CHAPTER VII

DYNAMICS OF INFRASTRUCTURAL DEVELOPMENT:
THE PORT AND THE RAILWAYS

Introduction

As discussed in Chapters V and VI, Orissa's performance in both the agricultural and industrial sectors has been utterly dismal. However, a typical empirical analysis does not capture the factors responsible for the continuation of underdevelopment of a region. Often factors non-economic in nature determine the course of progress of the region in a federal set-up. It is to highlight this facet of decision-making that we present the case of infrastructural development in connection with harnessing the vast mineral resources of the hinterland during an active phase, 1960-80, in global market in iron and steel.

It must be noted here that, in terms of the vast reserves and quality, the mining sector in Orissa has immense potentiality to generate income and employment in the source locality, which happens to be the most backward belt of the State.

Broadly, this Chapter is divided into three parts. The first part deals with the global trade scenario in iron and steel during the period 1960-80. The second and third parts focus on two crucial components of infrastructure - (a) Paradeep Port and (b) the proposed railway line linking the mineral belt to the Port - and critically examine the manner in which such important projects are hampered by political and bureaucratic interferences.
7.1 Global Trade Scenario in Iron and Steel: 1960-80

The two decades between 1960 and 1980 were probably the most dynamic period in the world iron ore trade. It was then that two of the largest iron ore producing/consuming regions of the world - Europe (including the erstwhile USSR) and the USA - had emerged as net importers, due to both increased iron ore consumption and depletion of their deposits. The third largest consumer, Japan, had no ore resources of its own worth mentioning. The intensive efforts of the US, European and Japanese steel industry opened up new sources of supply in South America (Brazil, Venezuela, Chile and Peru), Asia (India), Australia and Africa (Liberia, South Africa, Mauritania). The pattern of consumption also was changing during this period with a decline in the preference for lumps and an increase in that for fines.

The international iron ore market was characterised, on the demand side, by a few buyers and, on the supply side, by keen competition. This situation was further complicated by investment tie-ups or backward integration in the form of provision of loans towards mine or port development by the steel companies in the

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1 For instance, during the period 1955 to 1976 global consumption of iron ore increased by around 55 per cent (from 403 to 859 million tonnes).

2 For details, see Mineral Development Board (1980), p. iii.

3 The use of lumps as blast furnace feed had declined from 77 per cent in 1955 to 28 per cent in 1976. Ibid. p. II.
importing countries. In other words, virtually, the residual free market was only a small segment of the total trade.

India, with very few investment tie-ups and long-term contracts, could succeed only in maintaining a share of 5 to 6 per cent in the expanding global market. Moreover, by exporting more than 70 per cent of its ore to Japan, the country was heavily dependent on the latter's demand.

It may be seen from Table 7.1 that during this two decade period, whereas the world exports has gone up by 125 per cent, the Indian exports has shot up significantly, by 144 per cent. It has been further pointed out that India was able to maintain a constant share, though small, more due to Japan's keenness to have a wide spectrum of suppliers, rather than any inherent dynamism in the export activity of the country. Incidentally, India's market in the European Economic Community (EEC) also was stagnating around

<table>
<thead>
<tr>
<th>Year</th>
<th>World</th>
<th>India</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>154.7</td>
<td>9.0 (5.82)</td>
</tr>
<tr>
<td>1965</td>
<td>215.1</td>
<td>11.2 (5.21)</td>
</tr>
<tr>
<td>1970</td>
<td>318.6</td>
<td>21.2 (6.65)</td>
</tr>
<tr>
<td>1975</td>
<td>352.8</td>
<td>22.8 (6.46)</td>
</tr>
<tr>
<td>1978</td>
<td>348.0</td>
<td>22.0 (6.32)</td>
</tr>
</tbody>
</table>

Note: Figures in parantheses are percentages to World total.

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4 For instance, the US had investments in Canada, South America and West Africa, while Japan had invested in Australia, South Africa, Canada, and had advanced loans for port development to India. Ibid., p. 8.
1.0 million tonnes, or, roughly 1 per cent of EEC imports.\(^5\)

Moreover, there was considerable demand from other countries, especially Japan, for pig iron, billets, bars, structural s, rails and pipes and large tonnages of such products were available in India for export.\(^6\) The country was in a position to enter into an arrangement with the former for export of a million tonne or more of pig iron annually on a continuous basis. This meant an export of about one lakh tonnes of pig iron per month and foreign exchange earning of about Rs. 30 crore in this single item every year.

Japanese steel production was expected to reach 85 million tonnes of 1974, on the basis of which the Planning Commission Sub-Group on Iron Ore (1967) estimated the demand for Indian export at 23 million tonnes. But, even by 1969, Japan's steel production had risen dramatically to 78 million tonnes. Consequently, it was re-estimated that India's export or iron ore to Japan by 1979 would be 40 million tonnes, of which the major mining area of Barajamda- Barbil-Bansapani (B sector) was to provide 2 to 4 million tonnes annually.

The Barajamda-Barbil-Bansapani sector (see Map II) covered by Keonjhar, Sundergarh (both in Orissa) and Singhbhum (Bihar) districts has been supplying the largest quantity of iron ore in the country. This region is close proximity to five steel


\(^6\) As revealed by a letter written by the then Chairman, Hindustan Steel Limited, addressed to the Secretary to the Ministry of Steel, Mines and Metals, Letter No. 083-CH/67, dated 19th March 1967.
Source: Department of Mines and Geology, Government of Orissa.
plants (Rourkela, TISCO (Jamshedpur), IISCO (Burnpur), Bokaro and Durgapur) and had major export outlets in Haldia (West Bengal) and Paradeep (Orissa). Of the total iron ore production in and export from this sector, the share of Orissa alone in the sixties was around 40 per cent and 20 per cent respectively. The second major iron ore sector in the State is the Daitari sector in Cuttack district.

In 1966 the total despatch of iron ore from Barbil-Bansapani area of Keonjhar district alone amounted to 5 million tonnes (75 per cent of total production in Orissa) comprising 1.2 million tonnes for export and 3.8 million tonnes for internal consumption in various steel plants in the eastern region. It was estimated that this region accounted for about 97 per cent of the total indicated iron ore reserves of 2300 million tonnes in the State. Of this the reserve of Keonjhar district had been indicated to be well above 1000 million tonnes. Over and above this, the private lessees had confirmed the existence of reserves of exportable grade iron ore of 532 million tonnes, of which 50 per cent was found in Malangtoli Block, as proved by the Geological Survey of India. (See Table 7.2)

It is interesting to examine at this point, as to why in spite of vast reserves of iron ore, concentrated mainly in the middle belt consisting Madhya Pradesh, Bihar and Orissa, India could not better its exports during a very crucial juncture in the history

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7 Mining and Geology Department, Orissa (1968).
of global trade in both pig iron and iron ore. In fact, by the beginning of the sixties Orissa's share in iron ore export had declined to 10.6 per cent from 26.4 per cent in 1957-58. This lag in export is traceable to inadequate infrastructural development in terms of transport facilities. To quote NCAER (1963), in those days, "Barajamda had come to be a by-word for bottleneck in transport. Wagons were either in short supply or supplied irregularly at such places as Bolani, Bansapani, Barbil and Jajpur Road". In such a situation to help step up exports from Orissa, the deep-water port on the State's coast, i.e., Paradeep, needed to be linked with the mining area and its bulk-handling capacity enhanced. This was all the more significant, because barring Goa,

