C. P. U. No. 231

COMMITTEE ON PUBLIC UNDERTAKINGS (1972-73)

(FIFTH LOK SABHA)

THIRTY-SEVENTH REPORT

NATIONAL MINERAL DEVELOPMENT CORPORATION LIMITED, HYDERABAD

(Ministry of Steel and Mines)

LOK SABHA SECRETARIAT
NEW DELHI

April, 1973/Vaisakha 1895 (S)

Price: Rs. 5·00

C O R R I G E N D A

THIRTY-SEVENTH REPORT OF THE COMMITTEE ON PUBLIC UNDERTAKINGS (5TH LOK SABHA) ON NATIONAL MINERAL DEVELOPMENT CORPORATION LTD

Page	Para No.	Line	For	Read
1.	2.	3.	4.	5.
1	1.3	13-14	(i) Add "*" after the word "importing". (ii) Add Foot Note after item (iii) "* at the time of factual verification it has been stated by NMDC that this work has been transferred to MMTC recently."	
1	1.3 (Foot Note)	1 (Foot Note)	MMTC	NMDC
2	1.6	1	load	lead
7	2.5(B)	9	Hematate	Hematite
11	2.16	2-3	comes up the representatives	comes up, the representatives
16	3.7	3 line of the table	attribued	attributed
17	-	last line	Omit the words "(Contd. from pre-page)"	
18	3.11	2	has observed	had observed
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27	3.36	For 1971-72 under item 2 of the table	19.87	19.37
29	3.41	2	6.56 million tonnes	4.88 million tonnes

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42	-	Against item for 1969-70 under heading "others"	0.08	-
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43	-	1	Material	'Material
43	-	16-17 (items (i) & (ii))	@ 0.98	@ 0.098
43	-	26 (item vi)	158325	158335
44	3.91	6	for	to
45	3.93	FOBT cost under item 4 "1967-68"	69.90	61.90
46	3.94	3	Rs. 21.16	Rs.21.16
46	3.94	3	Rs. 21:13	Rs.21.13
46	3.95	3	Rs. 0:36	Rs. 0.36
46	3.95	4	Rs. 5:78	Rs. 5.78
50	3.102	1	Rs. 57:29	Rs.27.29

1.	2.	3.	4.	5.
59	5.4	16	is	was
59	5.6	12	not	net
60	5.8 (sub-para)	5	In may	In May
60	5.9	4	Minister	Ministry
61	5.12(ii)	8	Rs.10.23	Rs. 10.33
63	5.16	2	charged	changed
64	5.20	12 against item (b) under Rs. in lakhs	25.09	26.09
64	5.20	Total	205.47	206.47
65	5.21	2	50 ton	50 tonne
65	5.22	14	5.150	5.50
66	5.25(i)	2	tunels	tunnels
68	5.30	8	section	sections
68	5.30	10	Add "," after the words "the project report"	
73	5.38	Item 2 "Despatch" for 1970-71 under heading "original Targets"	41.01	41.10
74	5.41(ii)	2	fund	found
76	5.46	under heading "Actual recovery ore (Tonnes) against item for 1970-71	22.00	22.20

1.	2.	3.	4.	5.
76	5.49	4	rations	ratios
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116	7.40(i)	Heading of item 6 of the table	Percentage to columns	Actual cost as percentage to columns 1 and 2 of the table.
116	7.40 (ii)Hea		Omit "*" in item No. 4 of the table and its foot note.	
146	11.9	4	stocks of about 70 per cent in the usage value	stocks level were fixed and reviews were made periodically. stocks of about 70 percent in the usage value.
147	11.11	7	27,06	27.06
151	11.25	9	excercise	excercised
154	11.37	11	19,63 p. per tonne/mile	19.63 p. per tonne/mile

1.	2.	3.	4.	5.
160	-	1 line of table under item "Rs. tonne"	100@ 55.94	100@ 55.26
160	-	3 line of table under head "Items".	percentages	Port charges
161	Sub-para (2) of 12.12	1	Omit "*" before "(2)" and also also its foot-note "subject to verification"	
166	-	(h) of the statement item below item 6	201.02	202.02
168	13.6(iii)	8	Actual	Arrears
168	13. 8	Item against 1971-72 under heading "Kiriburu"	604.4	604
173	13.16	3 of foot-note	each lose	cash loss
213	23(5.23)	14.15	the project report. The mine and screaning sections	the project report, the mine and screening sections
215	24(5.37)	12.13	Add "/" in between the words Government and Corporation.	
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(1972-73)

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7. Shri S. N. Misra
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10. Shri Ranen Sen
11. Shri Lal K. Advani
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13. Shri U. N. Mahida
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15. Shri D. P. Singh

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1. Shri Avtar Singh Rikhy—*Joint Secretary*
2. Shri M. A. Soundararajan—*Deputy Secretary*
3. Shri M. N. Kaul—*Under Secretary*

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*Proceeded abroad on the 22nd April, 1973.

**Appointed by the Speaker as Chairman with effect from 23rd April, 1973 during the absence of Shrimati Subhadra Joshi, proceeded abroad.

£Died on the 7th February, 1973.

COMPOSITION OF STUDY GROUP III ON MINERAL DEVELOPMENT, PYRITES, PHOSPHATES & CHEMICALS

1. Shri P. Parthasarathy—*Convener*
2. Shri M. Kamalanathan—*Alternate Convener*
3. Dr. Mahipatray Mehta
4. Shri Ranen Sen
5. Shri Amrit Nahata
6. Shri Lal K. Advani
7. Shri U. N. Mahida

INTRODUCTION

I, the Chairman, Committee on Public Undertakings having been authorised by the Committee to present the Report on their behalf, present this Thirty-seventh Report on National Mineral Development Corporation Limited.

2. This Report is based on the comprehensive appraisal of the working of the National Mineral Development Corporation Ltd. done by the Comptroller and Auditor General of India as contained in the Central Government Audit Report (Commercial), 1970 Part IV and also on an examination in depth of the working of National Mineral Development Corporation Ltd. up to the year ending 31st March, 1972.

3. The Committee on Public Undertakings took evidence of the representatives of the National Mineral Development Corporation Ltd. on the 8th and 9th August, 1972 and of Ministry of Steel and Mines, Ministry of Railways (Railway Board), Geological Survey of India, Council of Scientific and Industrial Research and Minerals and Metals Trading Corporation of India Ltd. on the 28th September, 1972.

4. The Committee on Public Undertakings considered and finalised the Report at their sitting held on the 16th April, 1973.

5. The Committee wish to express their thanks to the Ministry of Steel & Mines and National Mineral Development Corporation Ltd. for placing before them the material and information they wanted in connection with the examination of the National Mineral Development Corporation Ltd. They wish to thank in particular the representatives of the Ministry of Steel and Mines, Ministry of Railways (Railway Board), Geological Survey of India, Council of Scientific and Industrial Research and Minerals and Metals Trading Corporation of India Ltd., who gave evidence and placed their considered views before the Committee.

6. The Committee also place on record their appreciation of the assistance rendered to them by the Comptroller and Auditor General of India in connection with the examination of National Mineral Development Corporation Limited.

NEW DELHI;
April 24, 1973
Vaisakha 4, 1895 (*S*)

AMRIT NAHATA,
Chairman,
Committee on Public Undertakings.

I

INTRODUCTORY

A. Historical Background

The National Mineral Development Corporation Limited was registered on November 15, 1958 as a private limited company under the Companies Act, 1956, with an authorised capital of Rs. 15 crores (which now stands at Rs. 100* crores on 27-12-72) for the exploitation of minerals in the public sector, excluding oil, natural gas and coal.

1.2. The immediate need for the formation of the Corporation was a contract entered into by the Government with the Japanese Steel Mills on March, 9, 1958, for the supply of 2 million tonnes of iron ore per annum to Japan with effect from January, 1964. As a result, the Kiriburu mine was developed. Thereafter, the Corporation was assigned the task of developing a second iron ore mine at Bailadila (Deposit No. 14) with a capacity of 4 million tonnes of sized iron ore per annum for export; the Khetri Copper Project, and the Diamond Mining Project at Panna. With the formation of Hindustan Copper Ltd., on 9th November, 1967, the Khertri Copper Project was transferred to that Company w.e.f. 1-1-68.

1.3. In due course, several other projects were assigned to the Corporation. These were; Bailadila 5, similar in size to Bailadila 14; Donimalai in the Bellary-Hospet area with a run of mine capacity of 4 million tonnes per annum; and the proposed joint venture for the development of the magnetite deposit at Kudremukh. The Corporation is also currently engaged in detailed investigations at Ramandrug (in the Bellary-Hospet area), Bailadila Deposit 4 and Megahatuburu (adjacent to Kiriburu). The Corporation had also undertaken study of the rock phosphate deposits in Mussoorie (U.P.); diamonds in Kurnool (A.P.) and Emeralds in Gamguda (Rajasthan). It has also prepared a detailed Project Report for the expansion of Majhgawan Mine at Panna. Besides production and trading in Panna diamonds, the Corporation is also now importing rough diamonds and other precious stones for sale to the trade for cutting, polishing and re-export.

(i) The authorised Capital of MMTC raised from Rs. 15 crores to 30 crores on 4-3-67, and;

(ii) from Rs. 30 crores to Rs. 70 crores on 26-8-69.

(iii) The authorised capital was further increased from Rs. 70 crores to Rs. 100 crores on 27-12-72.

1.4. The position in brief regarding the activities of the various projects of N.M.D.C. is detailed below:—

B. **Kiriburu**

15.5. The Kiriburu Iron Ore Mine was assigned to the National Mineral Development Corporation in 1959, in pursuance of an agreement between the Government of India and Japan Steel Mission for the supply of 2 million tonnes of sized ore per year to Japan on a long term basis. Approval of the Government to the Project Report was received by the Corporation in May, 1960, the project was completed in July, 1963 and the trial runs commenced in August, 1963.

C. **Kiriburu Modification & Expansion Scheme**

1.6. In view of the long railway load having adverse effect on the profitability of ore from Kiriburu mine for export purposes the Government of India decided to divert Kiriburu ore to Bokaro. As the specifications of ore and fines required by Bokaro Steel Plant are different from the earlier projected range of production, the Corporation prepared a Detailed Project Report for modification and expansion of the Project in December, 1965. This was updated and resubmitted to G.I. in November, 1968 for approval. Sanction of the Government for the scheme for production of 5 million tonnes of run of mine ore was received by the Corporation during 1970-71.

The original schedule for completion of the expansion Project was June, 1972. It is now expected to be completed by July, 1973.

Pending completion of the Kiriburu Modification and Expansion Scheme, an interim scheme has been implemented for screening of ore to meet the lump ore requirements of Bokaro Steel Plant.

D. **Bailadila Deposit No. 14**

1.7. The agreement with the Japan Steel Mills entered into in March, 1958, envisaged, that for meeting Japan's growing requirements, India would develop Iron Ore Mines in Bailadila and Sukinada areas. An Iron Ore Negotiating Committee visited Japan in March, 1960 and concluded an agreement for the supply of 4 million tonnes of sized ore per annum to Japan commencing from the middle of 1966 for a period of 15 years in the first instance. This project was assigned to the National Mineral Development Corporation in the year 1961 for development and exploitation of Deposit No. 14 in Bailadila area. The Project Report for production of 4 million tonnes per annum was prepared in April, 1964 by the Corporation on the basis of the prospecting data furnished by the Indian Bureau of Mines (now part of the Geological Survey of India). Construction of the Project commenced in September, 1964 and the project commenced production in April, 1968.

E. Bailadila Deposit No. 5

1.8. Consequent on the decision of the Government of India to divert Kiriburu iron ore to Bokaro Steel Plant, Government approved in April, 1970 the setting up of a mine at Bailadila Deposit No. 5 so that export commitments from Kiriburu mine could be transferred to this Project.

The project has a capacity of 6 million tonnes (approx.) of ROM yielding 4 million tonnes of lump ore for export to Japan. It had been planned for erection and commissioning by the middle of 1973. It is now expected that the Project would be completed in the second half of 1974.

F. Panna, Diamond Mining Project

1.9. Towards the middle of 1955, the Government set up a Committee to investigate into the problem of the diamond mining industry in the former State of Vindhya Pradesh of which Panna formed a part. That Committee recommended that the diamond mining industry should be taken over by Government and given a priority in the Second Five Year Plan. Accordingly the Diamond Mining Project was assigned to the Corporation in December, 1959. On the basis of prospecting and detailed exploration of the two mines *viz.* Ramkheria and Majhgawan the Corporation prepared project reports for the two mines in April, 1961. These reports were approved by Government in November, 1961 and February 1962 respectively. However, on the advice of Consultants, M/s. John Taylor & sons the execution of the projects was deferred. In December, 1967, however, the Government approved development of Majhgawan and Ramkheria for an annual output of 12,000 and 11,250 carats of diamonds at a cost of Rs. 105 lakhs and Rs. 68 lakhs (nett) respectively. The revised schemes for the development have since been implemented.

