya Pradesh lies between the latitude 21° - 20' and 23° - 7' north and longitude 81° - 12' and 83° - 19' east. The district is bounded by the district of Shahdol and Sarguja in the north, by Durg and Raipur in the south, by Raigarh in the east and Mandla and Durg in the West.

7.1.5 Raigarh district of Madhya Pradesh lies between the latitude 21° - 20' and 23° - 15' north and longitude 82° - 55' and 84° - 25' east. It is bounded on the east by Ranchi district, on the west by Bilaspur district, on the north by Ambikapur (Sargujapur district) and on the south by Sundargarh district.
7.1.6 The alignment is located in an undulating terrain of Ranchi plateau with an average elevation of 609.60 metres above seal level. Isolated hills are found in the central plateau. The entire district of Ranchi is covered by red soil except for a small portion in the south-east which contains mixed, red and black soil. The area from korba to Dharamjaigarh extends over hilly area with forest reserves. The grounds are generally elevated and form low ridges, which again are intersected by the subsequent streams and feeder rills. The prevalent soils are black, mixed red and sandy.

7.1.7 According to the temperature recorded at meteorological stations, the variations in temperature in January and May at certain observatories are given on next page.

7.1.8 The rain fall recorded at the following places during the rear is as under:

<table>
<thead>
<tr>
<th>Place</th>
<th>Rainfall (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranchi</td>
<td>1902</td>
</tr>
<tr>
<td>Lohardaga</td>
<td>1360</td>
</tr>
<tr>
<td>Jashpurnagpur</td>
<td>2467</td>
</tr>
<tr>
<td>Champa (Korba)</td>
<td>1323</td>
</tr>
</tbody>
</table>
### TABLE 4
Temperature in Centigrade

<table>
<thead>
<tr>
<th>Location</th>
<th>January Maximum</th>
<th>January Minimum</th>
<th>May Maximum</th>
<th>May Minimum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ranchi</td>
<td>26.7</td>
<td>6.4</td>
<td>41.0</td>
<td>19.3</td>
</tr>
<tr>
<td>Gumla</td>
<td>24.8</td>
<td>5.3</td>
<td>46.0</td>
<td>20.0</td>
</tr>
<tr>
<td>Jashpurnagar</td>
<td>23.8</td>
<td>7.1</td>
<td>38.7</td>
<td>23.7</td>
</tr>
<tr>
<td>Champa (Korba)</td>
<td>27.6</td>
<td>11.9</td>
<td>44.3</td>
<td>28.5</td>
</tr>
</tbody>
</table>
The climate of the area through which the line passes is characterised by hot dry summer and seasonal rain fall in the south-west monsoon period.

7.1.9 Further the road is connected from the other bank of the river Sankh i.e. Lodamargh to Jashpurnagar, Pathalgaon Dharamjaigarh-Raigarh Kharsia. Passenger buses ply from Ranchi to Jashpurnagar and Pathalgaon throughout the year. Most of the traffic from Jashpurnagar and Dharmjaigarh comes to Raigarh, Kharsia or Sakti-railway stations and is cleared by rail to various destinations and trucks also ply directly on these routes and take the jungle products, viz., timber, firewood bamboos, beedi-leaves, mohua leaves, myrobalams, mohua flowers etc. and vegetables to various places well connected by roads.

7.1.10 The population of the area is mostly scheduled tribes or adivasis who inhabit this area. In Bihar there are as many as 30 classified tribes.

7.1.11 The area from Sankh river to Korba in Chattisgarh region is mostly occupied by adivasis and scheduled caste and scheduled tribe population. In case of Raigarh district, the
percentage of scheduled caste and scheduled tribes population is 57.6% of the total population of the district. Their occupations generally are fishing, cattle rearing and handicrafts besides agriculture.

7.2 GENERATED GROWTH

7.2.1 The hinterland served by the rail link comprises essentially the Chattisgarh tract and Chotanagpur plateau which include districts of Bilaspur and Raigarh in Madhya Pradesh and Ranchi in Bihar State. Besides serving a direct link between two important industrial towns viz. Korba and Ranchi, the line served the most backward area of the above two states. The region reflected an economic imbalances as highly organised industrial complexed at both ends while other parts of the region with extensive plateau are covered with sal forest stretching from Korba to Ladamgarh in Madhya Pradesh. The eastern part from Ladamgarh to Ranchi is on a high plateau dependent upon primitive agriculture. The region abounds in natural wealth minerals and forests in addition to great potential of water resources which remain woefully under-utilised.
7.3. RANCHI DISTRICT