Table 7.2
Iron Ore Reserves in Orissa: 1968

<table>
<thead>
<tr>
<th>Name of the deposit</th>
<th>Reserves indicated or proven (in million tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pirpokri (Malangtoli block)</td>
<td>257 (63)</td>
</tr>
<tr>
<td>2. Jilling-Longalata</td>
<td>65 (65)</td>
</tr>
<tr>
<td>3. Jajang</td>
<td>40 (64)</td>
</tr>
<tr>
<td>4. Thakurani</td>
<td>60 (65)</td>
</tr>
<tr>
<td>5. Sakradihi</td>
<td>10 (63)</td>
</tr>
<tr>
<td>6. Khondbandh</td>
<td>10 (65)</td>
</tr>
<tr>
<td>7. Daitari</td>
<td>50 (61.5)</td>
</tr>
<tr>
<td>8. Tomka</td>
<td>10 (64)</td>
</tr>
<tr>
<td>9. Gandhamardan</td>
<td>30 (65)</td>
</tr>
</tbody>
</table>

Source: Iron Ore Export Programme: Development of Rail and Port (Paradeep) Facilities in Orissa, Mining and Geology Department (Government of Orissa, 1968). p. 3.

Note: Bracketed figures denote ferrous content (in percentages).

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the proximity of iron ore deposits to the port is greater at Paradeep than in any other part of the country.

Here, we will be specifically looking into two critical components of the aforesaid infrastructure - (a) Paradeep Port and (b) the proposed railway line linking the mineral belts to the Port. The provision of such infrastructural network would have, in fact, facilitated economically viable trading of minerals from the resource-rich hinterland of Orissa. (See, Appendix - 1)

7.2 Deep-Sea Port Development: The Case of Paradeep

The need to develop Paradeep as a deep-sea port was stressed by numerous surveys conducted both at national and international levels, four decades hence. In 1948, the Port (Technical) Committee recommended the Government of India to investigate into establishing a sheltered deep-sea port between Calcutta and Visakhapatnam, in view of the growing congestion and specially the silting at the former port, as also to promote trade and industry in Orissa and neighbouring States. In response, the Central Water-Power, Irrigation and Navigation Commission (CWINC) had cited Paradeep as the best location as it had the required depth, wide expanse of water, easy accessibility from the sea, small range of variations of tides and low dredging cost.9

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9 It was pointed out that "there is a fine stretch of water 7 miles below Paradeep lock on the right side of the river within 200 ft. of the bank, where any deep sea vessel drawing upto 40 ft. can lie in safety without fear of grounding at any tide. Ten vessels of 600 ft. length and any craft drawing upto 40 ft. can be accommodated within this stretch of 7,000 ft. of deep water". Quoted in Mohanty, H.B. (1962), p. 138.
Later, in 1951, a French Mission of Consulting Engineers, invited by the Central Government, unequivocally selected Paradeep as the most suitable location for a deep sea port on the grounds that the dredging and maintenance costs would be much less than that in the case of Calcutta.\(^{10}\) They proposed model tests to determine the best means of stabilising the mouth of the Mahanadi and for overcoming the problem of the littoral sand-drift, a serious problem besetting all ports situated on the east coast of India.\(^{11}\)

Incidentally, around the same time, as part of the post-War reconstruction strategy the Japanese interests were seriously examining the possibilities of importing massive quantities of iron

\(^{10}\) Ibid., p. 139. The mission recommended that port facilities should be situated within the estuary with an approach channel dredged through the bar and to be protected by breakwaters on both the sides. See, Government of Orissa (1962), p. 5.

\(^{11}\) This proposal was later supported by the Central Water and Power Research Station, Poona in 1954. Meanwhile, a number of detailed studies had been undertaken to enquire into various aspects of port establishment. For instance, in 1952, the Indian Navy had surveyed the outer approaches to the river estuary and adjoining coast-line as far as the 10 fathom line and found "the area singularly free from any obstructions to shipping". Also a number of technical experts from abroad had examined various related problems like inland water transport, type of dredger to be used, construction of a ropeway etc. See, for details, Government of Orissa (1962), p.6 and Mohanty, H.B. (1962), p.140.
ore from the Sukinda deposits in Orissa. The report submitted by them in 1958 recommended the establishment of a major port at Paradeep for the export of two million tons of iron ore annually at a cost of Rs. 8.66 crores. They also offered material, technical and financial help to build up Paradeep, in exchange of the iron ore. On the ground that the economic and technical possibility of establishing a deep-sea port at Paradeep had yet to be established, the Government of India did not accept this offer. The Japanese offer of assistance was diverted to what is known as the Kiriburu-Vizag project for exporting two million tons of ore to Japan from the Kiriburu deposits in Orissa, which extended to Bihar, by expanding the port facilities at Visakhapatnam. The Government of India then referred the State Government's proposal to develop a deep-draft port at Paradeep to the Intermediate Ports Development Committee (IPDC), which was set up at this time by the Ministry of Transport.

Paradeep was declared a Minor Port in 1958. However, specifically due to its significance and potentialities to handle huge iron ore exports, the IPDC (1960) recommended the establishment of an all-weather deep-sea port at Paradeep, by

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12 A survey mission consisting of transport, mining, construction and harbour engineers was sent out by the Kinoshita and Co. of Japan in July, 1956, with the "blessings", as they said, of the Japanese Ministry of International Trade and Industry, the Overseas Steel Manufacturing Raw Materials Committee and the leading Japanese steel mills, to make a comprehensive study of the problem of Sukinda iron ore export by building transport facilities to and port facilities at Paradeep. The Japanese carried out experiments at their own cost to find out the best solution to the problem of sand-drift at Paradeep and for minimising the cost of construction and maintenance.

deepening the canals, improving the locks and introducing motor launches for managing a traffic of upto 5.5 lakh tons per annum using Paradeep as a lighterage port. The committee, after thorough verification of different proposals, recommended formation of a deep-sea port at the Atharabanki creek, which joined the Mahanadi on the south near its estuary.\textsuperscript{14}

Finally, in 1962, at the instance of the State Government, M/s Rendel, Palmer & Tritton, Consulting Engineers from London, submitted the report of their 'engineering survey', where they proposed construction of a deep-water Lagoon Type Harbour at a site, about 8 kms. south of Mahanadi river with its entrance opposite Indian Naval Survey Station "U".\textsuperscript{15} (See Map III) The port was to be developed in stages. Their proposal had been approved by the Central Government for execution. (For details, see Appendices 2 and 3).

In the initial phase of construction (1963), the project was treated as a non-plan scheme by the State Government. The entire cost of the construction work, unlike other major ports, was being borne by the State Government, which, it was pointed out, would be a heavy drain on the State Exchequer.\textsuperscript{16} The Central Government took over both the construction and administration of the port from the State government with effect from 1 June 1965 and it was declared

\textsuperscript{14} The Japanese Mission had made recommendations on similar lines.

\textsuperscript{15} Lat. 20° 15' 16" N; long. 86° 40' 35" E. "At this no risk of the harbour and the port installations being damaged by movement of the river mouth". See, Government of Orissa (1962), p. 9

\textsuperscript{16} See, "Orissa Newsletter: Paradeep Port work is proceeding space", in The Economic Times, 23 March 1963.
MAP III  PARADEEP PORT: MASTER PLAN - FULL DEVELOPMENT


2,440 Acres or 4,900 sq. Miles

Industiral Zone: 790 Acres
Govt. & Inst.: 220 Acres
Residential: 280 Acres
Commercial: 270 Acres
Oil Refinery: 190 Acres
Park area: 90 Acres

Adapted from ORG. NO. PP/13 OF RENDEL, PALMER & TRITTON, CONSULTING ENGINEERS
as a major port the following year. Finally, under the Major Port Trust Act, 1963, the Government of India handed over Paradeep to the Port Trust on 1st November 1966. With this Paradeep became the deepest draft port and the eighth largest in the country.