The preparation of expansion scheme to raise the output from Majhgawan from 12,000 to 45,000 carats per annum was approved by the Government in April, 1970. The Corporation has compiled a detailed Project Report which was approved by the Board of Directors and has been submitted to Government for approval on 22-5-1972.

G. Donimalai

1.10. The Government of India called upon the Corporation in May, 1964 to develop one or more of the deposits in the Bellary-Hospet Iron ore Range reserved for exploitation in the Public Sector, so as to produce 7 million tonnes of iron ore per annum for export. In October, 1964, the Corporation took up the Ramandrug Deposit for investigation. The adverse lump-fine ratio however, led to its being passed over after initial investigations. Thereafter, in November, 1965 the Corporation entered the Donimalai South Block, and after June 1966, extended the investigations to cover the North Block as well. The geological investigations were done by Geological Survey of India in coordination and conjunction with NMDC. The preliminary feasibility study was submitted to Government of India in February, 1967. The Detailed Project Report was prepared by NMDC on receipt of prospecting reports from the Geological Survey of India and submitted to Government in October, 1968. The Government approved the Project in principle in January, 1969. The administrative approval to the Detailed Project Report was communicated by the Government in January, 1971.

H. Kudremukh

1.11. A major range of magnetite/quartzite ore exists in the Kudremukh-Gangamula range of hills in the Chikmaglore District of Mysore State approximately about 60 kilometres from the port of Mangalore. Realising the importance of these Deposits, the Corporation took up preliminary survey in April, 1965, and later took up the magnetite deposits at Aroli-range for detailed prospecting.

The techno-economic feasibility study on the Project was undertaken jointly with Marcona Corporation of USA and the MON Corporation of Japan. Based on the results of the pilot plant tests, a techno-economic feasibility report was prepared jointly by NMDC, Marcona of USA and MON Group of Japan and submitted to Government on May 14, 1970. While approving the feasibility Report in principle, Government authorised the preparation of a Project Report to form the basis of the investment decision and also sanctioned the necessary funds for preparation of the Report. The Detailed Project Report has been submitted to Government in March, 1971. An investment decision is still awaited.*

*At the time of factual verification it has been stated by N.M.D.C. that Government have accorded their investment decision in principle.'

The Project when completed would be the largest mine undertaken in this country. It envisages raising of 20.6 million tonnes of magnetite quartzite ore, concentrating it to 7.5 million tonnes of saleable product, transportation of the concentrate to the coast in the form of slurry by a pipeline, and export of the slurry in large slurry carriers.

I. Earlier Examination by the Estimates Committee & Committee on Public Undertakings

1.12. The working of the National Mineral Development Corporation Ltd. was examined by the Estimates Committee and their observations were included in the Hundred and Fifty-sixth Report of the Estimates Committee (Second Lok Sabha) March, 1962. Action taken by the Government on the recommendations contained in that Report was incorporated in the Fortieth Report of the Estimates Committee (Third Lok Sabha). The working of the Corporation was also reviewed by the Committee on Public Undertakings *vide* their Eleventh Report (4th Lok Sabha) in April, 1968. Action Taken by the Government on the recommendations contained in that Report were incorporated in their Fifty-fifth Report (Fourth Lok Sabha).

II

EXPORT COMMITMENT OF IRON ORE

A. Appraisal of achievements of the objectives

2.1. In a note dated 26th March, 1958 prepared by the Ministry of Commerce and Industry, it was stated that the Planning Commission approved the development of Kiriburu Project in view of the benefits accruing, such as development of Vizag. Port and building of the Sambalpur-Titalgarh Railway line in the Hirakud area besides earning foreign exchange on the sale of iron ore to Japan.

2.2. The production in Kiriburu started on a limited scale in April, 1964 and at Bailadila Deposit No. 14 in April, 1968.

2.3. According to the Memorandum entered into with the Japanese in March, 1966 for a period of 3 years covering from 1966-67 to 1968-69, the commitment was for the export of 2 million dry long tons (i.e. 21.34 lakhs tonnes) per annum from the Kiriburu Project. As, however, there were operational difficulties in the ore dressing plant and the actual shipment during the year 1966-67 was only about 1.7 million dry long tons, the undelivered tonnage was cancelled in April, 1967. Simultaneously, the commitment for 1967-68 was reduced to 1.8 million dry long tons. Similarly, in February, 1968 the commitment for 1968-69 was fixed at 1.8 million dry long tons (i.e. 19.21 lakhs tonnes).

B. Targets and achievements

2.4. The table below indicates the export of iron ore from the two mines to Japan vis-a-vis the commitments to the Japanese Steel Mills and the total exports of iron ore from the country as a whole:—

(in lakh tonnes)

Year.	Kiriburu		Bailadila		Export of iron ore from India	Percentage of NMDC exports to total exports	Stock at the port and the mines on 31st March	
	Commitment with 10% more or less	Actual	Commitment with 10 % more or less	Actual			Kiriburu	Bailadila
1	2	3	4	5	6	7	8	9
1964-65 . .	3·73	1·44	..	..	52·69	2·73		

1	2	3	4	5	6	7	8	9
1965-66 . .	6·50	7·98	..	..	67·53	11·82		
1966-67 . .	18·13	17·68	..	..	75·87	23·32		
1967-68 . .	19·21	19·03	8·00	3·73*	85·17	26·72		
1968-69 . .	19·21	17·89	16·00	16·18	91·47	37·20	1·39	5·79
1969-70 . .	16·05	14·77	34·54	29·27	..	..	2·53	2·61
1970-71 . .	16·05	16·51	35·10	32·88	..	..	2·48	2·42
1971-72 . .	10·69	10·55	@40·30	36·46	..	..	1·91	2·97

*Represents the iron ore obtained through hand mining operations.

@Though according to contract the export commitment was 47.00 lakh tonnes, this was reduced by mutual agreement with the Japanese.

2.5. During evidence, the Chairman, NMDC stated that against total supply of 80 m. tonnes target of export in aforesaid contracts, Corporation exported only 10.6 m. tonnes from Kiriburu and 11.86 m. tonnes from Bailadila till 31-3-72. For the balance quantity a fresh agreement was signed on 3-4-1970 which mentions as follows:—

"Whereas the two Memoranda and the respective addenda thereto had been signed by and between representatives of Indian Iron Ore Negotiating Committee and Japan Steel Mission under the respective dates of 19th March, 1958 and 8th March, 1960 (hereinafter collectively called "Basic Agreements") calling for a total supply of 80,000,000 tons of Kiriburu and Bailadila Iron Ore from India to Japan.

B. Whereas, out of the said 80,000,000 tons 12,340,000 would have been supplied upto end of March, 1970 and a further 6,400,000 tons have been contracted for comprising 2,500,000 tonnes of Kiriburu Iron Ore for delivery upto March, 1972 and 3,900,000 tons of Bailadila Iron Ore for delivery upto March, 1971 leaving a balance of 61,260,000 tons.

Now therefore the parties hereto do hereby agree to conclude Contract for sale and Purchase of Lumpy Hematate Iron Ore of Bailadila, India Origin on the following terms and conditions for the said 61,260,000 tons to complete Basic Agreements."

2.6. The Corporation informed the Committee that although the aforesaid contract was on long term basis, export from Kiriburu was to be stopped from 31-3-72 as it was the intention to divert production of Kiriburu to meet the requirements of Bokaro Steel Plant.

2.7. The Committee asked the representative of the Ministry whether the contract was not fore-closed due to non-achievement of targets the witness replied in negative. However, he stated that the target of Kiriburu was nearly two million tonnes. There were shortfalls during 1967-68. The export commitment was 19 lakh tonnes but the production was 17 lakh tonnes. Similarly in 1968-69 against the commitment of 19.21 lakh tonnes, the production was 17.21 lakh tonnes i.e. a little below the target.

The witness also stated that during 1971-72, the production had to be cut down from two to one million tonnes. This was because expansion had to be completed in time so that increased capacity would be ready to feed the Bokaro Steel Plant.

2.8. During evidence, the Chairman, National Mineral Development Corporation stated that the Kiriburu mine was supposed to raise 3.3 million tonnes which it was estimated, would have 2 million tonnes of lump ore at 60 per cent yield. But in actual operations, the yield went down to 54 per cent. They had to reduce the commitment to 1.8 million tonnes which was the real capacity of the mine in terms of lump ore.

2.9. The following were stated by the Corporation and Department of Mines as the main reasons for the shortfalls in the achievement of export commitments:—

(I) **KIRIBURU**

(a) Lower lump recovery;

(b) Inadequate supply of rail wagons during 1968-69 and 1969-70; and

(c) Inadequate allocation of ships during 1969-70 by Japanese (adequate stock were available at the mine and the port to meet export commitments).

(II) **BAILADILA**

(a) Reduced delivery of float ore by float ore contractors;

(b) Lower lump recovery;

(c) Non-allocation of ships during 1971-72 on account of December War;

(d) Non-availability of spares in time for maintenance of mining machinery and delay in receipt or additional equipment; and

(e) Labour strike in April, 1971.

C. Transport Difficulties

(i) Shortage of Railway Wagons

2.10. The Committee enquired whether the transport and movement difficulties faced by NMDC were brought to the notice of Government.

In regard to shortage of Railway wagons the Corporation stated that they had been bringing this difficulty to the notice of Government through their monthly reports.

2.11. The Department of Mines informed the Committee that the problem of adequate railway wagons was experienced more or less throughout the year 1968-69 and the matter was taken up by the Project as well as the Management from time to time with the Railway authorities. The situation became acute around October, 1968 when the matter was taken up with the Railway Board by NMDC.

2.12. The Committee enquired whether this difficulty was still being felt. The Department of Mines replied that although the production from Kiriburu had been diverted to Bokaro, difficulty in Railway movement was still being felt.

2.13. During evidence the Committee sought the views of the representative of the Ministry of Railways (Railway Board) regarding non-availability of Railway wagons for moving of iron ore from Kiriburu & Bailadila Projects. The representative of the Railway Board stated as under:—

"There are three agencies in this movement viz. the NMDC loads the wagons; we convey the wagons and the port handles these wagons.... Now we have set aside a certain number of locomotives and special type wagons, only for this movement of iron ore for export. I am dealing with Kiriburu. The same also applies to Bailadila. We move this traffic in what we call a closed circuit movement. So, we do not utilize either the wagons or the locomotives for any other traffic and we have built up the fleet of wagons as well as of locomotives, to cater to this 2 million-tonne re-movement. So, when we do fall short of this movement, I would like to emphasize that the blame cannot be with the Railways exclusively because the three agencies, one or the other fails at certain times...... The NMDC have referred to the shortfall of 52,000 tonnes for which they ascribe the blame to the Railways in the second half of the year .... I would, represent that though the short-fall of 52,000 tons has been ascribed due to inability of the Railways to move this traffic, the real movement lapse occurred only in November-December, on account of the breaches. Thereafter we did pull up and the movement lapse, such as occurred, could—I feel—be reasonably shared between all the three agencies that are partners in this movement. And if I may say so, we are, I would again reiterate, in a closed circuit movement for this traffic and hence we cannot fail unless, due to some force majure like this, it interferes with the rhythm of the movement; and the capacity to make good is limited by certain constraints.

We have built up a stock-pile at Bokaro of about 500,000 tons, They have started loading about 1 to 2 thousand tons a day. On an average, we might say that from June, we have moved about 70 to 80 thousand tons. This is after expansion."

(ii) Non-availability of Ships

2.14. As regards non-availability of ships, the Department of Mines in their written reply after evidence, informed the Committee that the fact of non-availability of ships for loading the iron ore for shipment to Japan from the Vizag Port which was adversely affecting the Mining operations due to accummulation of stocks both at the port and at the mining site, was brought to the notice of Government by NMDC from time to time. According to the terms of contract, entered into with the Japanese Steel Mills, the ships for the movement of ore were required to be nominated by the Japanese Steel Mills. The Department of Mines had been bringing this difficulty to the notice of MMTC and the Ministry of Foreign Trade from time to time for persuading the Japanese authorities to maintain regular supply of ships for the loading of the contractual quantity of iron ore. MMTC were equally concerned with this problem. In spite of their efforts, the position had not improved much.