7.3.1 Ranchi is the only district of Bihar which is fully declared as scheduled tribe area. It comprises 18264 s.q.km. of area. The tribal population is more than 80%. Out of the total area of the district of Ranchi, nearly 7,49,600 acres of land has been brought under cultivation and only 39,150 acres of the cultivated area is sown more than once in a year. Thus as much as 7,10,460 acres of the cultivable land has one crop a year. Maximum cultivation is done in Aghani followed by Bhadai. Summer cropping is almost unknown to this area. Rice is the major cereal produced and among pulses Arhar has the top position. Patato is the principal cash crop. In Bihar, Ranchi is the only district producing tea, while in case of minor forest products, lac production is quite significant and is prominent. However, there is much possibility of utilising the land for more than one crop with the introduction of a chain of minor and medium irrigation schemes. High yielding varieties of crops are being sown and multiple cropping, particularly of wheat, rice and vegetables is being attempt on a large scale. Increased use of fer...
significant feature of the agricultural development in the district. Agro Service Centres have been established so as to hold stock of a wide range of agricultural equipment viz. tractors, power tillers, diesel pumps and spares etc. for giving on hire to cultivators. In addition, these centres also have maintenance and repair facilities for these implements. Storage godowns have been owned at places like Bero and Ratu and cooperative marketing has been introduced with cold storages established at places like Lohardaga and Gumla. Rural electrification has played a vital role in the development of agriculture. A detailed programme has been drawn out for electrification of different block with 50% subsidy from financial institutions. Bero block has been intensively electrified thus developing agriculture and agro-based industries.

7.3.2 The total area under vegetable cultivation is 33,415 acres, out of which potatoes are grown in 10,740 acres.

7.4 RAIGARH DISTRICT

7.4.1 The area of Raigarh district is 12910 sq. kms. including 1790.5 sq. kms of Dharamjaigarh Tehsil and 5683 sq. kms. of Jashpurnagar Tehsil.
Main sources of irrigation are canals, tanks and wells. Agricultural produce is rice, maize, wheat, til, rape seed and mustard and ground nut. The rice and other cereals are meant for local consumption only as the production is less than the consumption in these two tehsils and as such, no export is possible. Only oil seeds are exported from these two places as these are surplus to consumption.

7.5 BILASPUR DISTRICT

7.5.1 The area of Bilaspur district is 87,552 sq. kms. and constitutes five tehsils namely, Bilaspur, Janjigir, Mungeli, Katghpra and Sakti. The area under cultivation is 6,67,940 hectares for paddy and 12,950 hectares for the growth of vegetables and fruits. The state government is supplying improved seeds and farming implements to the farmers to increase the production.

7.5.2 In case of Katghora Tehsil, a canal on the right bank of the barrage (Hasdeo Project) has been constructed which irrigates 49,469 hectares.

7.6 FORESTS

7.6.1 The first important natural source is forests which are probably the most conspicuous wealth of the region. In Madhya Pradesh, out of
a total area of 43,524 thousand hectares, 13,552 thousand hectares or 31.1% is under forests. In case of Bihar State, nearly 80% of the total forest area is in Chhotanagpur plateau.

7.6.2 Forest produce mainly consists of timber, firewood, bamboos, ballies, beedi leaves, sal seeds, mohua seeds, bamboo cuts, tendu leaves, mohua leaves, gum, bena, amla etc. and these are transported by trucks to various rail heads for onward despatch to farthest end.

7.7 MINERAL WEALTH

7.7.1 Minerals play multiple roles in economic development. Like other resource products, they are a generator of economic growth. The exportable minerals are a source of foreign exchange. Thus they are the physical substance of both industry and industrialised agriculture.

7.7.2 The district areas of major mining activities in the region are (i) Bilaspur-Raigarh-Shahdol-Surguja-Rampur coal fields (ii) Lohardaga-Surguja-Raigarh and Bilaspur Bauxite Mining areas (iii) Palamau-Ranchi and Singhbhum Limestone, China clay, fire-clay quarrying areas,
7.8  COAL

7.8.1 Hasdeo Rampur Coal Fields These coal fields are located north of Korba coal fields. This coal-belt lies across the district borders in the Surguja district. The coal fields are expected to contain 112.6 million tonnes of coal and the coal deposits would be of grade III category.

KORBA COAL FIELDS

7.8.2 The Korba coal field is located in the lower Hasdeo Valley in Bilaspur district of Madhya Pradesh. The total area of the field is about 500 sq. kms.

7.8.3 The explorations carried out by Indian Bureau of Mines and National Coal Development Corporation (Coal Mines Authority Ltd.) have established the presence of 22 coal seams in this coal field. Out of this only 3 seams from the lower sequence (Seam G-I, Seam G.III/R-II & R-IV) and 2 seams from the upper sequence (Jatraj/Kusmunda and Upper Jatraj/Upper Kusmunda) are the most important seams in this coal field.