Even after a couple of years, since the port was formally and totally taken over by the Centre, efforts for developing the port potentialities had been sluggish. In fact, 1967 a number of very crucial and major activities remained to be begun. The grave disinterest on the part of the Centre towards this project was further confirmed when, it strongly insisted that the State must refund the loan amount of Rs. 15.69 crore the latter had received from the former till 1st June 1965 towards port construction expenses.

It was understandable, for a State, that undertaking the responsibility of both construction and management of a major port was neither possible from the financial point of view, nor practicable from the point of constitutional provisions. Notwithstanding the fact that under the terms of transfer of the port to the Centre, the State Government should not have any financial liabilities after the commissioning of the port, the State was being compelled to make an annual payment of Rs.2.5 crore

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17 The declaration was made with effect from 18 April 1966, under the Indian Ports Act, 1908. It was "intended to administer the port directly as a Department of the Government of India for sometime till the port is ripe for being converted into an autonomous port trust like those at other major ports in India". Vide Brief for the Meeting of the Informal Consultative Committee, 26 August 1966. (mimeo)

18 As management of Major Ports is a Central subject.
towards capital, in addition to Rs.83 lakh as interest charges.\textsuperscript{19} The State Government had spent the amount, "to the full knowledge of the Centre, although the Planning Commission did not make any formal commitment", for port construction (till its declaration as a Major Port). Further, it indirectly restricted funding of many other welfare schemes and projects during the Third Plan.\textsuperscript{20}

In a unanimous resolution on 30th June 1967 members of the State Legislative Assembly, urged the Union Government to take immediate steps for developing the potentialities of the port and also for writing off the loan amount.\textsuperscript{21} The 'loan' burden was particularly unjust as the "calamitous cyclone" of 9th October 1967\textsuperscript{22} had exerted tremendous strain on the State's finances.

7.2.1 The Expressway:

As the the main activity at the Port was to export iron ore from the rich mineral deposits in Cuttack and Keonjhar districts, its functioning was necessarily dependent upon its linkages with

\textsuperscript{19} N. Khuntia's observation as quoted in "Unanimous Demand to Develop Paradeep Port Potentialities", in Amrita Bazar Patrika, 1st July 1967.

\textsuperscript{20} H.K. Mahtab's statement as quoted in "Centre's Neglect of Paradeep", in The Matrubhumi, 2nd July 1967 (in Oriya).

\textsuperscript{21} For details, see, Resolution adopted by the members of the Orissa Legislative Assembly on 30th June, 1967.

\textsuperscript{22} The natural disaster had taken a toll of about 700 human lives and 20,000 cattle, and demolished one lakh of houses in an area of 1400 square miles consisting of 2191 villages and had rendered 9 lakh people destitute. Even in this dire distress, central help was only to the extent of Rs.2.4 crore. The Union Minister, Dr.Satyanarayana Sinha, who visited this area after one month of the occurrence of the calamity said that it had reminded him of the Bihar earthquake.
the hinterland. However, in the absence of a definite plan to lay railway lines, along with the construction of the Port, the State Government started building a 56 Kms long Expressway (or Autobatin) to connect the rich mining areas of Daitari and Tomka to the Port. But after spending Rs.17.5 crore the work had to be stopped midway due to paucity of funds. Consequently, the route remained circuitous (being 64 Kms longer than the proposed Expressway to Paradeep and the transport charges worked out to be an excess of Rs.10 per Km. Due to both longer haulage and extra transport cost it was not economical to sell Daitari ore as the FOB price could not accommodate the higher transport cost. The result was that the work in Daitari mines came to a standstill after an investment of Rs. 7 crore in mining operations.23

This implied an annual loss of Rs.70 lakh by way of interest alone apart from the trained manpower remaining idle. It was also estimated that Paradeep port would incur a loss to the tune of Rs.1.5 crore per annum by way of Port dues, and the Central Government almost an equal amount by way of export duty. Besides, the country would lose foreign exchange earnings of the order of about Rs.11 crore. In view of such "substantial stake" involved, the Centre was pleaded to provide at least Rs.2 crore to complete the Expressway.24

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23 See, Paradeep's Plight, Memorandum submitted to the President Zakir Hussain on his visit to the Port, dated 6th December 1967, p. 2.

24 Ibid., p. 3. It may be mentioned here that, this request was yet to be considered by 1967, whereas originally the completion of the Expressway should have been effected at least by 1965, when Paradeep had already been ranked as a major port.
Further, it was equally exigent to extend the National Highway (NH) system to reach the Port. The Centre had provided such NH links to all major ports in the country. It was urged that the Cuttack-Paradeep road, which was the only existing road link to the Port connecting NH No.5 and was not designed to carry heavy traffic, must be strengthened to sustain the current level of traffic load. This request to convert this 104 Km long road into an NH link to the deepest major port in the country, however, was "turned down" by the Centre, despite the fact that the concerned Cabinet minister had assured an "early action".²⁵ The matter remained pending for long in consecutive ministries and none seemed to take cognisance of its importance with reference to the Port development.

7.2.2 General Cargo Berth:

As early as in 1963, when the Port construction was progressing with State's initiative and involvement, serious thoughts had been given as to the quantum of cargo expected to be handled at the port. In fact, in full acceptance of the assessment

²⁵ Responding to the request, V.K.R.V. Rao, the then Minister for Transport and Shipping, had stated that, "we can take a decision on additions to the National Highway system of the country only after plan allocations are finalised and the resources position becomes clear. The question of inclusion of a National Highway link to the Port of Paradeep, in the National Highway system will be given due consideration at the appropriate time". Vide letter No.16-PII(84)/67, dated 6th December 1967. A year later, during the minister's visit to Paradeep port on 10th January 1969, the same request was reiterated and Prof. Rao assured to take early action. However, no steps were taken in this direction. In continuance of the long-made case for the conversion of the Cuttack-Paradeep road into National Highway link, requests were made again to the next Minister for Transport and Shipping, Mr. K. Reghuramaiah, but, to no effect.
of the traffic potential at Paradeep, as had been prepared by the National Council of Applied Economic Research (NCAER), the State Government had decided to create port facilities for an initial traffic of about two million tons of iron ore by 1965-66 and capacity to handle general cargo, in bulk or smalls, of the order of about 1.5 lakh tons, and coastal movements of about one million tons of coal. The general cargo berth was to handle food and fertiliser imports, export of steel, pig iron, chromite and manganese ore. However, excepting one mechanised berth exclusively for handling iron ore, there was not even a single general cargo berth, even in 1965. This seriously handicapped transactions in general cargo, particularly at a phase when several enquiries were being made to trade through Paradeep Port. The construction of only one cargo berth out of the proposed total of 19, as was part of the original master plan, was not taken up by the Centre, even though the first condition of transfer of this Port was to complete this essential task. Instead, belatedly, in February 1967, a committee (with L.K.Luthra as the Chairman) was specifically constituted by the Ministry of Transport with the Planning Commission as one of the participants, to enquire into the

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27 Some of the commodities for which enquiries had been received, by 1968, were as follows: The Steel Export Committee of the Government of India had recommended that one million tons of prime iron and steel should be shipped through Paradeep Port by 1970-71. A fertiliser plant to be set up at Paradeep by the British India Development Consortium with an estimated production of two lakh tonnes per annum, was intending to import huge raw materials for the plant. The Orissa Mining Corporation had plans to export annually 60,000 tons of chromium fines to Japan. The Ministry of Food had desired to import foodgrains and fertilisers through this Port. Enquiries had also been received from other parties to ship steel tubes, salt etc. using the port facilities. (Based on information from relevant concerns, as given official papers of the State Government).
necessity of building a cargo berth.