2.15. During evidence, the Secretary, Department of Mines informed the Committee that the export from Kiriburu had been stopped effective from 1st April, 1972 and now the only source of export by Visakhapatnam was from Bailadila Deposit No. 14. By middle of 1974, another Deposit (Bailadila Deposit No. 5) would be in production and the whole of the production would be exported through Visakhapatnam outer Harbour. The agreement had been discontinued with full knowledge of Japanese and with their concurrence that the production of Kiriburu was diverted to Bokaro. The first agreement in principle as far as Kiriburu was concerned was in March, 1960 and it was even then left open to both the parties to raise the question of varying the proportions of ore from Kiriburu and Bailadila for meeting the requirements of Steel industry as and when required and the principle of diversion of Kiriburu in favour of steel industry was mutually agreed in March, 1960. Letters were exchanged in November, 1963. The Japanese accepted the proposal for transfer in August, 1966 in favour of Bailadila Deposit No. 5.

2.16. When it was pointed out by the Committee that there would be too much of loss of foreign exchange till Bailadila-5 comes up The representatives of the Ministry stated that the loss was inevitable.

2.17. When the Committee desired to know the steps taken by Government to improve the position, the Department of Mines intimated that:—

"(i) The question of adequate supply of rail wagons for the movement of iron ore was taken up both by the Ministry of Mines and the MMTC with the Railway Ministry from time to time urging them to ensure the movement of the required quantity of ore for the fulfilment of export commitment. As a result, MMTC introduced the system of having weekly Control Room Meeting to review the position regarding production, movement and shipping.

(ii) Since May, 1972 a high level Committee under the Chairmanship of the Cabinet Secretary had been set up to review the movement of essential commodities including iron ore by rail. Appropriate remedial measures are taken at this meeting.

(iii) So far as shortage of shipping facilities was concerned, NMDC and the Department of Mines had been impressing upon the MMTC to pursuade the Japanese importers to make available adequate number of ships for clearing stocks at the ports and also to ensure the shipment of the committed quantity of exports.

(iv) As regards shortfall in the supply of ore by float-ore contractors, defaulting contractors were penalised by cancelling their contracts where necessary. Deliveries from the contractors had since improved.

(v) So far as timely procurement of spares needed for the maintenance of mining machinery imported from USSR was concerned, the Ministry had approached the USSR authorities from time to time to ensure the delivery of requisite spares in time by the suppliers.

(vi) So far as the lower lump recovery was concerned, particularly in Bailadila, the NMDC had constituted a Technical Committee (in 1970) to go into the reasons for Bailadila-14 not attaining the target capacity and suggest remedial measures. The Technical Committee in its report submitted in August, 1970 observed that on the basis of production from April, 1968 upto February, 1970, the actual lump recovery ratio was only 66 per cent as against 75 per cent assumed in the Project Report and as a result, it would be necessary to raise 6.6 m. tonnes annually as against 5.5 m. tonnes of ROM envisaged in the Project Report. The Corporation stated that the additional machinery required for raising 6.6 million tonnes ROM had since been procured (at a cost of Rs. 2.06 crores) and was under installation and the rated capacity expected to be achieved in 1974".

2.18. The Committee regret to note that against the target of 80 million tonnes for export to Japan only about 10.6 million tonnes from Kiriburu and 11.86 million tonnes from Bailadila till 31-3-1972 were exported and a revised agreement was entered into with the Japanese for the balance quantity.

The Committee were also informed that the export from Kiriburu had been stopped and that future exports would be from Bailadila.

The Committee are not convinced about the reasons adduced for non-fulfilment of the export targets viz. the fines generated were more than anticipated, the lumps were not of the requisite grade

and quality envisaged by IBM, that rail transport was not available in time and that Japanese ships had not kept up the schedule. The Committee feel that after a commitment was made with Japan, there should have been integrated planning and implementation to ensure that the export target was achieved. The Committee feel that the steps now taken for despatch of ore to Japan at the level of Cabinet Secretary should have been taken many years earlier. At any rate now that it has been decided that the export commitment with Japan would be diverted to Bailadila the Committee need hardly stress that every care should be taken during this transit period to see that whatever commitment is made in respect of the quantity and quality of iron ore to be exported to Japan is honoured in letter and spirit. For this purpose the Committee would suggest that there should be an effective and close coordination of all the agencies concerned namely NMDC, MMTC, Railways, Ministry of Foreign Trade, etc. so that no bottlenecks are allowed to come in the way of export commitments.

III

KIRIBURU PROJECT

A. Site Selection and economics of the Project

3.1. The execution of the Kiriburu Iron Ore Project located on the border of Bihar and Orissa was undertaken as a part of a multi-purpose project for supply of 2 million tonnes of iron ore per annum to Japan for 10 years commencing from 1964. The multi-purpose project comprised *inter-alia* a rail link between Sambalpur and Titalgarh (111 miles) designed to open up the interior of Orissa State and improvement of port facilities at Vizag. to provide an adequate outlet for the growing trade of the hinterland. The Japanese Steel Mills provided financial assistance (to the extent of 8 millions) in the shape of deferred payment for the purpose of equipment for the mine.

3.2. The Kiriburu side was selected in 1958 by the working group consisting of the representatives of various Ministries, Geological Survey of India, and Mining Engineers set up by the Government. The Indian Bureau of Mines (now Geological Survey of India) submitted a report after making detailed drilling and geological investigations. The report, however, gave no indication about the profitability of the Project. Although the decision to develop Kiriburu Mine was taken before the formation of the Corporation no techno-economic feasibility study was undertaken by the Government. It was, however, envisaged that the cost of production per ton (inclusive of royalty) would be Rs. 11.68. The rail haulage being 480 miles, and without any concession in freight and handling charges at the port, in the opinion of the Government there was no likelihood of any profit, while there was every likelihood of a loss However, it was expected by Government that the Project might earn profit only when the supplies were diverted to the Steel Plants in India.

3.3. The Committee enquired as to why the profitability of the project was not indicated in the Report submitted by IBM. In a note furnished after the evidence, the Department of Mines stated that the IBM Report furnished geological data such as reserves, lump fines ratio, analysis of lump and fines etc. It was not required to contain any information regarding profitability which was normally furnished in the Detailed Project Report.

3.4. The Geological Survey of India has also confirmed that the question of profitability was not within the scope of the report of Indian Bureau of Mines.

3.5. When the Committee enquired about the terms of agreement with the Indian Bureau of Mines, the Department of Mines stated that there was no formal agreement between the NMDC and IBM. The exploratory work relating to iron ore deposits was undertaken by IBM at the instance of the Government and payment made to them as per schedule of charges approved by Government. No penalty was recovered from the IBM for any defective work as there was no formal agreement with them.

3.6. Asked why no techno-economic feasibility study was undertaken by the authorities concerned|Government, although the decision to develop Kiriburu Mine had been taken before the formation of the NMDC. The Department of Mines stated as follows in a note furnished after evidence:—

> "It is a fact that the investment decision by the Government was taken on the basis of DPR prepared by the Japanese Consulting Institute and not on a Feasibility Study. The DPR provide information regarding the cost of production excluding royalty cess, etc. It was, however, envisaged that in view of the long lead from the port, the Project would make a loss. It was envisaged that the exports from this project would result in loss and the project was mainly taken up not on considerations of economic viability and profitability but as a multipurpose project for the development of backward regions including the railway line."

B. Project Estimates

3.7. The table below indicates the original and the actual expenditure incurred there against upto 31st March, 1972:—

(In lakhs of Rs.)

Original estimates		Revised estimates	Actual expenditure upto 31st March, 1972	Percentage variation between original estimates and revised estimates
1		2	3	4
As on 31-3-69	915·04 (Dec. 1959)	1237·67 (August. 1966)	1233·40	35·26
As on 31-3-72.			@1396 (Prov.)	

The increase in the estimates was attributed to the following factors:—

	(Rs in lakhs.)
(a) Devaluation of the Rupee.	72·37
(b) Items not provided for in the original Project Report. .	104·83
**(c) Inadequate provision/change in specifications .	280·01
	457·21
Less : Saving under the head import duties, reserve fund, water supply etc.	134·58
TOTAL	322·63

@This includes the cost of replacements of capital assets to the extent of Rs. 1·06 crores.

**(a) this included expenditure on working face preparation, establishment charges transportation and miscellaneous. The provisions made by the Japan Consulting Institute were not related to actual requirements and were inadequate. According to the Project Report, the staff was to be employed under a phased programme starting from about 25 members at the commencement of the Project and increasing to 112 members during the construction phase of 3 years period over which the project had no effective control. The work sites were spread out in a difficult terrain of over 12 sq. miles of mining area. The construction of residential accommodation and base camp along with services like hospitals, dispensary, shopping centres etc. were absolutely essential which were not envisaged in the Project Report.

[*Contd. on next page*]

C. Consultancy Services

3.8. The Japanese Consulting Institute was engaged as Consultants by the N.M.D.C. Ltd in January, 1959 initially for a period of 5 years on a consolidated fee of Rs. 16.80 lakhs. The Consultants prepared a Detailed Project Report on the basis of the report submitted by the Indian Bureau of Mines. In the opinion of the Committee on Public Undertakings the nature of the geological data was not adequately worked out in the scheme prepared by the I.B.M. and consequently resulted not only in excess generation of fines but also purchase of extra Machinery at a cost of 69 lakhs involving additional expenditure of Rs. 0.20 per ton (on the basis of 1968-69 production).

3.9. The Consultants, were, *inter-alia,* responsible for the performance of the plant erected in accordance with the design prepared by them to achieve the stipulated standard. The performance tests were to be carried out for a period of two months either immediately after the erection of the plant or as soon as the Consultants desired them to be carried out. The installation was completed in August, 1963 at a cost of Rs. 4 crores. According to the rated capacity, the production during the performance test of two months would have been 3.32 lakh tonnes. On account, however, of non-completion of mechanical ore handling plant at Visakhapatnam port, non-expansion of the projected railway lines and limited stock-piling facilities at Kiriburu and Visakhapatnam, test-run for the stipulated period could not be undertaken as there was no arrangement for the off-take of the resulting iron ore. The test run was, therefore, restricted to a week's time only. In order to achieve the optimum production without any difficulty, the period of consultancy was

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(b) In crease in the cost of power, shovels, dump trucks, rotary percussion drills and bull-dozers, Japan Consulting Institute estimates were on low side whereas purchases were effected through DGS&D on the basis of competitive open tenders.

(c) Higher tender rates for steel works transport and installation of machinery as also due to more excavation involved on account of actual conditions.

This aspect was considered by the Committee on Public Undertakings *vide* Paragraphs 34—43 of their 11th Report (4th Lok Sabha—April, 1968).

[*Contd. from pre page*]

extended by one year from 5th August, 1964 to 4th August, 1965 and thereafter, again by a further period of 2 months from 5th August 1965 to 4th October, 1965. However, the stipulated test runs were not completed even during this extended period although an additional expenditure of Rs. 2.26 lakhs was incurred on account of extension of the consultancy period.

3.10. The report of the Consultants envisaged the lump to fine ratio as 60 : 40 and the production programme for an annual output of 2 million tonnes concentrates was based on 3.30 million tonnes of Run of Mines. The Report of the Consultants was, however, silent about the disposal of 1.30 million tonnes of fines. In addition it would appear that the requirement of mining equipment like dumpers, dozers, shovels and drills as worked out by the consultants was exaggerated.

3.11. In their 11th Report (4th Lok Sabha) on N.D.M.C. the Committee on Public Undertakings has observed that the nature of the geological data was not adequately worked out in the scheme prepared by the Indian Bureau of Mines and consequently resulted not only in excess generation of fines but also purchase of extra machinery at a cost of Rs. 69 lakhs involving an additional expenditure of Rs. 0.20 per tone (on the basis of 1968-69 production).

3.12. The Government in reply to the above recommendation, had stated as under:—

> "The practice in the past has been that NMDC has been depending on the geological survey conducted by IBM| GSI although some evaluation of the work done by them is made by NMDC to determine whether further detailed survey should be necessary. In case of the projects taken by the NMDC subsequently the Corporation has been associating itself with the GSI at the prospecting stage with a view to obviating the possibility of insufficient interpretation of geological strata. Co-ordination of this nature will be sought to a greater degree in the case of future projects".

3.13. During evidence, the Chairman, NMDC stated that IBM is now a days a part of GSI and NMDC took up the work where the GSI left it. In Dhonimalai and Kudremukh projects, the NMDC did considerable work themselves. Even during operation, they were drilling to get the right mix. The Chairman, NMDC also stated that the original project report for Kiriburu considered that at best screening would be done for 3 to 3-1|2 months but the NMDC screened round the year. The Chairman, NMDC also assured the Committee that the same mistakes would not happen in future.

3.14. The Project was scheduled to be completed by December, 1962 and export of iron ore to Japan was to commence from January, 1964 leaving a cushion of one year for trial and performance tests. The Project was, however, completed only in July, 1963 and the trail production started on a limited scale in April, 1964. The delay was attributed to the following factors:—

(a) Delay in awarding contracts for civil construction works.