7.8.4 The new projects in the Korba coal deposit belt include
a) The upper Kusmunda block Gr.III coal reserves is estimated to contain 36.6 million tonnes.
b) Lower Kusmunda block Gr.III coal reserves is estimated to contain 145.6 million tonnes.
c) Rajagamar sector located east of Korba sector consists of Gr.I coal reserves.

RAIGARH COAL FIELDS

7.8.5 Raigarh Coal fields consists of two distinct geographical units known as Raigarh coal field (north) and Raigarh Coal field (south).

a) Raigarh coal field (north) covers an area of about 520 sq. kms. and is located about 15 kms north of Raigarh town of Madhya Pradesh.

b) Raigarh Coal Field (south) covers an area of 725 sq. kms. Two coal seams having a thickness of 1.2 kms. and 4.3 kms. have been reported by the Geological Survey of India from this coal field. A part of the Coal field lies in the Sambalpur district of Orissa and a part in the Raigarh District of Madhya Pradesh.
MAND RIVER COAL FIELD

7.8.6 This coal field extends over an area of about 520 sq. kms. in Raigarh and Bilaspur districts of Madhya Pradesh. Its southern edge is about 11.0 kms, from Kharsia railway station.

7.8.7 The total reserves in the Raigarh and Mand River coal-fields are estimated to be about 977.00 million tonnes.

7.9. LIMESTONE

7.9.1 Several limestone deposits are located in the south East Resource Region. The major deposits are Hazaribagh-Palamau-Ranchi and (ii) Limestone Deposits of Bilaspur.

LIMESTONE DEPOSITS OF PALAMAU-RAIGARH AREA

7.9.2 Several limestone deposits are located in Palamau-Ranchi Districts. The principal areas of limestone deposits in the districts are (i) Bundu-Basaria (ii) Khurkut-Religara (iii) Lapanga-Bhurkunda-Kursa and (iv) Hosir-Bachra-Dundu-Rays. Among these, the Hosir-Bachra fields is the largest and is about 3 kms. long with and east-west trend.

CHILHATI BLOCK

7.9.3 This block covering about 95 sq.kms area is located at a distance of 45 kms. south of Jairamnagar railway station on Howrah-Nagpur
line of S.E. Railway. The reserves of Blast Furnace grade Limestone with less than 12% acid insolubles and 6.0% Magnesium Oxide has been established at 485.9 million tonnes of plus 12 mm. size limestone.

AKALTARA BLOCK

7.9.4 This block occurs within 2 to 3 kms. from Akaltara Railway Station. The indicated reserve of Blast Furnace grade of limestone of above specification has been provisionally estimated at 151.7 million tonnes which would yield 136.5 million tonnes of plus 12 mm size.

7.10 BAUXITE

7.10.1 The exploration of Bauxite, the chief raw material for Aluminium metal manufacture has assumed greater importance in the recent years with the envisaged expansion in Aluminium manufacture.

7.10.2 The important Bauxite deposits in the region are (i) Ranchi Palamau districts of Bihar, (ii) the Plateau area of Ranchi-Palamau extended into the districts of Surguja-Raigarh and Bilaspur.

A brief description of Bauxite bearing area is given below:
RANCHI PALAMAU AREAS

7.10.3 The main Bauxite area of the region lies at the north west corner of the Ranchi district and the neighbouring portion of the Palamau district. It constitutes at present, the most important deposits in India. In this area there are numerous occurrences of high grade Bauxite of economically workable dimensions; some being thick and continuous over large areas.

THE PLATEAU AREA OF SURGUJA-RAIGARH AND BILASPUR DISTRICTS

7.10.4 Bauxite deposits or significance are located on the northern portion of Jamira Pat Plateau, on the Surguja-Jashpur borders, and at Kunakel and Jargng Pat in Surguja district. The Bauxite from the above areas is reported to be suitable for Aluminium extraction.

7.10.5 Bauxite deposits segregated from laterite occur on the Phutka Pahar, Laddi Pahar, Mahadeo Pahar and several other hill tops in this region of Bilaspur district.

7.11 FIRE CLAYS

7.11.1 The Pali deposits are classified into Pali East and Pali West villages which is about 50 kms. from Bilaspur town and is situated on the Bilaspur Katghora road. The Pali West deposit is
about 1 km. west of Pali village with an overburden of 2 to 3 feet. The thickness of the west bank is 6' and the reserves are estimated at 37,000 tonnes.

7.12 POWER

7.12.1 The sources of electric power are the thermal power stations of Madhya Pradesh Electricity Board located at Korba. At present there are 2 of them, the 100 M.W. thermal power station and 200 M.W. thermal power station based on coal.