As expected, in November 1967, the Luthria Committee established in the most clear terms that a general cargo berth was highly essential and there was "complete justification" for the same. On the basis of this observation the Transport Ministry asked the Finance Ministry to sanction the required funds. Though enough delay had been caused in even starting the work on the cargo berth, the Finance Ministry held up the sanction on absolutely unnecessary grounds. The Ministry indulged in a "chain of correspondences" with the State Government enquiring whether sufficient cargo would be available for the cargo berth. The painful procrastination and blatant neglect of an urgent requirement of the Port was evident when the first general cargo berth was inaugurated a decade later.

7.2.3 Provision of Dredging and Sand-Pumping:

One of the most prominent recommendations made by M/s Rendel, Palmer and Tritton in their report related to the provision of

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29 In a memorandum to Mr. U.S. Dikshit, Union Minister of Shipping and Transport, who was the inaugurator, it was aggrieved that: "It is really a matter of great irony that even though Paradeep started opening as a major port since 1965, is now celebrating the inauguration of its first General Cargo Berth after lapse of one decade. Paradeep was thrown open to traffic on the 12th September, 1965 and has been forced to function as a single commodity iron ore exporting port with only one iron ore berth. Therefore, the period of ten years beginning from 1965 upto 1975 may as well be called as a decade of despondency". See, *Paradeep - Its Decade of Desponency*, Memorandum presented to Mr. U.S. Dikshit, Union Minister of Shipping and Transport on 15th April 1975 at Paradeep Port, p. 1.
dredging and sand-pumping facilities at the Port, before the same was declared open for transaction of vessels. It observed that, the construction of a solid breakwater,\textsuperscript{30} to protect the harbour from strong waves from the dominant directions of south and south-west, would result in the accumulation of the littoral drift\textsuperscript{31} on the west side and this would naturally spread around the breakwater and across the entrance. As a solution to this, an opening was to be made in the breakwater so that the sand would pass through and collect in a trap on the inside, from which it could be dredged or pumped.\textsuperscript{32}

However, Paradeep had been commissioned without having a single maintenance dredger. Such laxity on the part of the Centre resulted in massive siltation at the Port within a period of three years. By 1968, the quantum of accumulated sand was of such magnitude that the width of the Port's entrance had contracted from


\textsuperscript{31} Littoral drift is mainly caused by waves striking the shore line at an oblique angle under the influence of winds blowing over a period from a specific direction. The breaking waves disturb the beach material and it is moved progressively along the foreshore following the direction of attack of the waves. See, Government of Orissa (1962), p. 21.

\textsuperscript{32} Emphasising the need for such provisions, it further stated that the littoral drift material from the south-west would be between 1 and 1 1/2 million tons per annum of which one-third should be dealt with by sand-pumping plant and the remainder by dredger. In order to prevent a dangerous regression of the shoreline on the north-east side of the harbour and the consequent movement of the mouth of the Mahanadi river to the south-west it was essential that some of the littoral drift material trapped by the harbour works should be redeposited on the north-east side. It was, therefore, proposed to provide both the dredger and the sand-pumping plant with facilities to enable this to be done. \textit{Ibid.}, p. 35.
600 ft to 250ft, whereas the draft depth had shrunk from the original 42 ft. to 28 ft. This had serious implications as far as movement of vessels was concerned. On the one hand, it brought the trading to a standstill and, on the other, serious criticisms were levelled by traders abroad; against the Port's fundamental construction defects.

A Central Committee (under the chairmanship of the Advisor, Port Development, the Ministry of Transport, Mr. R.R. Sukhrani), pointed out that the absence of dredging and sand-pumping facilities, in violation of the original master plan recommendations, had led to the siltation problem in an otherwise flawless and efficient Port. In fact, the report observed that the degree of siltation in a port functioning for 32 months without a dredger was relatively low considering the tidal vigour of the east coast.

Highlighting the imminence of restoring the original draft depths at the Port before the approaching south-west monsoons (i.e., before March 1969), the Sukhrani Committee recommended immediate procuring of high-powered large dredgers from abroad and installing sand-pumps for prompt action. These recommendations were in no way dissimilar from the ones given by the foreign expert

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33 It was reported in 1968 that three large iron ore carrier vessels from Japan had to be diverted to other ports and vessels above 12,000 ton carrier capacity were unable to be anchored at Paradeep Port. See, The Matrubhumi, dated 3rd September 1968, op.cit. (in Oriya).

34 The Sukhrani Committee submitted the report on 20th August 1968, ten days after their investigation at Paradeep Port.

team of the International Ports Association in their report submitted to the Government of India six months before.\textsuperscript{36}

In any case, the Centre had taken no preventive measures in this regard. And when finally it took note of the complaints,\textsuperscript{37} the reaction was both slow and imperfect. The Central Government had commissioned the first Indian made dredger, "Konark",\textsuperscript{38} which broke down a number of times and long times were taken for its repair. The interesting point is that, a port which required urgent and sophisticated dredging facilities, was chosen as the location where the country's first dredger could be tested on trial basis.

As regards the sand-pumps, the preliminary work had just started by August 1968, when it was reported that some parts of the same had been damaged. As there was no possibility of importing the parts from abroad, it was proposed to manufacture those within the country. Consequently, the Central minister informed that the sand-pumps could not be made operational by the scheduled time, i.e., before the arrival of the south-west monsoons.\textsuperscript{39}

\textsuperscript{36} The Ministry of Transport and Shipping, Government of India, had invited this team to examine the problems of the deep-sea ports in the country. As part of it, the team had carried out investigations at Paradeep Port in February, 1968. It had drawn urgent attention of the Centre to the growing siltation problem and had expressed serious reservations as to the current inefficient and poor quality management.

\textsuperscript{37} See, for instance, relevant communications from the Minister of Transport and Shipping, vide Letter No. D.0.16-PD II (42)/68, dated 23rd August 1968 and Letter D.O. No.16/PDII(42)/68, dated 18th September 1968.

\textsuperscript{38} Built at Calcutta's Garden Reach Workshop.

\textsuperscript{39} Noted in The Matrubhumi, 3rd September 1968, \textit{op.cit.} (in Oriya).
Another serious problem arose out of the discontentment of the employees who did not have proper homes to live in. They also complained that they were deprived of a Central allowance of 45 per cent in addition to the State scales of pay from the date of takeover of the Port by the Centre. Naturally, the Centre had been pleaded to develop a township by taking immediate steps for reclamation, construction of permanent staff quarters and improvement of the living conditions of its workers.

Keeping in view the deterioration of the Port following siltation and resultant closure in traffic and also the need for full development of the Port including township, the State strongly urged the Centre to enhance the outlay on Paradeep Port during the Fourth Plan. Also there was apprehension about the Port getting a pitiable share in the Central funds earmarked for Major Port development.