(b) Delay in finalisation of purchase of Machinery.

(c) Non-completion of Iron Ore Handling Plant at the Vizag Port.

As a result of the delay, an additional capital expenditure of Rs. 20.96 lakhs was incurred on the following:—

(Rs. in lakhs)

Consultancy	2·26
Share of Head Office expenses	1·07
Interest during construction	6·43
Initial facilities	11·20
TOTAL	20·96

The C.P.U. commented on this in their 11th Report of CPU on NMDC and their 55th Report on Action taken by Government.

3.15. During the evidence, the Committee enquired how it was that the geological strata was not correctly worked out by the IBM. The Secretary, Department of Mines stated that firstly, these were some of the first instances where the IBM had such a large scale experience in respect of lump ore and in respect of fines for projects to produce millions of tonnes over a period of years. Secondly, in all mining projects whether it was iron-ore, whether it was copper or any other inside the country, it depended on the accuracy of the work done.

3.16. The Secretary Deptt. of Mines further added that "broadly speaking an agency like the IBM (now GSI) had given the best forecasts possible when it came to drilling and mining for production purposes by the Corporation, over a period of years. It was impossible to insist that the pattern should be absolutely faithful to the original forecast of IBM. As against the original forecast, if the actual output from year to year was somewhere in the region of plus or minus 10 per cent that could not be considered as an unfair margin."

3.17. Asked about the views of the Geological Survey of India in regard to the excess generation of fines, the Geological Survey of India in a note furnished after the evidence, informed the Committee as under:

> "Indian Bureau of Mines (Exploration Wing, which was subsequently merged with the Geological Survey of India) did not submit a scheme which resulted in an excess generation of fines. The responsibility of the Indian Bureau of Mines was confined to the carrying out of detailed exploratory and proving operations and furnishing a report on the results of the work. This programme of work was drawn up in the light of requirements of Japanese consultants who were to prepare the detailed project report. It was pointed out in the Indian Bureau of Mines report that the estimation of the proportion of lumps to fines likely to be produced, involves many imponderables and taking into account all relevant factors the ratio of lump to fines of 60 : 40 was arrived at. The distribution of lumps and fines is not in the form of geological strata but is of a extremely irregular character. The procedure to be adopted, consequently, was essentially a statistical approach. It was also pointed out that the estimate of 60 per cent lumps to 40 per cent fines relates to the entire deposit and may vary in different parts of it. It has been stated that in the course of actual operations the lump to fine ratio has been 55 : 45. This should be regarded as an excellent corroboration of the earlier estimates, since any variations even upto 10 per cent should be considered as quite reasonable in view of the many imponderables involved. Further, there are two basic factors involved in the production of fines, one is the nature of the material in the ground and the other is the process that is employed in mining, processing, handling etc."

3.18. The practical consequence of the variation between the estimated 60 per cent lump to 40 per cent fines and the actual 55 per cent lumps to 45 per cent fines is stated to be as under:—

> "In the report, it was indicated that a run of mine production of 3.4 million tonnes would be required to produce 2 million tonnes of lump ore, which was the objective of the project. In the context of the reduced recovery of 55 per cent this would require to be increased to 3.6 million tonnes, which means an increase of 6 per cent over the rated capacity. In view of the variations likely in the lump to fines ratio, there would normally have to be a minimum built in provision of around 10 per cent capacity to take care of this factor. In other words this degree of variation from the estimate should be capable of being taken in the stride. Alternatively, if the rated capacity is to be treated as the maximum attainable, corresponding to the lump ore recovery of 55 per cent the run of mine ore production of 3.4 million tonnes, would yield a lump ore production of 1.87 million tonnes, *i.e.* 93.5 per cent of the rated capacity of 2 million tonnes of lump ore of the project. It is, therefore, not understood how "the whole economics of Kiriburu Project, to large extent have been affected, besides necessitating the purchase of extra machinery" as a sequel to the departure in actual recovery of lump ore of 55 per cent from the estimated recovery of 60 per cent.
>
> To ensure that all aspects including exploration problems and exploitation requirements receive efficient, adequate and co-ordinated attention, Government decided that the NMDC should be associated with GSI at the prospecting stage. This decision has been given effect to in the subsequent exploratory and proving operations in Donimalai Iron Ore deposit."

3.19. The Committee note that selection of site for the Kiriburu Project was done in 1958 by a working group consisting of representatives of the Geological Survey of India, Indian Bureau of Mines, Government of Orissa, and the Ministry of Finance and Civil Engineer and on the basis of the report submitted by the IBM (now part of Geological Survey of India) after detailed drilling and geological investigations. The Committee note that the Report of IBM

furnished geological data such as resources lump fine ratio, analysis of lump fine etc., but gave no indication about the profitability of the Project.

3.20. The Committee on Public Undertakings had in their 11th Report (1967-68) already observed that the nature of the geological strata was not correctly worked out in the I.B.M. Scheme. This resulted in an excess generation of fines and affected the whole economics of Kiriburu Project to a large extent, besides necessitating the purchase of extra machinery. In reply, the Government had stated "in the case of projects taken up by the NMDC subsequently, the Corporation had been associating itself with the Geological Survey of India at the prospecting stage with a view to obviating the possibility of insufficient interpretation of geological strata".

3.21. While the Committee appreciate the idea of taking up the development of Kiriburu iron ore mines in the interest of developing the economy of this backward area, they feel that the objective has not been fully served as proper and adequate attention was not paid at the time of taking vital decisions about the machinery and equipment for Kiriburu Project, the man-power required, the assurance of production of lump and fine in proper proportions, disposal of fines, timely mining and shipping of ore with the result that Kiriburu not only failed to achieve the export target and win more orders but has resulted in loss with far-reaching adverse effect on the project as a whole.

The Committee see no reason why Government did not take the basic precautions of having an integrated techno-economic detailed study before entering into a firm sale agreement with Japan. They can see no justification for leaving the work of technological investigation exclusively to IBM without holding them responsible for the results which have accrued after the project was brought into production with the Japanese consultancy firm for not giving accurate advice either about purchase of equipment or about the cost of production. It is obvious that the reports submitted by both these bodies should have been critically scrutinised by Government. What surprises the Committee most is that the decision to set up the Project, was taken with the full knowledge of the fact that there was no likelihood of any profit while there was every likelihood of a loss.

The Committee hope that such costly lapses would not recur in future.

3.22. The Committee regret to note from the actual services rendered by the consultants that the project estimates prepared by them were inadquate and required a good deal of modifications with the result that the revised cost of project exceeded the original estimate by more than three crores of rupees. The Committee also regret to observe that the Consultant's report was silent about the disposal of fines.

The Committee further note that the Japanese Consulting Institute were inter alia, responsible for the performance of the plant erected in accordance with their design, were to complete the performance test for a period of two months either immediately after erection of the Plant or as soon as they desired them to be done. Although the installation was completed in August, 1963 and the period of consultancy was extended till 4th October, 1965, Committee were informed that the stipulated tests were not completed even during this extended period. The Committee are constrained to observe that the additional expenditure of Rs. 2.26 lakhs incurred on account of extension of the consultancy period thus proved to be infructuous. The Committee hope that with the setting up of an agreement scrutinising cell in the Corporation, care will be taken to see that agreements, bonds etc. will in future be properly scrutinised keeping in view the instructions issued by the BPE in this regard.

D. Production Performance

3.23. The plant was designed to give an annual output of 2 million tonnes of sized ore. The following table indicates the rated production, *vis-a-vis* the actual achievements during the last six years ending 31st March, 1972:—

(Figures in lakh tonnes)

Opening balance	Year	Run of Mine			Lump ore		
		As per project Report	actual production	Percentage of actuals to rated capacity	Rated capacity	Achievement	Percentage of achievement of rated capacity
1	2	3	4	5	6	7	8
2·05	1966-67	33·00	29·28	88·73	20·00	16·41*	82·05
	1967-68	33·00	30·83	93·42	20·00	17·15*	85·75

1	2	3	4	5	6	7	8
	1968-69	33·00	29·63	89·79	20·00	17·21*	86·05
	1969-70	33·00	26·96	81·69	20·00	15·71	78·55
	1970-71	33·00	29·75	90·15	20·00	16·41	82·05
	1971-72	33·00	19·37	58·90	20·00	10·44	52·25

3.24. It will be seen that the plant could not attain the rated capacity even up to 1971-72, although it was expected to, at least during 1968-69 (*vide* para 54 of the 11th Report of the CPU-4th Lok Sabha-April, 1968). Full facilities, both in terms of men and machines being available for attainment of the rated capacity, the shortfall in production resulted in increased cost (F.O.R., excluding royalty and other variable expenditure) of Rs. 1.25 per tonne (on the basis of 1968-69 figures) leading to augmentation of loss by Rs. 42.95 lakhs during 1967-68 (Rs. 21.44 lakhs) and 1968-69 (Rs. 21.51 lakhs) alone. On the basis of 1971-72 figures, the increase in cost was 188 per tonne.

3.25. Even adopting the basis of Run of Mine handled the shortfall in production in 1967-68 and 1968-69 works out to 6.6 per cent and 10.2 per cent respectively leading to augmentation of loss by Rs. 25.78 lakhs during these years. The shortfall in production ROM in 1970-71 and 1971-72 were however 9.85 per cent and 42.33 per cent respectively.

3.26. The Ministry stated (May, 1970) as follows:—

> "While the attainment of rated capacity is certainly a desirable objective, in reality the production level has essentially to be regulated with reference to the shipping position and also the day-to-day availability of railway wagons; more production merely for the stockpiles will doubtless lead to more losses apart from the constraint about the stockpile capacity itself."

3.27. The commitment was reduced to 1.7 million dry long tons in 1966-67 on account of operational difficulties. For the years 1967-68 and 1968-69, the commitment was reduced to 1.8 million dry long tons in the beginning of each year. The positioning of shipping fixtures and the Railway wagons accordingly followed the reduced ex-

*Note:—Do not include 2.46 lakh tonnes, 2.09 lakhs tonnes and 1.14 lakh tonnes produced through hand mining in 1966-67, 1967-68 and 1968-69 respectively port commitment. Further, it has been explained that the stockpiling capacity earmarked for the Kiriburu Project at the port was 1.20 lakhs tonnes and at the mine head 60,000 tonnes. An analysis of the stock at the mine head and the port at the end of each month during 1968-69, however, revealed that except in the months of June, 1968, August, 1968, September, 1968, October, 1968 and March, 1969, the stock at the port was more than the capacity indicated (it was ranging between 1.24 lakh M. Tons to 2.00 lakh M. Tons). Similarly, the stock at the mine head at the end of each month was in excess of the stockpiling capacity of 60,000 tonnes on eight occasions, the maximum stock held at any time being of the order of 1 lakh tonnes. The analysis further revealed that the availability of railway wagons was generally much less than indented. However, the production in the Project did not follow any set pattern to confirm that the same was deliberately curtailed in view of non-availability of wagons leading to accumulation of stock at the mine head. In the months of August and September, 1968 and February and March, 1969 the production was less in spite of the opening stock at the mine head being less than the other months when production was more. The monthly report of the Project Manager also indicated operational difficulties in attaining the target except in the months of October, 1968, November, 1968 and February, 1969.

3.28. In this connection the Corporation stated as under:—

> "As explained earlier, actual production in the year in a export oriented mechanised mine would not so much be a function of the rated capacity of the mine and plant as much as of rail movement and the shipping availability at the port end."

3.29. The point is illustrated below in respect of the last five years position.

(in lakh tonnes)

Year	Export commitment	Actual export	Stocks at mine and port	Total availability for export
1967-68	19·21	19·03	1·71	20·74
1968-69	19·21	17·89	1·39	19·28
1969-70	16·05	14·77	2·53	17·30
1970-71	16·05	16·51	2·48	18·99
1971-72	10·69	10·55	1·91	12·46

The heavy unshipped stocks were a major contributory factor in restricting the level of production.

3.30. Regarding production during 1971-72 the representative of the Corporation stated during evidence that as far as actual production during 1971-72 in respect of Kiriburu was concerned, 1971-72 was a bad year because the export itself was only one million tonnes but the project had enough stock. The production was 9.95 lakh tonnes plus a little of Bokaro size ore and the total was 10.44 lakh tonnes.

3.31. The representative of the Corporation stated that "We closed the mine in December. We had already overproduced. Then we started the mine again in a small way on 25th January, with modifications to suit the Bokaro size which is entirely different and where the maximum size was 40 mm. Now we are carrying not only the balance of the old export stock, but minus 40, plus 10 which goes to Bokaro. Plus 40 is a natural thing arising out of that. We have got to dispose it of. We produced more than the contractual commitment, not the rated capacity. We produced on the export size, 50 per cent of our capacity because there was no export possibility."