7.13 INDUSTRIAL PROSPECTS

7.13.1 The districts of Ranchi, Raigarh and Bilaspur have been categorised as industrially backward for which the Government of India have provided for concessional finance and various subsidies. The region likely to be served by the proposed line is one of the most backward and undeveloped. The vast mass of mineral and forest wealth adds a crucial dimension to the claim of the area on the basis of having been left so far behind in the nation's march towards economic growth.

7.13.2 The rail link has connected a vast undeveloped area with two industrial complexes at either end i.e. Korba and Ranchi. Korba, in
Bilaspur district, occupies an important position in the industrial development map of India. Korba is linked by a 37 km long branch line to Champa. The area is also well connected by roads to Bilaspur.

7.13.3 Industries department has already acquired 242 hectares of land in villages-Jhagrah, Risdi and Kharmure near Korba and 40 sheds of 30' x 60' have been constructed for the development of an industrial Estate in Public as well as in private sectors for various industries.

7.13.4 The following are the large-scale industries located at Korba:-

i) Coal India Limited

1. Manipur-I Open colliery
2. Manipur-II Underground colliery
3. Bani-Mungra -do-
4. Surakachar -do-
5. Regda Marg -do-
6. Kusumunda -do-

ii) Bharat Aluminium Co. Ltd.

1. Alumina Plant - 1st Phase - 50,000 tonnes per year.
2. Aluminium Ingots - 1st Phase - 25,000 tonnes per year.
Final Phase -
1 lakh tonnes per year.

iii) Fertilizer Corporation of India for Production of Urea:

Total Investment - Rs. 106 crores

iv) M.P. Electricity Board:

1. 320 MW Thermal Power Stations
2. Super Thermal Station with 1200 MW

v) The following new industries have come up in Korba area.

M.S. BHARAT ALUMINIUM CO. LTD. - ANCILLARY INDUSTRIES

<table>
<thead>
<tr>
<th>Annual Turnover (Rs. in Lakhs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Foundary Works</td>
</tr>
<tr>
<td>2. Lime</td>
</tr>
<tr>
<td>3. Electrical Instrument Repairs and spare parts</td>
</tr>
<tr>
<td>4. Refractories</td>
</tr>
<tr>
<td>5. General Fabrication</td>
</tr>
<tr>
<td>6. Machine Shops</td>
</tr>
<tr>
<td>7. Filter Cloth</td>
</tr>
</tbody>
</table>

7.13.5 COAL INDIA LIMITED ANCILLARY INDUSTRIES

1. Coal tubes Units Rs.120 lakhs per year
2. Mine Car

3. Cable Joint Boxes and Foundry Rs.5.7 lakhs per year
4. Pipe fitting Rs.10 lakhs per year
The following small scale industries are based at Korba:

i) Saw Mills - 18
ii) Light Machine Shops - 4
iii) Soap making Factory - 1
iv) Ice Factories - 2
v) Bakeries - 2
vi) Ice Candy Factories - 2
vii) Rubber Factories - 4
viii) Fabrication shops - 4
ix) Cast Iron Foundry - 1
x) Brick laying units - 7
xi) Oil Mills - 2
xii) Furniture units - 4
xiii) Explosive units - 1

(1010 hectares area)

COAL

Korba coal-field extends over an area about 500 sq.kms. The coal is free from igneous intrusions and 22 coal seams have been established by drilling. Various collieries have developed in the field which has reserves of 320 million tonnes. Since 1953 systematic drilling and prospecting in this coal-field was started by the Indian Bureau of Mines and National Coal Development Corporation Limited.

Different areas covered by these investigations are:

a) Korba sector (east of Hasdeo river) - 18 sq.kms
b) Rajgamar Sector (east of Hasdeo river) - 26 sq.kms
National Coal Development Corporation was the only exploiter of this coal-field. Apart from the original Korba colliery, the National Development Corporation developed Banki and Surakachar collieries in the Third Plan Period. A local mine of inferior coal (Manikpur colliery) was also developed during the same period to supply coal to Madhya Pradesh State Electricity Board Power House at Korba. Production of coal and despatch by rail from Korba coal-fields were as under:

<table>
<thead>
<tr>
<th>Year</th>
<th>Production (million tonnes)</th>
<th>Rail Despatch (million tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1961-62</td>
<td>0.45</td>
<td>0.272</td>
</tr>
<tr>
<td>1966-67</td>
<td>0.773</td>
<td>0.350</td>
</tr>
<tr>
<td>1971-72</td>
<td>1.48</td>
<td>0.630</td>
</tr>
<tr>
<td>1975-76</td>
<td>3.20</td>
<td>1.362</td>
</tr>
<tr>
<td>1980-81</td>
<td>5.64</td>
<td>2.02</td>
</tr>
<tr>
<td>1985-86</td>
<td>9.28</td>
<td>3.74</td>
</tr>
</tbody>
</table>

Coal from Manipur colliery and slack from Korba colliery to the local power House are transported in Madhya Pradesh Electricity
Board's own wagons hauled by their own locomotives over their private sidings.