Unwarranted as it was, the "shocking" news of non-inclusion of Paradeep Port in the scheme of expansion programme of all Major

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42 *Ibid*.

43 In a resolution adopted by the paradeep port Trust (in August 1968) it was apprehended that on the basis of current indicators, out of a total outlay of Rs.230 crore for major ports, Paradeep's share would be a meagre Rs. 10 crore (less than 5 per cent). After the discussions with the Centre the amount was revised upwards to Rs.20.24 crore. Even the revised outlay was far from adequate to meet the development needs of the Port including the fresh problem caused by heavy siltation and sand traps.
Ports with regard to expanding general cargo berth at the Port, as also other projects, under the Draft Fourth Five Year Plan was no worse than a blow below the belt to the State. Not only that the above decisions negated any sound techno-economic logic of attempts at removing regional imbalances through Plan allocations, it also lent support to the suspicion that it was a calculated and deliberate move on the part of the Centre to neglect Orissa, probably, on political considerations. There was enough reason to consider so, as during the last elections, the State had not voted Congress into power.  

The need to develop the Port at this juncture of time was of crucial significance. It was part of a large network of industrialisation programme being envisaged by the State. For instance, in 1967, the Luthra Committee in its report observed that "various programmes for industrial and mineral development of Orissa are either already under way or are under active consideration, and as the development of these hitherto underdeveloped areas proceeds, Paradeep is likely to be called upon more to feed the growing industrial centres in Orissa". In order to develop the vast hinterland of the State, the NCAER had made a

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44 Those include Talcher-Bimalagarh rail link and Fertiliser plant at Talcher.

45 As part of election campaign Mr. Biju Patnaik had asserted several times in the press that if the people of Orissa made him the Chief Minister, he could very easily have got these projects included under the Fourth Plan and could have sanctioned a minimum amount of Rs.450 crore by the Centre. See, N. Khuntia's letter dated 28th April 1969 addressed to Ministers of Railways; Transport and Shipping; and Petroleum and Chemicals.

comprehensive analysis of the industrial programme for Orissa in December 1968, and had suggested the promotion of the following industrial groups: (i) Mining industries and mineral development; (ii) Metallurgical and metal based industries; (iii) Livestock and forest based industries; and (iv) Chemical and allied small industries. It further suggested that three large industrial complexes/belts could be promoted. "The first is the complex around Rourkela, the second around Talcher and the third at Ganjam. Paradeep can in the future develop into another such centre where industries can come in a big way particularly from the point of view of exports." 47

However, in order for all these projects to be economically viable it was highly essential that the Port and the mineral-rich hinterland, were connected by proper transportation network, through the shortest possible route. The following section deals with the case of the proposed railway links.

7.3 The Case of the Missing Rail Links

The iron ore from the B sector had traditionally been despatched through the Calcutta Port. Later, when it was closed down to iron ore traffic, due to congestion, two other ports were developed - Haldia and Paradeep. But until 1973 Haldia was not ready to handle bulk iron ore export. Meanwhile, the entire iron ore export from the B sector was being despatched by a combination of rail and road transport via Kharagpur and Nergundi (or,

47 Ibid.
Dhanmandal) causing considerable cost to Minerals and Metals Trading Corporation (MMTC), which was in charge of the exports.\textsuperscript{48}

Further, during the period 1975-76 through 1977-78, Haldia Port faced difficulties due to draught restrictions and the importers were unwilling to send ships there for loading, which resulted in its virtual closure for iron ore export activities. This left Paradeep the only port available for exports from the B sector. Apart from iron ore, the manganese mines located in the Koira and Barbil area were estimated to be contributing around a million tonnes of manganese ore towards export. The Rourkela and Bhilai steel plants were also in a position to export one million tons of pig iron and steel through Paradeep.\textsuperscript{49} To sustain such a long-term and growing export programme, besides developing port facilities, it was essential to establish new rail links so that the benefit of investment would accrue through cost reduction to the maximum.

Paradeep Port was connected to the mining belt through the 670 km long circuitous route via Kharagpur. A project to link Cuttack with Paradeep was under consideration, but this alone would not have provided sufficient transit facilities for export items as all the materials had to go to Kharagpur and then come back to Cuttack for onward transport to Paradeep. As a result the handling charges formed more than 70 per cent of the FOB cost. The Hindustan Steel Limited (HSL) had to pay larger freight charges

\textsuperscript{49} Vide letter No. 083-CH/67 dated 19th March 1967, \textit{op.cit.}. 234
which ultimately affected its competitiveness in the international market. Further, routing all traffic through Kharagpur from Bhilai and Rourkela would further choke the already congested Nagpur-Kharagpur and Kharagpur-Cuttack rail line of the South Eastern Railway. It is relevant to note here that there was demand for a railway line connecting the Port and Banspani sector as early as in 1964. The two alternative lines proposed were: (1) Bansapani-Koira-Bimlagarh-Talcher-Paradeep line and (2) Banspani-Nayagarh-Jakhpura-Paradeep line. (See Map IV). These projects proposed to provide the Rourkela Steel Plant with a direct and the shortest possible link with Paradeep Port and comparatively lesser haul along the proposed routes making export of iron ore from the Bansapani sector the most profitable proposition. An increasingly competitive export trade in iron ore called for maximum possible reduction in the cost of inland transport.

The Bansapani-Koira-Talcher route involved an alignment from Joruri to Talcher via Koira, Gangnaposi and Bimlagarh – a total distance of 202 Kms. On the basis of prevalent rates, it was estimated that this new project would cost around Rs.18.24 crore. The sector-wise cost break-up is provided in Table 7.3.

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50 See, Government of Orissa, Industries Department (1964).

51 See, for details, Mining and Geology Department, Orissa (1968); Directorate of Mines, Government of Orissa (1970). It would be pertinent to mention here that much earlier, in 1963, the National Council of Applied Economic Research, as part of the port development programme had recommended that the Dumaro-Talcher rail link (116 Kms) would have to be built by 1968-69 in addition to the Cuttack-Paradeep rail link which would have to be completed two years prior to it. It is to be noted that the Dumaro-Talcher rail link was meant to serve the same area as would the proposed Talcher-Bimalagarh link.

52 The lines from Rourkela to Bimalagarh and Talcher to Cuttack were already in existence.
Source: Government of Orissa, Commerce (Ports) Development
Table 7.3

Sectorwise Distance and Cost of Proposed Rail Lines in Orissa: 1967

<table>
<thead>
<tr>
<th>Route</th>
<th>Distance (Kms.)</th>
<th>Cost (Rs. Lakh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talcher-Gangnaposi</td>
<td>122 (10)</td>
<td>1,016</td>
</tr>
<tr>
<td>Gangnaposi-Koiri</td>
<td>48 (14)</td>
<td>440</td>
</tr>
<tr>
<td>(via: Jamdih and Samaj valley)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Koira-Joruri</td>
<td>32 (28)</td>
<td>368</td>
</tr>
<tr>
<td>Total</td>
<td>202 (52)</td>
<td>1,824</td>
</tr>
</tbody>
</table>


Notes: i) Bracketed figures indicate distances of tracks in hilly areas.
ii) Cost estimated @ Rs.8 lakh per km. in plain area and Rs.12 lakh per Km. in hilly terrain.