3.32. Asked whether during the closure of the mine in December any staff were laid off, the Chairman, NMDC stated during evidence that the staff had been doing the annual maintenance at that time, and nobody was laid off. For practically one month, there was complete under-utilization. That position might not recur again in Kiriburu, if Bokaro picked up.

3.33. The Committee also desired to know as to what would be the increase in cost per tonne of iron ore attributable to non-attainment of rated capacity during 1969-70, 1970-71 and 1971-72. The Chairman NMDC stated that actually the effect of the under-utilisation in the above mentioned three years would be an increase in the cost per tonne of only 58 paise in 1969-70, 35 paise in 1970-71 and 1.88 rupees in 1971-72.

Out of the supplies made to Japan the actual amount of loss would be about 9 lakhs in 1969-70, 6 lakhs in 1970-71 and 19.6 lakhs in 1971-72 (this was because they were operating practically at 50 per cent).

3.34. The Committee regret to note that the Kiriburu Project could not attain the rated capacity even in 1971-72. The shortfall in production of lump ore varied from 14 per cent to 22 per cent during the years 1966-67 to 1970-71 and increased to 48 per cent in 1971-72.

Even on the basis of run-of-mine handled, the shortfall in production ranged from 10 per cent to 19 per cent during the period from 1966-67 to 1971-72. The Committee also regret to observe that the shortfall in production during 1971-72 has resulted in an increase in cost of Rs. 1.88 per tonne and consequently the loss has also increased by Rs. 19.6 lakhs on account of the supplies made to Japan.

3.35. According to the Corporation the production had to be restricted due to the inadequate availability of shipping and railway facilities. The Committee, however, find that the production did not follow any set pattern. The Committee, therefore, find it difficult to accept the stand of the Corporation that its production was deliberately curtailed on this account. The Committee strongly recommend that the Corporation should have a coordinated programme of production in consultation with the Ministry of Railways without affecting the production targets.

E. Excess Generation of Fines

3.36. The Project Report envisaged lump fine ratio as 60:40. The actual lump fine ratio, during the last 8 years is as detailed below:—

(Figures in lakhs of tonnes)

Year	Rune of Mine handled	Lump ore produced	Expected Lump Ore as per Project Report (60 % of Rune of Mine)	Percentage of Lump Ore produced to Rune of Mine handled
1	2	3	4	5
3/64 to 31-3-1965	4·61	2·05	2·76	44·47
1965-66	17·51	9·38	10·51	53·57
1966-67	29·28	16·41	17·57	56·05
1967-68	30·83	17·15	18·50	55·63
1968-69	29·63	17·21	17·78	58·08
1969-70	26·96	15·71	16·18	58·27
1970-71	29·75	16·41	17·85	55·16
1971-72	19·87	10·44	11·42	54·91
TOTAL	187·94	104·76	112·57	55·74

3.37. In this connection, the Corporation/Ministry stated as follows:—

> The average percentage of lump ore produced out of the ROM handled during 1964-65 to 1968-69 ranged between 44.47: 55.53 and 58.08:41.92 and during 1969-70 came to 58.27, as against 58.08 in 1968-69. The improvement during 1968-69 and 1969-70 could be accomplished by keeping a continuous and systematic watch over the blasting techniques and processing in the Plant. There have been months in which the lump recovery has been substantially better. In a written reply after evidence the Ministry stated that this was the first mechanised iron ore mine operated by NMDC. Improvements have constantly been made by NMDC in various aspects of iron ore mining with the growth of its experience.

3.38. According to the Ministry "Even in a well-proved iron ore deposit of large size, the chemical and physical characteristics on which the lump fine ratio was dependent, were not uniformally distributed throughout the length and depth of the deposit with the result that on certain occasions the actual ratio might be higher and sometimes lower than the average assumed on the basis of the geological prospecting."

3.39. The Committee desired to know whether the aforesaid factors were not taken into account by the consultants while indicating the expected lump fine ratio of 60:40 in the Project Report. In a note after evidence, the Corporation stated that the percentage of fines in the run of mine was assumed by the Consultants to be more than 40 per cent. They had indicated that the percentage would be reduced to around 30 per cent if vein laterite and thicker portion of blue dust were removed in selective mining. They anticipated that the percentage of fines after breakage into required sizes at Crushing Plant would be around 40 per cent and on this basis they worked out the details of the Project.

Accumulation of Fines

3.40. The project accumulated 36.65 tonnes of fines upto 31st March, 1969 against which no value was assigned on the understanding that there was no market for the same. The Corporation, however, prepared a modification and expansion scheme for Kiriburu Mines in September, 1968 which was sanctioned by the Government in August,

1969. (The fines are now expected to be disposed of gradually to Bokaro Steel Plant. The price payable by the Bokaro Steel and economics of disposal of fines are yet to be determined).

3.41. The Corporation stated that the stock of fines accumulated as on 31st March, 1972 was of the order of 6.56 million tonnes. It was also stated by the Corporation that in the Annual Accounts of 1969-70, a value of Rs. 3 per tonne was placed for the Kiriburu fines in view of the fact that Bokaro Steel Plant was committed to take all the fines from Kiriburu. However, the Committee found from the Balance Sheet of the Corporation for 1970-71 that consequent on the reluctance of the Bokaro Steel Limited to accept the fines available at the Kiriburu iron-mines, no credit for these fines were taken into account. Even the credit taken in account during 1969-70 was also written back.

3.42. The Committee wanted to know the total loss suffered by NMDC on account of accumulation of fines at Kiriburu Project. The Committee were informed in a note furnished by the Department of Mines that the loss was mainly on account of non-recovery of fixed costs *i.e.* depreciation, interest and deferred revenue expenditure written off, fully owing to lower production of lumps. The figure of Rs. 65.61 lakhs is the total of the year-wise reduction in cost that could have been achieved from 1964-65 to 1971-72, if the lump recovery had been as envisaged in the D.P.R. The calculations leading to the figure of Rs. 65.61 lakhs are as follows:—

Year	Actual average fixed cost per tonne	Fixed cost per tonne if output was as per DPR	Reduction n cost per tonne (Rs.)	Output (in lakhs tonnes)	Annual loss (Rs. in lakhs)
	(Rs. per tonne)				
1964-65	39·81	29·50	10·31	2·05	21·14
1965-66	12·38	11·05	1·33	9·38	12·48
1966-67	7·75	7·24	0·51	16·41	8·37
1967-68 . .	7. 14	6-62	. 0. 52	17. 15	8·92
1968-69 . .	5·19	5·02	0·17	17·21	2·93
1969-70	4·57	4·44	0·13	15·71	2·04
1970-71 . . .	3·96	3·64	0·32	16·41	5·25
1971-72	4·48	4·03	0·45	9·95	4·48
					65·61

3.43. The Committee desired to know the points of difference between Bokaro Steel Limited and NMDC and whether the matter regarding non-agreement between the two Corporations on account of disposal of ores, fines was brought to the notice of Government and if so, the action taken by Government to settle the issue. The Department of Mines in a note after evidence stated that there was disagreement between NMDC and Bokaro Steel Plant regarding disposal of ore fines in the dump primarily on account of its alumina specifications. While Bokaro desired an alumina content of 5.1 per cent maximum, NMDC's assessment was that it would not be less than 6 per cent from the dump fines. It was, therefore, decided by NMDC to beneficite the dump fines to suit to alumina specification of Bokaro.

3.44. It was further stated by the Department of Mines that so far no value had been assigned to the fines and that the dump fines reclaimed and beneficiated were to be sold to Bokaro and would then fetch a reasonable value.

3.45. To a question about the total expenditure incurred on the stacking of the accumulated fines and what was the likely cost of reclamation, the Corporation stated:—

(a) Stacking fines was Rs. 0.50 per tonne (appx.)

(b) Reclamation and feeding beneficiating plant was Rs. 2.00 per tonne (approximately).

(c) Beneficiated fines comprising reclamation beneficiation and loading was Rs. 5.00 per tonne (approximately).

3.46. The Committee observed that to a considerable extent the economics of an iron ore project depended on commercial utilisation of ore fines. They enquired how far in the opinion of the Government the accumulation of fines was responsible for the losses suffered by the Corporation. The Department of Mines stated that the economics of an iron ore project would improve to the extent the sale of fines results in net accrual of additional revenue to the mining company. The Kiriburu project, however, was developed on the basis of sale of lump ore only.

3.47. The Committee sought the views of the representative of the Central Mining Research Station, Dhanbad regarding excess generation of fines in Kiriburu. During evidence the representative stated as under:—

"The fines which had been generated in mining should be split up in different parts. The one, fine which nature has deposited inside and which is there and about which we feel we can do very little. But we can know precisely what percentage of fines in the course of blasting the research can play a prominent part in increasing or reducing the fines as required in the end product. So far as the fines generated in transportation is concerned it could be looked into whether there is any scope to improve upon it. Another point is the fines generated in the operation of breaking, crushing or grinding there is scope for improvement in one way or the other as required and investigation could be made.

The other point that arises is when we try to reduce the fines, there are two ways of looking at it, how much it is going to cost as to use the fines and how much it is going to cost as to reduce the fines. If the cost for reducing the fines is less, obviously we will go for it. If the cost of reducing the fines is more and the cost of using the fines is less then it is better to use the fines. There are alternative methods of mining to reduce the fines and it may be possible. But this will require deep investigation into it, in respect of techniques to adopt them and their economies."

3.48. The Committee note that though the Detailed Project Report had envisaged the lump-fine ratio as 60:40 actually the lump fine ratio ranged from 44.47:55.53 to 58.27:41.73 during the six years from 1964-65 to 1969-70. The lump fine ratio in 1970-71 and 1971-72 were, however, 55.16:44.84 and 54.91:49.09 respectively, thus indicating excess generation of fines during 1970-71 and 1971-72. The Committee were informed that from 1964-65 to 1971-72 the total reduction in cost that could have been achieved if the lump recovery had been as envisaged in the Detailed Project Report was of .the order of Rs. 65.61 lakhs.

3.49. The Committee note that 4.88 million tonnes of fines have been accumulated upto 31st March, 1972 and so far no value has been assigned to these fines. Though it was decided to dispose of the fines gradually to Bokaro Steel Plant, the fines should not be disposed of as the fines required for Bokaro were of different specifications. The Corporation, therefore, decided to beneficiate the lump fines to suit the requirements of Bokaro at a cost of Rs. 5.00 per tonne (approximately).

3.50. The Committee note that if the lump recovery as envisaged in the Detailed Project Report had been achieved, there would have

been a reduction in cost to the extent of Rs. 65.61 lakhs from 1964-65 to 1971-72 and this constituted a loss to the Corporation. The Committee need hardly point out that this loss would be further increased by the cost of beneficiation of fines not to speak of the additional cost that may be involved in the acquisition and erection of plant and machinery for such beneficiation.

The Committee need hardly stress that to a considerable extent the economics of an iron ore plant depends on the commercial utilisation of fines.

3.51. The Committee, therefore, recommend that the Corporation/ Ministry should resolve the differences with Bokaro Steel Limited and arrive at a reasonable settlement of the selling price of the beneficiated fines to Bokaro Steel Limited without any further delay.

F. Man-Power Utilisation

3.52. The Japanese consultants in their Detailed Project Report recommended a total staff strength of 750 under different categories for the working of the mines at the rated capacity of 2 million tonnes of sized ore per annum. As the staff strength recommended by the Consultants was considered inadequate, the managerial organisation and personnel programme were studied by R. N. Singh. Committee in 1964 and by the Administrative Staff College, Hyderabad in 1967. The following table indicates the particulars of staff strength recommended from time to time *vis-a-vis* actual strength during the period from 1966-67 to 1971-72:—

Year	As recommended in the Project Report	As recommended by R.N. Singh Committee	As recommended by Administrative Staff College	Actual average yearly strength	Excess over Project Report	Excess over R.N. Singh Comtt. Report	Excess over Admn. Staff College Report
1966-67	750	1013	1237	1578	828	565	341
1967-68	750	1013	1237	1408	658	395	171
1968-69	750	1013	1237	1452	702	439	215
1969-70	750	1013	1237	1277	527	264	40
1970-71	750	1013	1237	1353	603	340	116
1971-72	750	1013	1237	1374	624	361	137

3.53. The Financial effect of the employment of excess staff over that recommended by the Administrative Staff College worked out to Rs. 33.76 lakhs for the years 1966-67 to 1971-72 as detailed below:—

	(Rs. in lakhs)
1966-67 . . .	7·96
1967-68	5·34
1968-69	7·06
1969-70	6·50
1970-71	3·40
1971-72	3·50
TOTAL .	33·76

3.54. Taking the average of the above six years (Rs. 5.63 lakhs) the additional cost per tonne on this account worked out to Rs. 0.28 on the basis of the rated capacity.