7.13.11 Long distance rail despatch from these coal-fields is about 90 wagons a day with the following movement pattern.

- Railway locoshed: 50 wagons a day
- Bilai Steel Plant: 20 -do-
- Trombay Power House: 10 -do-
- Miscellaneous industries: 10 -do-

Steam coal from Korba, Banki Surakachar collieries is supplied to Railway loco sheds and the slack to Madhya Pradesh Electricity Board Power House, Trombay Power House, Bilai Steel Plant and others.

RAJGAMAR SIDING

7.13.12 Rajgamar is located at a distance of 16 kmms, from Korba on the link to Ranchi and the estimated coal reserves are 63.0 million tonnes. Amba colliery may also come up in future and the final capacity, indicated is 0.72 m.t. of Rajgamar, 0.70 m.t. of Amba, totalling 1.42 m.t. It has been envisaged that one additional train of 22 Boxes daily will move from Rajgamar via Bilaspur-Nagpur i.e. 399300 tonnes in a year based on 1210 tonnes train load taking 330 days in a year.
There are prospects of development of Mand River coal-field and Raigarh coal fields with the new line coming up. The areas have not been explored and the estimates of reserves are not readily available and could not be accounted for in the Report.

M/s BHARAT ALUMINIUM CO., LTD. KORBA

M/s Bharat Aluminium Co., Ltd. Korba has set up an Aluminium Plant at Korba in collaboration with Hungary and Russia at an outlay of Rs.33 crores. Its capacity is 2 lakh tonnes of Aluminium per year. Smaller Plant has also been commissioned for converting the Alumina into aluminium metal.

<table>
<thead>
<tr>
<th>Aluminium products</th>
<th>Quantity per year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Rolled products</td>
<td>40,000 tonnes</td>
</tr>
<tr>
<td>2. Angles, Channels etc.</td>
<td>10,000 tonnes</td>
</tr>
<tr>
<td>3. Properzi rods</td>
<td>10,000 tonnes</td>
</tr>
<tr>
<td>4. &quot;Pigs&quot;</td>
<td>40,000 tonnes</td>
</tr>
<tr>
<td></td>
<td>1,00,000 tonnes</td>
</tr>
</tbody>
</table>

In case of production of 1 lakh tonnes of Aluminium products, 9.8 thousand tonnes will move on this link from 1982-83 and will increase to 15484 tonnes in 2011-12.
Figures in thousand tonnes

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982-83</td>
<td>9,800</td>
</tr>
<tr>
<td>1987-88</td>
<td>10,780</td>
</tr>
<tr>
<td>1992-93</td>
<td>11,760</td>
</tr>
<tr>
<td>1997-98</td>
<td>12,740</td>
</tr>
</tbody>
</table>

Out of these despatches for Bihar and north eastern region have been shown as 9,800 tonnes from 1982-83 onwards or 30 tonnes per day. The production of 15.4 thousand tonnes is expected to materialise by 2011-12 increasing uniformly from 1982-83 at 3% per annum as per indications given by the concern.

FERTILIZER PLANT AT KORBA

7.13.16 Plant has set up a coal based plant and manufactures fertilizer grade urea to the extent of 4.95 lakh tonnes per annum at an investment of Rs.106.

Urea fertilizer moves to the following places through the new link to the extent as shown against each per month.

i) Dharmjaigarh Tehsil - 1000 tonnes
ii) Jashpurnagar Tehsil - 2000 tonnes
iii) South Bihar including Gumla-Ranch area - 1000 tonnes
iv) Surguja district (Ambikapur) - 1000 tonnes
7.13.17 Some of the fertilizer is moving by road from the adjoining areas and after the setting up of Korba Fertiliser plant, it is envisaged that all supplies to Katghora Tehsil, Dharmjaigarh Tehsil, Jashpurnagar Tehsil, Surguja district (Ambikapur) and adjoining areas including Gumla-Lohardaga-Ranchi sector will be through this link.

CEMENT

7.13.18 A number of cement works have come up in Bilaspur division i.e. Jamul, Mandhar and Century Cement Works at Tilda with the abundant availability of limestone deposits and granulated slag which is the basic raw material for cement production. The despatches to Dharamjaigarh, Jashpurnagar, Surguja, Gumla and Ranchi areas are as under:-

- Dharamjaigarh - 3600 tonnes
- Jashpurnagar - 3600 tonnes
- Surguja (via Pathalgaon) - 3600 tonnes
- Gumla and via - 7100 tonnes
- Ranchi and via - 7100 tonnes

The movement to these areas through this link is the most economical.
PRECIPITATED CHALK

7.13.19 Precipitated chalk is a well refined form of calcium carbonate. Superior grade of limestone is the major raw material required for the manufacture of precipitated chalk. The capacity of the precipitated chalk unit, which has been installed in Korba region is 10 tonnes per day i.e. 3300 tonnes per annum, and despatches are 1650 tonnes or 50% for south Bihar area.