Moreover, the mine owners in the area had argued to pay for the 8 to 11 Kms of railway line between Bansapani and Joruri. A vast industrial belt starting from Rameli to Paradeep could be linked up by expeditious realisation of the railway link between Talcher and Bimalagarh. This rail link, besides touching the iron ore belts of Khandadhar and Malangtoli, would also pass through a number of ferrous and non-ferrous mineral deposits, like mica, garnet, quartzite, coal, limestone, fireclay, ilmenite, chromite, manganese, kyanite, graphite, etc. The heavy industries like Bokaro Steel Plant, Heavy Engineering Corporation, Rourkela Steel Plant, Talcher Coafields and power station, already formed focal points in this belt.

Paradeep once connected via Cuttack and Jakhpura would be the nearest port from B sector, the distance being 305 Kms as against 390 Kms to Haldia. It was estimated the FOB cost of Barajamda ore
at Paradeep via Kharagpur was Rs.53.67 per tonne as against Rs.36.47 per tonne via Jakhpura and Cuttack.\textsuperscript{53} This would have reduced railway freight by Rs.15 to 20 per tonne and made the iron ore loaded at Paradeep the cheapest in the country.\textsuperscript{54} Moreover, with the laying of the proposed line, export from Daitari, Tomka and Gandhamardan mines would also have been facilitated.

The proposition for the laying of railways and related port development was not altogether an unusual or sans-precedence phenomenon. In fact, a major project was undertaken around 1974 for iron ore export, comprising the development of iron ore mines at Bailadila (Madhya Pradesh), construction of a rail link over a distance of 477 Kms. and extension of the capacity of Vizag Port (Andhra Pradesh) from 6 to 10 million tonnes. Against this pattern of development it was worth recording the strategic location of Paradeep Port both with respect to the resource-rich hinterland and bourgeoning demand for iron ore and other minerals. Considering regional development potentials and the prospective iron ore export programme, the establishment of the much discussed rail links was almost synonymous with the precondition for industrialisation in the most backward region of the country. It was imperative, therefore, that this proposal got implemented during the Fourth Plan period.

That the port facilities at Paradeep could not be developed and utilised until the proposed rail links were constructed was

\textsuperscript{53} Mining and Geology Department, Orissa (1968), p. 5.

strongly felt, particularly when "the entire project (of port development) has been moving too slow to be useful".\textsuperscript{55} The Resolution adopted by the Orissa State Legislative Assembly on 30th June 1967 recommended that the State Government should strongly urge upon the Government of India to take immediate steps for providing rail links from Paradeep to Cuttack and also the mining areas and the hinterland, including Talcher and Rourkela.\textsuperscript{56}

It was learnt within a month's time that the work connected with the link between Cuttack and Paradeep was being undertaken during the next working season. But the demand for rail link network still remained unrecognised. As regards the Rourkela-Talcher line, the Government emphasised the findings of the preliminary surveys carried out during 1947-48, which had revealed it to be unremunerative. Moreover, it took a strong stand that only when schemes for exploitation of the ore deposits on the western face of Malangtoli block were finalised, would that line be necessary.\textsuperscript{57}

The 'unusual emphasis' on the 1947-48 surveys was rather unjustified as during that period, practically, there was no industry in that region to justify a rail link. There was no major work conducted by the Geological Survey of India, Indian Bureau of Mines or the Directorate of Mines of the State Government to

\textsuperscript{55} Reported in "Paradeep in Wilderness: Centre's Neglect of Rail Links", dated 27th August 1967. (Himeo).

\textsuperscript{56} Quoted in ibid.

\textsuperscript{57} Letter written by the then Railway Minister Mr. Poonacha to the Praja Socialist Leader, Mr. Nishamani Khuntia. Letter No. 65/W4/CML/SE/6; dated 18th July 1967.
clearly indicate an assessment of the extent and quality of the mineral deposits in that region. However, during the first three Plan periods, the region had developed considerably with ample potential to be one of the most important industrial belts in India. 58

Regarding the demand for a rail link from Bansapani to Paradeep, the Railway Minister stated that a meeting of the high level official Committee on Export of Iron Ore in February 1967 had indicated that, in view of the inferior quality of ore in the Malangtoli Block (Nayagarh), the prospects of mining in this area were uncertain and, therefore, a rail link from Bansapani to the east coast would be unnecessary. On the basis of the findings of the Geological Survey of India, that there was a prospective deposit of 150 million tonnes of 63+ per cent iron ore situated at a very economical distance from the Port, the Railway Ministry had agreed to reconsider the proposal.59

Eventually, the Centre refused to go in for a rail link between Rourkela and Talcher during the Fourth Plan. One fails to understand how the Talcher-Bimalagarh (Rourkela) railway link with Rs.18 crore investment could not be considered important when one considers the fact that in order to develop iron ore export through Vizag Port, a railway line of more than 300 miles was constructed at a cost of Rs.70 crore between Vizag and Bailedila.

58 As observed by Mr. Nishamani Khuntia in a letter, No. Nil, dated 12th Sept. 1967, a copy of which was forwarded to Mr. Poonacha.

This was all the more disturbing as Orissa was the only State which had been served with the minimum railway mileage. It needs to be mentioned here that a proposal was mooted as far back as 1945-46 and several discussions were held between the officials of the Ministry of Railways and the State Government with a view to examine the feasibility of constructing a line which would not only provide easy and cheap communication from the northern and western part of Orissa with the coastal area, but also provide an outlet for exploitation of vast mineral resource of this State. The Railway Ministry, however, maintained its negative stand on all the suggestions made. During none of the three Plan periods any railway link had been contemplated by the Centre to develop the vast mineral potentialities of the State to catalyse the latent industrial possibilities. Also, it hardly took cognisance of the fact that various agencies like the Geological Survey of India, MMTC, Orissa Mining Corporation, Department of Geology and Mines, had provided extensive evidence on the reserves of high grade iron ore and other minerals in the State. Going even by the sole consideration of the movement of goods, from the point of view of sustainable railway traffic, substantial cases for the existence of potentialities for vast resources were made. On the contrary, the concerned minister pointed to the absence of 'finalised' schemes for ore exploitation and 'specific' proposals for the rail links and above all inadequate finances, and reduced the whole issue to a non-essentiality. However, efforts at various levels

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To quote the communication from Mr. Poonacha "The Talcher-Bimlagarh rail link ... will only serve the Western face of the Malangtoli Block where no investigations appear to have been carried out regarding the availability and possible exploitation of the iron ore.
were made to impress upon the Centre regarding the urgency and usefulness of this vital component of infrastructure.  

Meanwhile, with the demand for the rail link persisting, in September, 1968, the Union Minister of Transport and Shipping, Mr. V.K.R.V. Rao, made the suggestion to conduct a "fresh survey" to assess the economic viability of the Talcher-Bimalagarh rail link on the ground that the existing survey report was outdated.  

This suggestion obviously overlooked the unimpeachable facts and claims brought out by the HSL, The National Mineral Development Corporation (NMDC), the Ministry of Steel, Mines and Metals and  

In regard to the mineral deposits, such as Mica, Garnet, Quartzite, etc., no specific proposals for the construction of a rail link to serve these deposits have been received from the M.H.T.C., Ministry of Mines or from the State Government, as apparently no schemes have been finalised for exploitation of these deposits on a large scale. ... The funds that are likely to be made available for the construction of new railway lines in the Fourth Plan period are very limited. These meagre funds will have to be earmarked for completing the throwforward works from the Third Plan and for taking up the minimum number of new lines which are essentially required on priority for strategic reasons or for schemes connected with large scale exploitation of mineral resources already in hand... it will hardly be possible for us to set apart any funds for the inclusion of the Talcher-Bimlagarh Rail link in the Fourth Plan".  