3.55. It was intimated by Management in a written reply that the financial effect in terms of cost of production for 1971-72 had increased as the production was restricted to the extent of market availability (production: 10.44 lakhs tonnes in 1971-72 against 16.41 lakhs tonnes in 1970-71) (Most of the excess staff consisted of muster roll labour who were local Adivasis. They were unskilled, working as general *mazdoors*. It is a human problem and it is the question of employment of local Adivasi and their services could not be utilised in the expansion programme).

3.56. In this connection, the Management stated as under:—

"While the Detailed Project Report prepared by the Consultants had recommended a staff strength of 750 under different categories for the working of the mine at the annual rated capacity of 2 million tonnes of sized ore. When construction was completed and the mine entered into the production phase it was recognised that under the Indian conditions, in general, and the conditions obtaining in an out-of-the way mining area like Kiriburu, in particular this staff strength would be inadequate. The matter has been examined in detail from time to time by various expert bodies. While they based their recommendations on their study of the managerial organisation and personnel programme, one aspect that was left out in such examination relates to the muster roll labour employed on daily rated basis during the construction phase of the project. At the end of the construction period most of these workers (mainly Adivasis) were rendered surplus but it was not possible to retrench them straight away on practical considerations especially as they had put in fairly long years of service in the Project. The problem of surplus manpower is not peculiar to Kiriburu or Bailadila but is commonly prevalent in almost all the Public Enterprises. The Management has thought of various (other than retrenchment) solutions from time to time to tackle this intractable problem. With a view to reducing surplus problem without creating industrial unrest, a voluntary retirement scheme was introduced towards the end of 1967. This scheme offered substantial monetary benefits as compared to the retrenchment benefits ordinarily admissible under labour laws and was continued till 31st March, 1969. During this period about 120 muster roll employees availed of the scheme and after getting the payments admissible under the scheme left the service of the Project. The scheme has been reviewed to make it more attractive and had been offered again. Another practicable way of dealing with this problem is the absorption of the surplus labour in the regular cadre after giving them suitable training to the extent they can be accommodated under the existing muster roll, vacancies in the present Kiriburu mine and transferred to the Kiriburu Modification/Expansion Scheme against the new posts already created/likely to be created in future. A ban has since been imposed on the employment of new labour."

3.57. The Committee enquired whether the Management was still recruiting the staff. The Chairman NMDC replied "No, except in the skilled categories from which a few hands will be necessary for expansion. During 1968-69 and 1970-71 we regularised some people who were in the Muster Roll. We did not recruit fresh people."

3.58. The Chairman also stated during evidence that the voluntary Retirement Scheme was reviewed in February, 1970 but nobody availed of it also about 80 per cent of the surplus staff were absorbed in the Kiriburu Modification Scheme.

3.59. The table below compares the output per manshift as given in the Project Report, budgeted during the year and the actual output per manshift in the Project during the last 6 years:—

(In tonnes)

Year	Out-put per manshift			
	As per Project Report	As per Admn. Staff College Report	Budgeted during the year	Actual output per manshift
1966-67	8·89	5·39	3·33	3·45
1967-68	8·89	5·39	3·80	4·25
1968-69	8·89	5·39	4·04	3·87
1969-70	8·89	5·39	3·91	3·51
1970-71	8·89	5·39	3·49	3·37
1971-72	8·89	5·39	3·15	**

**Production pattern changed to suit the requirement of B.S.L. Moreover, the output per manshift was low for Kiriburu as the plant operated on restricted capacity of 10 lakhs tonnes only and hence the OMS figures as an indicator of proficiency may not be realistic.

3.60. In this connection, the Management have stated (December, 1969) that "Change in lump fine ore ratio has also had its effect on the output per manshift. Moreover, the plant which was originally envisaged to work as a dry plant had to be run as a wet plant with consequent reduction in the output per manshift."

3.61. It may be mentioned that at the time the study was undertaken by the Administrative Staff College in 1967, these problems were known and were probably the reasons for fixing the strength which was even much higher than that fixed by the R. N. Singh Committee in 1964. Moreover, even on the basis of lump fine ratio as mentioned in the Project Report, the output per manshift during 1967-68 and 1968-69 worked out to 4.57 tonnes and 4.00 tonnes only.

3.62. In a note after evidence the Corporation stated that the Detailed Project Report provision (J.C.I.) was based on a staff strength of 750 men for recovery of 2 million tonnes of lump from 3.3 million tonnes of R.O.M. The number of men as well as the recovery assumed in the Detailed Project Report turned out to be unrealistic in actual practice. The number of men sanctioned for the project stood at 1370 for an output of 1.8 million tonnes per annum. This worked out to 4.8 tonnes per manshift for lump and 8.8 tonnes for R.O.M.

3.63. The OM.S. figure for 1968-69, 1969-70 and 1970-71 had been low as the production was restricted to 1.5 million tonnes against the capacity of 1.8 million tonnes in view of the reduced export commitment for these years.

3.64. The output per manshift during 1971-72 for Kiriburu was low as the plant was operating on restricted capacity of 10 lakh tonnes only and hence the OMS figure as an indicator of proficiency may not be realistic.

3.65. In this connection, the Department of Mines in a note after evidence stated that according to the NMDC output per manshift during 1971-72 for Kiriburu was 2.9 and 4.2 tonnes for lump ore and R.O.M. production respectively. During this year also the O.M.S. figures were low as the plant was operating on a restricted capacity of about 50 per cent of the rated capacity, the export commitment for the year being limited to one million tonne only. The position was expected to improve with the removal of the constraint on production level with supplies to Bokaro. Supplies to Bokaro have just commenced during 1972-73 and the O.M.S. will improve with the increase in offtake to Bokaro.

3.66. The Committee note that the Detailed Project Report had recommended a total staff of 750 under different categories for the working of the mines at the rated capacity of 2 million tonnes of sized ore per annum. Subsequently, at the instance of the Management, the R. N. Singh Committee in 1964 and the Administrative Staff College in 1967 studied the staff position and recommended the suitable staff strength. The Committee find that the strength fixed by the Administrative Staff College in 1967 was higher than that fixed by the R. N. Singh Committee in 1964 as the former had taken into account the change in the lump fine ratio and its effect on the output per manshift.

The Committee regret to observe that even on the basis of revised strength as fixed by the Administrative Staff College, the Kiriburu Project had been carrying a large number of surplus staff and this had resulted in an additional expenditure of Rs. 33.76 lakhs from 1966-67 to 1971-72 and had caused an increase of 28 paise in the cost of production per tonne on an average. The Committee note that the Management are already seized of the problem and have taken various steps like voluntary retirement scheme, absorption of surplus workers in the new schemes without creating industrial unrest.

the Committee feel that the Management should tackle this problem and find an abiding solution. Meanwhile attempts should be made to deploy the surplus staff in such a way so as to reduce any loss to the project on this score.

3.67. **The Committee note that in NMDC the output per manshift ranged from 3.37 to 4.25 during the period from 1966-67 to 1970-71 compared to a rate of 5.39 based on the strength recommended by the Administrative Staff College and 8.89 indicated in the Detailed Project Report. The Committee were informed that the Detailed Project Report was based on a staff strength of 750 men for recovery of 2 million tonnes of lump ore and this had turned out to be unrealistic in actual practice. According to the Management, the sanctioned strength was 1370 for an output of 1.8 million tonnes only. The Committee were assured that the position is expected to improve with the removal of the constraints on production with increase in supplies to Bokaro.**

The Committee view with concern that wide variation between the strength sanctioned by the management and the strength indicated in the D.P.R. and suggest that the Management should work-out a realistic rate of output per manshift taking into account all the factors and ensure that the rates are adhered to by a stricter supervision and increase production.

G. Machine Utilisation

3.68. The Project Report envisaged the availability factor of the heavy mining machinery as 75 per cent on the basis of two shifts working for 275 days in a year. The original value of two types of heavy mining machinery, namely, dumpers and dozers procured from time to time was Rs. 121.68 lakhs. The table below gives the availability and utilisation of these two types of machinery in the Project during 1968-69:

	Dumpers 1968-69	Dozers 1968-69
(i) Total machine shifts available	11000(20)	3988 (7 for 9 months 8 for 3 months)
(ii) Total machine shifts theoretically available for production at 75% of (i)	8250	2991
(iii) Machine shifts actually utilised for production	5304	1464
(iv) Percentage of utilisation		
(a) to total availability i.e. (iii) to (i)	48·2	36·7
(b) to theoretical availability i.e. (iii) to (ii)	64·3	48·9

NOTE.—The figures in brackets indicate the number of machines.

3.69. As the Project attained 86 per cent of the rated capacity in 1968-69 by utilising the machines to the extent indicated above the actual requirement of such machinery for attainment of full production capacity on the basis of the assumptions made in the project report worked out as follows:

	Dumpers (1968-69)	Dozers (1968-69)
Machine shifts required to attain the rated capacity	6167	1702
Total machine shifts required (including reserve) i.e. 100/75 .	8223(15)	2269(5)

3.70. If the assumptions made in the Project Report were considered realistic, then 5 out of 20 dumpers and 3 out of 8 dozers would appear to have been acquired in excess of requirement. The Ministry had explained (May, 1970) that "the theoretical calculations are not workable in the case of a mine where, in these years, most of the equipment had become aged necessitating greater degree of repairs and maintenance; in fact most of these equipment would have been replaced during these years if the necessary funds had been available with the Corporation."

3.71. In a written reply, the Corporation stated as follows:—

"It may be stated that the objection was for having 20 dumpers against the overall requirement of 15 calculated on the basis of availability and actual utilisation pertaining to the period 1968-69."

3.72. It is to be mentioned in this regard that though the physical holding of dumpers was 20, two of them were of smaller capacity, *viz.*, 15 tonnes and hence could not be utilised for production since 1968-69 as they were not of the matching capacity with our power shovels. Out of the remaining 18 three of the Euclid dumpers of 27 tonnes capacity were out of the production line since they met with accidents two on 4th September, 1968 and one on 7th December, 1969 and had been render unserviceable. The project had thus only 15 dumpers for actual utilisation.

3.73. As regards dozers, it is seen that while working out the total requirement of dozers only the theoretical machine shifts required for achieving the target have been taken into account whereas it should be based on the area of operation of individual dozers.

The minimum requirements of dozers of the project work out to be 6 as shown below:—

MINE

Hill No. 1 . .	1 No.	Catering to the requirements of shovels.
Hill No. 2 . .	1 No.	
	1 No.	For preparation of site for advance blast-holes. This equipment is to cater to the need of 4 blast-hole drills.
Fine ore stock pile	2 Nos.	
Lump ore stock-pile and maintenance of down hill roads . .	1 No.	
	6 Nos.	

3.74. Taking the availability of 75 per cent to make 6 dozers physically available everyday at the places as shown above the total requirement of dozers works out to 8 Nos. and this is essential to avoid dozers traversing long distance over the hilly terrain and the mining area which is deterimental to the under-carriage of the equipment. It would thus be seen that the project had only the required number of equipment (dumper and dozer).

3.75. The Committee asked, if the theoretical calculations were not workable as stated by the Ministry, what was the basis adopted by the consultants for recommending the procurement of the plant and machinery for working the mine to its rated capacity and for judging their performance. During evidence it was stated by the Chairman as follows:—

> "The requirements of equipment are calculated on the basis of rated capacity and the tonnage they would handle. So, in the project report, the number of equipment was calculated on the basis of rated capacity of each machine."

3.76. Asked whether the consultants indicated the working life of these machines and whether the replacement were done after the expiry of this period, it was stated by the Corporation that, "These machines also have their economic life assessed in terms of number of hours. For various types of equipment we have the economic life fixed. Whenever, the machines complete their economic life we have to replace them. Normally a dumper which works about 2,000 hrs. a year requires to be replaced after five years and similarly, a shovel must be replaced after 9 or 10 years. We have done some replacements in Kiriburu, particularly of dozers and drills. When we replace machines in the initial stage when the maintenance required is low because when the machine is new we get a better percentage availability and it reflects on the production because the machine is available for more number of hours. But unless we keep our maintenance up to the standard, there is a likelihood of a fall in production. Therefore, normally what we do is that in a certain year we replace them in phases so that at any given time certain new machines as well as certain old machines will be available. We maintain a depreciation fund for the purpose and we replace them from this fund provided the fund is available because it so happened in Kiriburu last year that the net realisations was only Rs. 3".