CALCIUM CARBIDE

7.13.20 Even as per demand considerations, a calcium carbide plant can be comfortably contemplated in this region. The demand for calcium carbide within this district and the adjoining areas where industrial complexes are anticipated in the future should be on an extensive scale.

BLEACHING POWDER

7.13.21 Another industry that uses the same grade of limestone which is used for the manufacture of calcium carbide, is a bleaching powder unit. For the bleaching powder unit, slaked lime can be available from the lime manufacturing units. The chlorine required for the purpose could be obtained from the caustic soda unit of M/s.
Bharat Aluminium Co., Ltd. at Korba. This captive unit would be producing 27,000 tonnes of caustic soda per annum and 23,000 tonnes of chlorine per annum. There would thus be no dearth in the availability of hydrated lime and chlorine for a bleaching powder unit which is envisaged for this reason. 5000 tonnes has been anticipated as movement towards Ranchi direction from Bleaching Power.

POWDER INDUSTRY AT CHAMPA

7.13.22 Amrit Company is manufacturing craft paper, duplex Board. It has a capacity of 9000 tonnes per annum at an investment of Rs.3 crores in the region. Presently 1500 tonnes is despatched to South Bihar area through the new link.

7.13.23 As regards Ranchi district, there has been rapid industrial growth around Ranchi after the conversion of narrow gauge line from Muri to Ranchi into broad gauge and setting up of the Heavy Engineering Complex at Hatia near Ranchi. A brief description of major industries is as under:-

i) Heavy Engineering Corporation, Ranchi is a Government of India undertaking established at Ranchi in 1958. It has 3 units. There is one Foundry Forge Plant.
ii) Heavy Machine Building plant and structural Fabrication Workshop.

iii) Heavy Machine Tools Plants.

WIRE ROPE INDUSTRIES

7.13.24 M/s. Usha Martin Black (wire rope) limited is Joint Indo-British venture. It is situated at Tatisilwai about 12 kms. from Ranchi with a production of about 600 tonnes of Steel Wire Ropes per month. It is the largest producer of this commodity in India with an investment of Rs. 2.10 crores.

ELECTRICAL EQUIPMENT MANUFACTURING UNITS

7.13.25 High Tension Insulator Factory of the Bihar State Industrial Development Corporation is situated at Mamkim about 9 kms. south-east of Ranchi. It was set up in collaboration with Czechoslovakia. It manufacture high tension and low tension insulators for electrical transmission and supplies them mainly to the State Electricity Boards and a few private parties. The Electrical Equipment Factory at Tatisilwai near Ranchi had been established by the Bihar State Industrial Corporation in collaboration with General General Electrical Co., at an estimated cost of Rs.1.38 crores for manufacturing transformers and Switch Gears.
BHARAT BALL BEARING LIMITED RANCHI

7.13.26 Started in March, 1973 this company also known as Shriram Ball Bearing Limited manufactures ball bearings as well as roller and tape bearings. It was set up with an investment of about Rs. 2.2 crores. Its installed capacity is 25 lakh pieces per year but it produces about 18 lakh pieces at a value of Rs. 1 crore approximately.

NEW ALLUMINIUM COMPLEX IN BIHAR, RANCHI DISTRICT

7.13.27 The Bihar Government has set up an Aluminium Complex in the Lohardaga-Gumla area. It has been set up at Chainpur, and traffic flows via Eastern Railway. It does not fall on the new alignment.

7.13.28 There are small scale industries such as textiles, rice mills, cold storages, crushing and oil refining, light engineering goods, manufacturing of metal products, electrical goods, radiosets chemical dyes, paints furniture, leather goods etc.

TASAR INDUSTRY

7.13.29 A Research Station has been established at Ranchi for the development of this industry. There are cooperative societies for the manufacture of Kosa products in Ranchi-Raigarh
districts. There is vast scope for development of this forest based industry as the region extending from Ranchi district to Bilaspur district is under forest areas and the district authorities have plans to encourage this cottage industry.

TIMBER

7.13.30 The production of timber (logs and poles) in various areas is as under as per forecast given by the Forest Department.