For instance, as the time for finalisation of Plan allocation for the Fourth Plan was drawing near, the Governor (then Dr. S.S. Ansari) was urged by Mr. Khuntia, MLA and Trustee, Paradeep Port Trust; Chairmen of Orissa Mining Corporation and Paradeep Port Trust; secretaries of departments of Industry, Transport and Mining and Geology, among others, to discuss the matter  

See, "Plea for New Rail Link", Amrita Bazar Patrika, 22nd September, 1968; Letter No. Nil, dated 22nd Sept. 1968 (from Mr. Khuntia to Dr. Ansari); Letter No. 5705 S.G. dated 26th Sept. 1968; (from Secretary to Governor to Mr. Khuntia). "The concerned Union Ministries would be well to put it in the high priority list". (In "By the Way", Amrita Bazar Patrika, dated 2nd October 1968).  

Vide letter No. 2267-HPS/68, dated 27th Sept. 1968. Also, see "Fresh
the Geological Survey of India on the efficiency of the Talcher-Bimalagarh link.

Subsequently, a high-level inter-ministerial conference was held in New Delhi on the 14th January, 1969, under the auspices of the Ministry of Steel, Mines and Metals, which was attended by the representatives from Ministries of Railways, Petroleum and Chemicals, Steel, Mines and Metals, Transport and Shipping as well as the HSL, the MMTC, the NMDC and the Government of Orissa. The conclusion reached in the said conference is as follows:

"The general consensus of opinion at the meeting was that in view of the present and prospective traffic requirements, the proposed Talcher-Bimalagarh rail link with access to Koira valley could be recommended for the inclusion in the Fourth Five Year Plan subject to the engineering and traffic surveys proposed to be conducted by the Railways establishing the possibility of the line".65

The engineering and traffic survey of the proposed line to ascertain the economic viability of the project had been ordered for the year 1969-70, i.e., the first year of the Fourth Plan. Surprisingly, the Ministry of Railways had directed that the survey would have to be taken up from Talcher to Bimalagarh leaving the 80 Kms link connecting the rich mineral regions of the Koira-Joruri.

This gave sufficient room for doubt and misgivings about the intentions of the Union Government and the Action Committee,

65 See, Letter No.20(1)/69/HIV, dated 24th January 1969, being a copy of the record note of the discussion held on 14th January 1969 in the Department of Mines and Metals (Ministry of Steel, Mines and Metals), New Delhi, on the subject of construction of Talcher-Bimalagarh railway line. p. 5. (mimeo).
Talcher-Bimalagarh Rail Link, presented a detailed memorandum to Mr. Poonacha, who was to inaugurate the construction of Cuttack-Paradeep rail link on 12th February 1969.\footnote{Memorandum submitted to the Union Minister for Railways, Mr. C.M. Poonacha, on 12th February 1969, at Paradeep Port, p. 5. Incidentally, the day was observed as the "Demand Day" in Orissa concerning the much discussed demand for the Talcher-Bimalagarh rail link.}

In this context special mention must be made of the following instance, which conclusively proves the apathy of the Railway Board towards the development of railway communication in Orissa. In an inter-ministerial meeting held on 31st March 1971 in New Delhi\footnote{This meeting was attended by high ranking officers representing the Ministries of Finance, Mines & Metals, Shipping & Transport, Railways, Planning Commission, M.M.T.C., N.M.D.C., G.S.I. and Government of Orissa.} in connection with the development of the Malangtoli iron ore deposits, the officer representing the Railway Board was recorded to have said that the laying of the railway line from Jakhapura to Bansapani was estimated to cost not less than Rs.40 crore and was unremunerative. The Railways would like to utilise the capacity of the Bansapani-Haldia line to take extra traffic of about 5 million tonnes before laying any further lines in the area, which would involve only minor investment.\footnote{See Minutes of the meeting, para 3. (Himeo).}

It is to be noted here that by the time of this meeting on 31st March 1971 the outcome of the "fresh" engineering and traffic survey into the proposed Talcher-Bimalagarh rail link had not been made public, even though the Railway Board possessed the report. The Railway Board could well anticipate that once it was known that...
the rail link would prove unremunerative, there would be insistence on the alternative line – the Jakhapura-Bansapani rail link. By suggesting the alternative of Bansapani-Haldia line the Railway Board effectively preempted the second choice. It also needs to be mentioned that in actuality, there was no direct link from Bansapani to Haldia, as the officer tried to impress upon the meeting. There was a rail link from Bansapani to Rajkharasuan which was connected to Kandra. From Kandra via Jamshedpur it touched Kharagpur and Pansukura, from where there was a straight line up to Haldia. The distance of the mining areas to Haldia in comparison to Paradeep was so circuitous that the transport to Haldia would not be economic as is evident from Table 7.4.

Table 7.4

<table>
<thead>
<tr>
<th>Name of Mining areas</th>
<th>To Haldia via Rajkharsuan (Kms)</th>
<th>To Paradeep via Jakhapura (Kms)</th>
<th>Likely savings in freight per tonne (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bansapani</td>
<td>417</td>
<td>340</td>
<td>2.90</td>
</tr>
<tr>
<td>Malangtoli</td>
<td>477</td>
<td>330</td>
<td>4.40</td>
</tr>
<tr>
<td>Joruri</td>
<td>415</td>
<td>321</td>
<td>3.30</td>
</tr>
<tr>
<td>Keonjhar</td>
<td>390</td>
<td>345</td>
<td>1.50</td>
</tr>
<tr>
<td>Barbil</td>
<td>400</td>
<td>390</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Further, the survey, the Railway Board representative was referring to, was conducted in the year 1965-66, while during the intervening period much development in various mining areas had taken place.

Detailing the facts and circumstances referred to above, in a letter, Mr. Khuntia, chairman of the Rail Link Action

Addressed to Mr. K. Hanumanthaiya, the then Union Minister for Railways, dated 14th July 1971.
Committee, observed with concern and regret that, both the Railway Board and the S.E. Railways did not allow this State to develop the rail lines despite the existence of the deepest natural Port and huge deposits of rich minerals.

"Therefore, it is the firm belief of the people of Orissa that the proposed Talcher-Bimalagarh rail link was a victim of this conspiracy and had to be declared unremunerative in spite of ample justifications established in its favour."

Conclusion:

The purpose of this Chapter has been to go beyond the usual 'economic' enquiry in analysing a crucial dimension of regional development, the provision of basic infrastructure. Considering an important phase in the global iron and steel market, we have attempted to explore the dynamics of mineral development in Orissa, rich in iron ore deposits. The major aspect of promoting trading of iron ore exclusively rested upon two components of infrastructure, namely, the Paradeep Port and the railway line connecting the hinterland to the Port.

As development of both the port and railways involves Central decision-making, on the one hand, the State's dependence on the Central authorities, and hence, its vulnerability to bureaucratic interference, heightens, and, on the other, it leads to unhealthy competition between aspiring States based mainly on parochial political interests. As far as the Port issue was concerned.
indifference was very clear. This was particularly evident when the Central Government disregarded the significant recommendations made in the report of the consulting engineers. The absence of even the critical provisions like sand-pumping and dredging and also required number of cargo berths definitely led to the deterioration of the Port.

The case of the proposed railway link was no different. The justifiability of the otherwise economically viable proposition was never appreciated by the concerned Central authorities. In fact, any move in this connection had been effectively thwarted, often on false premises. This once again proved the subversive attitude of the Central bureaucracy and also the inaptitude of the political decision-makers. In such a situation the weaker States usually emerge as the real losers, no matter how genuine their demands are.