3.77. Asked whether any study in respect of working of mining-machinery in other countries was undertaken the representative of the Corporation stated that "a comparison was made mainly on the machine-availability. Normally, in other countries, the total or full utilisation is round about 50 to 60 per cent. But here it was about 35 to 40 per cent. However, they were trying to improve. It was mainly because of lack of availability of spares, more difficult working conditions and not very much high standard of maintenance."

3.78. The Committee note that the Project Report had envisaged the availability factor of heavy mining machinery as 75 per cent on the basis of two shifts working for 275 days in a year. The Committee find that the percentage of machine shifts actually utilised for production to the total machine shifts theoretically available for production was 64.3 per cent in the case of dumpers and 48.9 per cent in the case of dozers during 1968-69. On the basis of percentage of the utilisation of two types of heavy mining machinery viz. **dumpers and dozers, the Committee find that 5 out of 20 dumpers and 3 out of 8 dozers have been acquired in excess of requirements. The Committee were informed that "though the physical holding of dumpers was 20, two of them were of smaller capacity (viz. 15 tonnes) and hence could not be utilised for production since 1968-69 as they were not of the matching capacity with power shovels. Out of the remaining 18 dumpers three of the Euclid dumpers of 27 tonnes capacity were out of the production line since they met with accidents, two on 4th September, 1968 and one on 7th December, 1969 and had been rendered unserviceable. The project had thus only 15 dumpers for actual utilisation."**

3.79. The Committee are at a loss to understand as to why two dumpers of smaller capacity were at all purchased if they could not be utilised for production purposes, and why these were lying unutilised since 1968-69 and why the dumpers which met with the accidents could not be made serviceable or disposed of to the best advantage of N.M.D.C.

The Committee strongly recommend that the entire matter of purchase of dumpers should be thoroughly investigated and responsibility fixed for purchase of dumpers not of the required capacity and keeping them un-utilised since 1968-69. The Committee also recommend that the Corporation should immediately take steps to ensure that the surplus dumpers are usefully deployed on other projects taken up by the Corporation or diverted to other public undertakings with the help of Bureau of Public Enterprises.

3.80. The Committee regret to note that even the utilisation of the dumpers in the Kiriburu Project is only of the order of 35 to 40 per cent as against the 50 to 60 per cent in other countries and this was mainly because of lack of availability of spares and not very much high standard of maintenance. The Committee need hardly stress that schedules and norms for repairs and maintenance should be fixed and advance action taken for procurement of spares etc. The Corporation should ensure that schedules for repairs and maintenance are strictly observed so that greater efficiency in utilisation of the machines may be attained.

H. Power Consumption

3.81. The Project Report envisaged consumption at Rs. 0.073 per tonne at the rated capacity. The actual power consumption in the project was, however, found to be Rs. 0.67 per tonne although the rate remains almost the same as envisaged in the Project Report. This resulted in increased cost of production by Rs. 0.60 per tonne approximately.

3.82. The Ministry furnished (May, 1970) the following break-up of the consumption of power:

	(Rc.)
Water supply	0·52
Crushing plant	0·08
Township and others	0·07
TOTAL	0·67

3.83. The excess consumption of power was attributed to (i) change over of the working of the plant from dry basis to wet process (ii) non-provision in the Project Report of township and (iii) higher power rate (14 paise per K.W.) as compared with the provision made in the Project Report (10 paise per K.W.).

3.84. As regards (i) above, it may be mentioned that even the Project Report envisaged wet operations of the plant in the rainly season lasting for about 5 to 6 months. The change over from dry basis to wet process during the remaining months of the year should not normally account for such a steep increase in the power consumption. The Management, however, could not indicate whether the power consumption attributed to water supply was based on the meter reading or it represented only an *ad hoc* allocation.

3.85. In a note after evidence, the Corporation stated that "the actual power consumption per tonne of ore for the years 1967-68 to 1971-72 was as given below:

(In Rupees)

	Township	Plant	Water supply	Others	Total
1967-68	Not Available				0·74
1968-69					0·77
1969-70	0·26	0·10	0·55	0·08	0·91
1970-71	0·23	0·11	0·50	0·23	1·07
1971-72	0·37	0·13	0·42	0·10	1·02

Note:—"The break up is on an estimated basis only"

3.86. The Corporation also stated that the allocation to the different categories was done on the basis of meter reading. However, in some areas the meter reading records power supply of more one than one area, where allocation was made *pro-rata* on the basis of house power installed. However, power consumption attributed to water supply was most based on meter readings.

3.87. It may be mentioned that 0.073 paise per tonne was not the cost of power consumption but the cost of Power Division in the Maintenance Section. This could be seen from the extracts reproduced below from the "Breakdown of capital Investment and Operation cost of Kiriburu Project" submitted on 10th February, 1960 by the Japan Consulting Institute.

Material

	Rs.
Repair of sub-station and powerlines	12,698
Repairs of motors	5,291
Cable repairs (Mining) . .	15,873
Switchgear repairs (Mining).	1,587
Cable, switchgear, repairs (Ore dressing).	12,699
Telephone, lighting & other repairs	3,175
Sub Total .	51,323

Labour

Staff .	4 }	
Labourers	28 } . .	94,285
	TOTAL .	1,45,608

i.e. on 2 million tonnes concentrates, the cost is Rs. 0·073 tonne."

Power consumption for all areas has been indicated in the operating expenses of individual sections. These are computed below:—

Annual Cost of power as per Project Report break-down of operational costs:

	Rs.
(i) Drilling 113050 KWH x @ 0·98	11,125
(ii) Air compressing 679250 KWH x @ 0·98 .	66,847
(iii) Electric Shovel 1875000 KWH x @ 0·098 . . . . . ,	1,83,750
(This figure has been calculated on the assumption of 3 Nos. Elec. Shovel 250 KWH working 10 hours a day for 250 days)	
(iv) Admn. & Integrated expenses 60000 KWH x @ 0·098 expenses	5,905
(v) *Ore Dressing*:	
(a) In monsoon months (4 months 553000 KWH x 0·098 x 4—217689	
(b) Balance 8 months 413000 KWH x 0·098x—325153	5,42,842
(vi) Maintenance division 158325 H x 0·098 .	15,572
(vii) Water supply 216000 KWH x 0·098 x 12 (Camp Water) . . .	2,55,068
(viii) Welfare 100000 KWH x 0·098 x 12 (Housing Maintenance & Welfare etc.)	11,80,95
(ix) Assaying 60000 KWH x 0·098	5,905
Annual Cost .	12,05,109

Cost of powers on 2 million tonnes capacity came to Rs. 60.025 paise.

3.88. The above cost of power had been calculated on the basis of Rs. 0:098 per unit. The present rate is Rs. 0:14 per unit. Therefore, the above figure on the basis of existing rate of 14 paise per unit came to 86 paise.

3.89. The Committee pointed out that the consumption of water was stated to have gone up to about 10 m 3/min against 8 m 3/ min and this could not obviously account for the nine fold increase in the cost of consumption of power per tonne of ore: In a written reply, the Corporation stated as under:—

> "......the project estimate of power consumption of 86 paise per unit is for wet operations for 4 months only. However, in actual working plant operations are to be conducted throughout the year requiring increased water supply in the other 8 months also. Further quantity of water consumption per tonne of ore has been more than the project estimates and project had to instal total 10 m. 3| min against the estimated pumping with capacity of 8 m 3/min. The cost of power consumption for the above is about 16 paise per tonne of ore, the difference between the actual cost and adjusted project report cost of 86 paise per tonne.

3.90. On account of increased water consumption power cost has gone up only by about 16 paise per tonne of ore which has increased by nearly 20 per cent over the adjusted power consumption cost according to project estimates."

3.91 The Committee note that Detailed Project Report envisaged power consumption at Rs. 0.073 per tonne. According to the Management this rate does not represent the cost of power consumption but the cost of power division in the maintenance section and the cost of power consumption should be 60 paise per tonne. The Committee regret for note that such facts were not brought to the notice of the Committee at the appropriate time. The Committee were also informed that at the existing rate of 14 paise per unit of power the consumption rate should be 86 paise per unit. The Committee regret to note that the actual cost of power consumption per tonne of ore during the years 1969-70, 1970-71 and 1971-72 was much in excess over the revised rate of 86 paise per unit.

The Committee note that the quantity of water consumption has increased from 8 cubic metre per minute to 10 cubic metre per minute. The Committee were informed that project estimate envisaged wet operations only for 4 months while in actual practice wet operations are to be conducted throughout the year.

3.92. The Committee, however, are not quite convinced that such excess consumption of water alone should account for the increased cost of power consumption. The Committee recommend that the Management should carefully analyse the causes for such excess consumption of power and the Management should take steps to instal power meters to control and have accurate readings for power consumption to identify the causes of excess consumption of power and take suitable remedial measures.

I. Cost Analysis and Profitability

3.93. The table below gives the F.O.B.T. cost of Kiriburu iron ore for pre-devaluation period and for the years from 1967-68 to 1971-72:—

	Japan Consulting Institute Report Rs.	Pre-devaluation period Rs.	1967-68 Rs.	1968-69 Rs.	1969-70 Rs.	1970-71 Rs.	1971-72 Rs.
1	2	3	4	5	6	7	8
F.O.R. COST . .	10·44	14·86	16·90	15·22	15·75	16·80	24·98
Railway freight		21·20	23·00	28·00	28·00	32 00	32·00
Port charges.		8·00	9·00	9·00	9·00	9·00	9·00
Export duty . .		..	10·50	8·00	6·00	6·00	6·00
Incidental charges .	..	1·50	1·50	1·75	0·55	0·69	0·37
MMTC Commission .	..	1·00	1·00	0·75	0·75	0·75	0·75
		31·70	45·00	47·50	60·05	65·24	73·10
F.O.B.T. Cost	10·44	46·56	69·90	62·72	60·05	65·24	73·10
Sales realisation .	36·70	36·16	56·94	56·94	57·69	57·32	57·29
Loss	..	10·40	4·96	5·78	2·36	7·92	15·81

3.94. Prior to devaluation the estimated loss per tonne of iron ore was Rs. 10.40. Consequent on devaluation the sales realisation went up by Rs. 21:16 per tonne as on 1970-71 and Rs. 21:13 in 1971-72. Major part of the increased sales realisation was, however, wiped out by increase in Railway freight, port charges and imposition of export duty as detailed below:—

Increase in Railway freight	Rs. 10·80 per tonne
Increase in port charges	Rs. 1·00 per tonne
Imposition of export duty.	Rs. 6·00 per tonne.
TOTAL .	Rs. 17·80 per tonne

3.95. On account of increased incidence of depreciation and mining cost (after adjusting the reduction in interest charges and royalty) the benefit from sales realisation was further extinguished by Rs. 0:36 per tonne, leading to a loss of Rs. 5:78 per tonne in 1968-69. The loss during 1970-71 and 1971-72 was Rs. 7.92 and 15.81 per tonne respectively.

(b) F.O.R. Cost

3.96. The table below gives the comparative cost of production per tonne as contemplated in the Japan Consulting Institute Report 1959 and as incurred during 1967-68 to 1971-72:—

	Japan Consulting Institute Report 1959 at a production level of 20 lakh tonnes.	As per estimate during pre-devaluation period.	1967-68 At per production level of 17·15 tonnes	1968-69 at per production level of 17·21 lakh tonnes.	1969-70	1970-71	1971-72
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
A. Operating Cost		Not available	Details not available				
1. Geology .	0·03						
2. Mining. . .	2·15						
3. Ore Dressing and Stock-pile . .	0·96						
	3·14		4·95	4·65	5·18	6·20	8·44

1	2	3	4	5	6	7	8
B. *Services*							
1. Workshop .	0·15		Not available				
2. Water supply. .	0·18						
3. Transport and Store handling . .	0·12						
	0·45		1·91	2·00	2·15	2·33	3·64
C. *General Overhead*							
Township and General Administration.	1·90	Not available	1·22	1·75	2·33	2·75	5·01
Mining Cost (A+B+C) . .	5·49	7·34	8·08	8·40	9·66	11·29	17·09
D. Depreciation . .	2·87	3·65	4·55	4·60	4·23	3·95	5·89
E. External Payment interest Charges .	2·08	2·12	2·59	0·59	0·34	0·01	0·46
F. Royalty and Cess		1·75	1·68	1·63	1·52	1·56	1·54
	10·44	14·86	16·90	15·22	15·75	16·80	24·98

3.97. The cost as per JCI DPR was Rs. 10·44 per tonne. This cost did not include royalty and cess, social overheads and share of Head Office expenses. The increase from DPR provision to the cost of Rs. 16:80 per tonne in 1970-71 consists of the following variations:—

		(Rs. per tonne)
(i) Increase in capital investment of the Project and change in the method for depreciation, leading to higher incidence of depreciation.	The element of depreciation and interest during 1970-71 is not more than the interest and depreciation given in DPR as loan portion has been repaid practically in full.	
(ii) Change over of the plant from dry basis to wet process and increase in power rate, resulting in higher consumption of water consequently the power.	Power consumption for wet process for all 12 months against dry basis provided in DPR at the same rate as given in DPR.	0·06
	Increase due to change in power rate from 0·098 to 0·14. .	0·45

(iii)	Provision of township not envisaged in the J.C.I. Report .	Social overheads and township expenditure	0·49
(iv)	Increase in staff over that envisaged in the J.C.I. Report	Against DPR provision of 750, strength in 1970-71 was 1615 and at wage rate provided in DPR, the increase will be	1·34
(v)	Successive increase in wages and D.A. and increase in prices of stores, spares, etc.	Increase in wage rate, escalation, D.A. etc.	1·69
(vi)	Share of Head Office expenses .		0·77
(vii)	Cess and Royalty		1·56
		TOTAL :	6·36

3.98. In this connection, the Corporation had stated in a written reply as under:—

"The JCI Report had provided for depreciation on the basis of capital investment Rs. 8·33 crores but the actual investment became Rs. 12:38 crores. Moreover, the JCI adopted the sinking fund method for depreciation provisions whereas this is done on straight-line method. The increase in the depreciation is accounted for by these factors.