<table>
<thead>
<tr>
<th></th>
<th>Logs. (tonnes)</th>
<th>Poles (tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jashpurnagar Division</td>
<td>5800</td>
<td>1960</td>
</tr>
<tr>
<td>Dharamjaigarh Sub-Divn</td>
<td>3852</td>
<td>2744</td>
</tr>
<tr>
<td>Korba area</td>
<td>4200</td>
<td>476</td>
</tr>
<tr>
<td>Ranchi</td>
<td>19443</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>33295</td>
<td>5180</td>
</tr>
</tbody>
</table>

TENDU LEAVES

7.13.31 The produce of tendu leaves has contributed to the forest revenue to the maximum extent in Raigarh district. The forest revenue from the nationalised tendu leaves is of the order of Rs.1.5 crores per year. Despatches are of the order of 2500 wagons per year. Generally tendu leaves are despatched to Mangalore, Vellore, Bangalore, Kamptee, Gondia, Nasik, Sholapur and
Jalda. The production of tendu leaves in Jashpurnagar and Dharamjaigarh tehsils is as under:

- Jashpurnagar Division: 1600 tonnes
- Dharamjaigarh Sub-Divn: 4000 tonnes

SAL SEEDS

7.13.32 This commodity is another major forest product in the area of Raigarh and Bilaspur districts. These are despatched to Khamgaon for Soap industries in particular and to Bombay area. The production is as under:

- Jashpurnagar: 6000 tonnes
- Dharamjaigarh: 4500 tonnes
- Korba area: 1500 tonnes

BAMBOO CUTS

7.13.33 Yearly programme of supplies from Raigarh to various paper Mills is as under:

- Bengal Paper Mills, Ranigarh: 30,000 tonnes
- Orient Paper Mills, Amlai: 6,000 tonnes

The production of bamboo cuts in the area is as under:

- Dharamjaigarh Tehsil: 2,000 tonnes
- Jashpurnagar Tehsil: 10,000 tonnes

Despatches are only 900 tonnes to Ranigarh and 3000 tonnes to Amlai. Actual distance has been taken for charge.
MOHUA LEAVES FLOWERS

7.13.34 Dharamjaigarh and Jashpurnagar Tehsils are famous for despatch of mohua flowers/leaves to different places like Nagpur, Ranchi, Ratlam, Bhilai and Bedwa for Government distilleries and also to Rayapura, Madras, Bangalore, Gunture, Vijayawada etc.

The despatch of mohua leaves/flowers is as under:

<table>
<thead>
<tr>
<th>Location</th>
<th>Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jashpurnagar</td>
<td>50</td>
</tr>
<tr>
<td>Dharamjaigarh</td>
<td>800</td>
</tr>
<tr>
<td></td>
<td>850</td>
</tr>
</tbody>
</table>

MYROBALAMS

7.13.35 Myrobalams are generally despatched to Kanpur, Khargpur etc. for use in leather industries. The production is as under:

<table>
<thead>
<tr>
<th>Location</th>
<th>Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jashpurnagar</td>
<td>300</td>
</tr>
<tr>
<td>Dharamjaigarh</td>
<td>200</td>
</tr>
</tbody>
</table>

7.13.36 After the construction of the rail, the following movement of goods has taken place through the line.

a) Bauxite

The principal item of outward despatch from Lohardaga region is bauxite, for M/s. Indian Aluminium Co., Muri. The despatches
are to the extent of 4 lakhs tonnes in a year.

b) China Clay
At present, 17,000 tonnes of China Clay is produced in Ranchi-Lohardaga region. At present 10,000 tonnes of China clay moves from Lohardaga.

INWARD GENERAL GOODS TRAFFIC

7.13.37 Dharamjaigarh and Jashpurnagar receive their consumer goods from Raigarh, Kharsia, Korba and Ranchi areas by road. Likewise, Gumla, Ganghra and Lohardaga areas receive consumer goods by road from Ranchi and also from distant places in Madhya Prades and Orissa connected by road. Principal commodities edible oils, sugar, jagree, salt, spices, cloth, kerosene oil, pulses, wheat and wheat products etc. Iron & steel, cement and chemical fertilizers also received by road. Now most of it has been diverted to rail.

7.13.38 In view of through service being available from source of supply to the very door step of the consumer, it has been assumed that 50% of the consumer goods has switched over to the present line. Certain other items of inward
traffic like cement, fertilisers, iron and steel on govt. account however moved entirely by rail.