That in a federal structure the process of decision-making is greatly determined by factors extra-economic is further established in the following Chapter VIII.
### APPENDIX -1

**Reserves and Grades of important Ores and Minerals of Orissa**

<table>
<thead>
<tr>
<th>Ore/Mineral</th>
<th>Reserves (million tonnes)</th>
<th>Grade</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iron Ore</td>
<td>About 2,300*</td>
<td>60% Fe</td>
<td>About 97% from Keonjhar and Sundargarh districts</td>
</tr>
<tr>
<td>Manganese Ore</td>
<td>25</td>
<td>All grades</td>
<td>90% from Keonjhar and Sundargarh districts</td>
</tr>
<tr>
<td>Chromite</td>
<td>5</td>
<td>All grades (including powdery ore)</td>
<td>Sukinda-Dhenkanal belt accounts for 95% of the total reserves</td>
</tr>
<tr>
<td>Limestone</td>
<td>600*</td>
<td>Cement &amp; Flux grade</td>
<td>Distributed in the districts of Sundargarh, Sambalpur &amp; Koraput</td>
</tr>
<tr>
<td>Dolomite</td>
<td>300</td>
<td>For steel making</td>
<td>Distributed mainly in the districts of Sundargarh &amp; Koraput</td>
</tr>
<tr>
<td>China clay</td>
<td>1.50</td>
<td>For Paper, Rubber, Textiles, Pottery Industries</td>
<td>95% in Mayurbhanj district</td>
</tr>
<tr>
<td>Coal</td>
<td>1,300*</td>
<td>For thermal power locomotives and non-metallurgical, also suitable for low shaft furnace</td>
<td>Distributed in Talcher field</td>
</tr>
<tr>
<td>Fire clay</td>
<td>Above 100</td>
<td>Fire bricks</td>
<td>Distributed in the districts of Sambalpur, Sundargarh, Dhenkanal, Puri &amp; Cuttack</td>
</tr>
</tbody>
</table>

**Remarks**
- About 97% from Keonjhar and Sundargarh districts.
- 90% from Keonjhar and Sundargarh districts.
- Sukinda-Dhenkanal belt accounts for 95% of the total reserves.
- Distributed in the districts of Sundargarh, Sambalpur & Koraput.
- Distributed mainly in the districts of Sundargarh & Koraput.
- 95% in Mayurbhanj district.
- Distributed in Talcher field.
- Distributed in the districts of Sambalpur, Sundargarh, Dhenkanal, Puri & Cuttack.

**Source:** Memorandum submitted to the Ministry of Railways, Government of India, 1969. (Annexure I). (Mimeo)

**Note:** * Indicated reserves
APPENDIX - 2

Particulars of Port Facilities at a Deep Sea Harbour at Paradeep
Proposed by M/s Rendel, Palmer and Tritton, Consulting Engineers
in their Report (1962)

The coast line south of the Mahanadi river at the Indian Naval
Survey station can be considered stable and substantial movements
are unlikely.

A lagoon type of harbour is to be constructed at this site.

It is to be located inland of the present shore line and is to be
connected to the sea by a channel cut more or less at right angles
to the coast. The entry to the channel from the sea is to be
protected by a breakwater or breakwaters and the littoral drift is
to be catered for by suitable sand trap and dredging.

Inside the breakwaters the entrance channel will be approximately
1/2 mile long and will lead into a turning basin. From the turning
basin three arms lead to form the wet docks having the necessary
iron ore handling berths and cargo quays. The other arms are for
future naval dock and oil berths. Under Stage I of the project the
following will be provided:

(i) One ore berth commissioned by 1965 for vessels upto 60,000
D.W.T. This will be provided with handling equipment for an
annual throughput of two million tons of iron ore. The ore
will be delivered by road to the stock-yard where it will be
stacked and reclaimed by tractor shovels. Ore will be
carried to the berth by a mobile ship loader running on
tracks on the jetty.

(ii) One cargo berth 165 metres (607 ft.) long by mid-1966, for
vessels upto 14,000 G.R.T. This will be equipped with one
transit shed. The cargo will be transported by road and
canal, this should be sufficient for the handling of 200,000
tons of general cargo and small parcels of bulk cargo
including 50,000 tons of coal imports every year.

(iii) One buoy berth prior to mid-1966 for use by cargo vessels.

(iv) A 300 tons slipway for slipping coastal and harbour craft,
and limited workshop facilities.

(v) The Taldanda can also be extended from Atharabanki Creek to
the port and an access to the harbour provided through the
dock to enable canal craft to proceed alongside ships if
necessary. otherwise canal cargo can be handled in the barge
basin and taken to the transit shed or quays. A major road
will connect the port with the hinterland.

(vi) The cargo quays will be arranged with rail tracks and tracks
for dock-side cranes to suit introduction of railways at a
later date.

(vii) Areas will be set side for future development as a naval
dock-yard.
(viii) Areas for the township and industrial developments also will be set aside.

(ix) The port can ultimately be developed to include three iron ore loading berths, 19 cargo berths and oil dock with two berths and ship repair yard having two dry docks. It is estimated that under full development three to four million tons of general cargo could be handled over the cargo berths in addition to bulk cargo at the iron ore and oil berths.

The ore dock can be extended to cater for a throughput of at least five million tons of iron ore per annum, and it is proposed to introduce a completely mechanized system for receiving the ore and stocking it.

A dredger for the continuous maintenance dredging of the sand trap, approach channel, etc., is required. This dredger could do some of the necessary dredging of the sand trap and approach channel but another dredger will be required for the initial dredging of the entrance channel and turning basin.
APPENDIX -3

Recommendations by the Consulting Engineers for Full Development of the Port

The Full Development as shown on Master Plan Drawing No. PP/23 allows for 3 Ore Berths, to accommodate one 60,000 D.W.T. and two 30,000 D.W.T. ore carriers, 19 Cargo Berths each 185 metres (607 ft.) long to receive vessels up to 18,000 G.R.T. and an Oil Dock equipped with 2 berths for 100,000 D.W.T. Oil Tankers.

It is estimated that 3 to 4 million tons of general cargo could be handled over the Cargo Berths in addition to bulk cargoes at the Iron-ore and Oil Berths.

The initial development of the Port has been so arranged that the Approach and Entrance Channels can later be dredged to allow 100,000 D.W.T. Oil Tankers to have access to the Port.

The Ore Dock can be extended to cater to a throughput of at least 5 million tons of ore per annum. Modification of the ore handling arrangements will be necessary for this quantity and the lay-out has been made designed for road transport of the ore from the mines but could be adapted to rail transport should this be introduced at a later date.

It is proposed to introduce a completely mechanised system for receiving the ore and stacking out. Modification would not necessitate scrapping any existing equipment as the initial conveyor system could be extended. Receiving hoppers into which the ore would be discharged direct from rail wagons, a slewing boom stacker for stacking out, and bucket wheel reclaiming machines would be added. Two mobile ships loaders would be required for the two new berths.

In view of the possibility of the introduction of rail transport at a later date the cargo quays have been arranged with rail tracks and tracks for dockside cranes. Details of the proposed quay lay-out are shown on Master Plan Drawing No. PP/18.

The Oil Dock will be provided with two berths of the 'tee' Head jetty type. The jetty heads would be equipped with suitable hose handling gear and connected to the shore by a short road approach and pipetrack.