7.13.39 Requirements of various items of traffic in the year 1984-85 have been worked out and described as under:-

a) Edible oils: Total requirement of edible oil is 11,582 tonnes, of which 50% i.e. 5,791 tonnes from Korba area and Tohardaga area in particular has started to moving by rail.

b) Sugar: 10,076 tonnes is the assessed requirement of sugar for the area.

c) Jagree: 31,587 tonnes of this commodity moves by road from Kharsia Raigarh, and Ranchi area to certain places for distribution. About 50% o.e. 15793 tonnes has moved directly to main places of distribution.

d) Salt: The requirement is 21,553 tonnes. The source of supply being located in Gujarat, this entire amount is transported by rail on the entire length.

e) Seeds: 4,041 tonnes is the assessed requirement. Mostly supplies are from Sakti, Kharsia, Raigarh and Ranchi. 50% traffic i.e. 2020 tonnes is transported by rail.
f) Cloth: 11,538 tonnes is the assessed requirement. Mostly supplies are from Sakti, Kharsia, Raigarh and Ranchi. About 50% of this commodity i.e. 5,769 tonnes has started moving mainly to main centres by rail.

g) Kerosine Oil/Petroleum: At present, 20,769 tonnes K.Oil/petrol traffic move for Dharamjaigarh, Jashpurnagar and Gumla by road from respective ends. After the new link has been constructed, 2/3rd of the whole commodity i.e. 13,846 tonnes would move by rail to major points and distributed further.

h) Cement: After construction of the new line about 25,000 tonnes of cement would move in rakes from the new cement works set up at Akaltara and 1,560 tonnes would move from other cement works in piece-meal for various places located in each tehsil.

i) Iron & Steel: The present receipts are 7,200 tonnes of tools and machinery. The entire traffic would move by rail.

j) Fertilizer: It is a government sponsored traffic & 3,350 tonnes of fertilizers would move from Korba by rail in piece meal.
k) Potatoes: About 11,4060 tonnes of Potato would move by rail.

l) Wheat production: The present import through the Food Corporation of India for various areas is as under:

1. Korba - 1200 tonnes
2. Dharamjaigarh - 700 tonnes
3. Jashpurnagar - 1600 tonnes

Of this, 2,420 tonnes move through the rail link and balance by road to destinations.

Quantum of traffic that is to move by the new line is given in Table 5 on the next page. It is estimated that 70% of total traffic would move by new railway line.
<table>
<thead>
<tr>
<th>Commodity</th>
<th>Total estimated requirements of 1986-87 (tonnes)</th>
<th>Quantum of assessed traffic for the proposed line (tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Edible Oil</td>
<td>11,582</td>
<td>5,791</td>
</tr>
<tr>
<td>Sugar</td>
<td>10,076</td>
<td>6,716</td>
</tr>
<tr>
<td>Jargee</td>
<td>31,587</td>
<td>15,793</td>
</tr>
<tr>
<td>Salt</td>
<td>21,553</td>
<td>21,553</td>
</tr>
<tr>
<td>Spices</td>
<td>4,041</td>
<td>2,020</td>
</tr>
<tr>
<td>Cloth</td>
<td>11,538</td>
<td>5,769</td>
</tr>
<tr>
<td>Kerosene oil/ petrol</td>
<td>20,769</td>
<td>13,846</td>
</tr>
<tr>
<td>Fertilizer</td>
<td>3,350</td>
<td>3,350</td>
</tr>
<tr>
<td>Potatoes/Onions</td>
<td>1,63,000</td>
<td>1,14,060</td>
</tr>
<tr>
<td>Wheat products</td>
<td>2,420</td>
<td>2,420</td>
</tr>
<tr>
<td>Cement</td>
<td>1,560</td>
<td>1,560</td>
</tr>
<tr>
<td>Iron &amp; Steel (Tools &amp; Machinery)</td>
<td>3,744</td>
<td>3,744</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>1,274</td>
<td>1,274</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>2,86,494</td>
<td>1,97,896</td>
</tr>
</tbody>
</table>
7.12.2 The consumer goods and the stations from which the inward consumer goods traffic generally originated are shown below.

**TABLE 6**

**Origin of Inward Goods**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Commodity</th>
<th>Originating Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Edible oil</td>
<td>Gunter, Rajamundry.</td>
</tr>
<tr>
<td>2.</td>
<td>Sugar</td>
<td>Bareilly, Vijayawada.</td>
</tr>
<tr>
<td>3.</td>
<td>Jagree</td>
<td>Anakapali, Meeruth, City, Sonepat.</td>
</tr>
<tr>
<td>4.</td>
<td>Salt</td>
<td>Dhanu Road, Vasi Road, Thana, Bhayandar</td>
</tr>
<tr>
<td>5.</td>
<td>Spices</td>
<td>Berhampur Ganjam</td>
</tr>
<tr>
<td>7.</td>
<td>Kerosene oil/petrol</td>
<td>Visakhapatnam</td>
</tr>
<tr>
<td>8.</td>
<td>Fertilizer</td>
<td>Korba, Kumhari</td>
</tr>
<tr>
<td>10.</td>
<td>Cement</td>
<td>Jukhi, Tilda, Satna</td>
</tr>
<tr>
<td>11.</td>
<td>Wheat products</td>
<td>Sehore, Khurai, Bhopal</td>
</tr>
</tbody>
</table>

**********