The JCI Report took into account a provision of water supply for the working of the plant on dry basis but change over to the wet process increased and consumption of water and consequently the power. Besides, the power rate has gone up from Rs. 0:10 per KW to Rs. 0:14 per KW. These factors contributed to the increase per tonne of Rs. 0·60. The JCI Report did not envisage any township and the provision of these facilities has caused an increase of another Rs. 0·30. The increase in the staff from the original strength of 750 accounts for another increase of Rs. 0·70. The balance of Rs. 1·73 per tonne is due to the successive increase in wages, D.A., escalation in the prices of stores, spares, etc., particularly in the case of imported items as a result of rupee devaluation."

3.99. Asked about the reasons for the abnormal increase in cost of production at Rs. 24.98 per tonne in 1971-72 which was almost double the rate envisaged in the Japan Consulting Institute Reports in a note after evidence, the Department of Mines have stated that:—

> "Government is keeping a close and continuous watch over the cost of production in the NMDC's iron ore mines. They have also been issuing necessary instructions to the Corporation to practise utmost economy and keep control over the cost. There are, however, certain factors which are beyond the control of the Corporation which will have a direct bearing on the cost of production. These are:—
>
> (a) Changes in the levels of production from time to time depending upon the export and/or domestic commitments:
>
> (b) The deficiencies/omissions in the cost of production of Rs. 10.44 per tonne worked out by the JCI. These deficiencies related to items such as royalty and cess and inadequate provision for water and power supply etc.; and
>
> (c) Increase in the Wage Bill and increase in the cost of procurement of spares and stores, both imported and indigenous.
>
> The production level in 1971-72 at Kiriburu had to be restricted to the low level of one million tonnes against the rated capacity provided in the JCI report keeping in view the lower export commitment for the year. This has resulted in a corresponding increase in the cost of production to Rs. 21.36 per tonne in the year 1971-72."

3.100. The Corporation further added that the plant had to be shut down for carrying out modification and expansion necessitated for arranging supplies to Bokaro.

3.101. It is seen that no value has been assigned to the lines generated. At the rate of Rs. 11.28 per tonne offered by the Bokaro Steel Limited (yet to be accepted by the Corporation) the approximate value of annual generation of fines at the rated capacity (13 lakh tonnes) worked out to Rs. 146:64 lakhs.

3.102. The Committee find that against the FOBT cost of Kiriburu iron ore at Rs. 10.44 per tonne and selling price of Rs. 36.70 envisaged in the Japanese Consulting Institute Report, the FOBT cost has increased from Rs. 61:90 in 1967-68 to Rs. 73·10 in 1971-72 and correspondingly the selling price also increased from Rs. 56·94 in 1967-68

to Rs. 57:29 in 1971-72. The Committee regret to note that the loss per tonne has, thus increased from Rs. 4·96 per tonne in 1967-68 to Rs. 15.8 per tonne in 1971-72. The Committee, however, find that among other reasons the increase in cost during 1971-72 was due to low level of production increase in wage bill and increase in cost of procurement of stores, spares etc. The Committee need hardly stress that the Corporation should endeavour to bring down the mining cost by attaining the rated capacity of production with the maximum efficiency of labour.

3.103. The Committee also note that so far no value has been allotted to the fines generated and which are transferred to Bokaro Steel Plant. The Committee strongly urge that Corporation/Government should expedite the settlement of the price of fines which will have a bearing on the cost of production of iron ore.

IV

KIRIBURU MODIFICATION AND EXPANSION SCHEME

A. Objectives

4.1. In view of the long railway lead having adverse effect on the profitability of ore from the Kiriburu mine for export purposes, it had been decided by the Government to divert Kiriburu ore to Bokaro so that the amount of loss should be reduced|avoided. It was, therefore, intended that the mine would meet the entire requirements of the Bokaro Steel Plant and to some extent requirements of the Rourkela Steel Plant. The requirements of the Bokaro Steel Plant are as follows:—

Lump Ore:
(—40 mm + 10 mm)
as against (—200 mm + 12·50 mm)
1·26 million tonnes per annum required by the Japanese.
Fines
(— 10 mm + 100 mesh) . 2·94 million tonnes per annum.

4.2. As the specifications of ore and fines required by Bakaro Steel Plant were entirely different from the present range of production, the Corporation prepared a Detailed Project Report for modification and expansion of the Project in December, 1965.

B. Project Estimates

4.3. The scheme envisaged a capital outlay of Rs. 11.54 crores with foreign exchange component of Rs. 2.88 crores. At the instance of Government, the Report was made up-to-date and a revised Detailed Project Report was prepared in September, 1968; this was sent to the Government in November, 1968 for approval. The capital outlay, according to this Report, was expected to be Rs. 11.80 crores with a foreign exchange component of Rs. 1:56 crores.

Government desired that the order for all the plant and machinery should be placed with the Heavy Engineering Corporation Limited.

4.4. Explaining the reasons for delay in giving the approval by Government to the project estimates, the Department of Mines in a note after evidence stated that "the Project Report on the expansion of Kiriburu Mine was received from N.M.D.C. in April, 1966. This Report did not contain the economics and profitability of the Project particularly with reference to sale price. Further, it was felt that Crushing and Screening Plant could be had indigenously from HEC and N.M.D.C. should entrust the complete work to them. The Department of Steel were also requested to indicate the revised time scheduled of Bokaro and specifications of the ore. In the meantime, the Project Report was also referred to the Ministry of Finance for their preliminary scrutiny. That Ministry also asked for clarifications on a number of points. The sorting out of all the issues by the N.M.D.C. with HEC, Bokaro Steel etc. took more than two years and revised Project Report containing detailed information on all the points was finally received in the Ministry on 17th November, 1968. The Revised Cost Estimates were referred to the Finance Ministry on 30th November, 1968. The Ministry of Finance, Department of Steel etc. wanted further clarifications and information from the N.M.D.C.

The cost estimates were further discussed at inter-Ministerial meetings held in the Ministry in May and June, 1969. The Ministry of Finance finally concurred in the Cost Estimates on 13th August, 1969 and the formal sanction of the Cost Estimates was accorded on 28th August, 1969. It will thus be observed from the above that the revised Project Report containing all the information required for taking investment decision by the Government was received in November, 1968 and the Cost Estimates were finally sanctioned in August, 1969 (in about 9 months). As the project cost was over Rs. 11 crores, and as it involved examination of several complex, technical and economic factors and as it also involved consultation with various agencies of the Government and further as it was the first large scale mechanised iron ore mine taken up by the NMDC, it took sometime for the Government to examine the report and take an investment decision.

4.5. The Kiriburu Mine as originally developed was expected to produce 3.3 million tonnes of ROM out of which 2 million tonnes was to be lump ore and the balance as fines. The mine would handle 5 million tonnes of Run-of-Mine and produce 1.75 to 2.00 million tonnes of lump and 2.25 to 2.50 million tonnes of saleable fines per annum. It would be having a surplus of 0.5 million tonnes of lump ore over the requirements of Bokaro Steel Plant, which was proposed to be diverted to Rourkela Steel Plant. There would also be a deficit of 0.44 million tonnes of fines for Bokaro Steel Plant which was proposed to be met by reclaiming fines from the existing stock pile of fines.

4.6. Asked whether despite the increase in the quantity of ROM due to change in the specification of Ore and fines, the reduced quantity of lump ore would meet the entire requirements of Bokaro Steel Plant, the Department of Mines in a note after evidence explained that "5m. tonnes of ROM under Kiriburu Modification and Expansion Scheme will produce saleable products of about 4m. tonnes per annum. While Bokaro will take all their 4 million tonnes it has recently revised its requirements of lump and fines to about 1 m. tonnes of lump and 3 m. tonnes of fines per annum for the ingot of capacity of 2.5m. tonnes. Suitable fourth-stage crushing facilities have been provided to ensure the availability of lump and fines in this proportion for Bokaro Steel Plant.

All available fines from Kiriburu Modification and Expansion Scheme will be taken by Bokaro Steel Plant."

4.7. In a written note subsequently furnished to the Committee, the Department of Mines stated regarding economics of the Project due to diversion of the ore to Bokaro Steel Plant "that size of the ore required by Bokaro is different from what was being exported to Japan. Steel making practice has undergone a change during the years since the contract was signed with Japan in 1958, and what steel plants now require is much smaller size of ore. This is true of subsequent contracts with Japan also. It is for that reasons that the mine has to be modified and expanded to meet Bokaro's requirement of smaller size of ore. While undertaking the modification and expansion of mine, production at the mine has necessarily to be curtailed, but, ultimately, the economics of the project is expected to improve after the expansion and modification of the mine has been completed and full supplies to Bokaro commence from November, 1974".

C. Plant and Machinery

4.8. As already stated the Government had also desired that the order for all plant and machinery should be placed with the Heavy Engineering Corporation Ltd. The letter of intent for purchasing the plant and Machinery was placed with the Heavy Engineering Corporation Ltd. in April, 1969 and an advance payment of Rs. 20 lakhs, being 20 per cent of the total cost, was also made to them on 5th August, 1969.

4.9. In a note after evidence, the Department of Mines stated that Heavy Engineering Corporation Ltd. had been changing their delivery schedules of plant and machinery from time to time as would be evident from the Statement (Appendix I). The critical item in the completion of the project was the supply of equipment from HEC particularly the wagon loader which was being procured by HEC from Demag of West Germany. Constant liaison was being maintained with HEC to ensure compliance with the revised delivery schedule.

4.10. The Department of Mines have further intimated that the delivery of Mobile equipment delivery HEC *ex*-works, was expected to be made in February/March, 1973.

4.11. It was also stated that formerly, the Management estimated 30 months' time to complete the Project from the date of sanction *i.e.* by February, 1972. Subsequently with the assumption that mobile equipment ordered on HEC would be available in time *i.e.*, by the end of January, 1973, the target for commissioning of line 'A' of the project by the end of April, 1973 and the entire project was expected to be finally completed by the end of November, 1973.

4.12. However, from the Annual Report of the Corporation for 1971-72, the Committee found that there had been some further delay of about four months in the delivery of the crusher and mobile equipment. In addition, a set-back in the tempo of civil construction due to the strike in the cement factories throughout India has affected progress. The net result had been that one line of the plant was expected to be completed by September, 1973 and the entire plant by January, 1974.

4.13. The Corporation attempted a cost analysis in July, 1969; the selling price of ore to Bokaro Steel Limited as worked out therein was as follows:—

Lump Ore per tonne	Rs. 18.10.
Fines per tonne	Rs. 16.44

4.14. The Bokaro Steel Limited, however, conducted a scrutiny of these items in August, 1969 and worked out their purchase price as follows:—

Lump Ore per tonne	Rs. 12.94.
Fines per tonne	Rs. 11.28.

4.15. It may be stated that the Corporation included a return of 12½ per cent. on gross capital whereas Bokaro Steel Limited allowed a return of 8 per cent only. Similary, the Corporation adopted the straight line method of depreciation whereas the Bokaro Steel Limited allowed the income-tax rate of depreciation. In the absence of any settlement of price with Bokaro Steel Limited, the case has been referred to Bureau of Public Enterprises in 12/69.

4.16. The Corporation stated in a written reply that the decision of the Bureau of Public Enterprises with regard to the method of depreciation to be adopted and the rate of return on the investment was still awaited, and so far no final settlement of the selling price of iron ore-Lump and fines had been reached with BSL.

4.17. The Ministry also stated in a written reply that the need for early settlement of the price had been brought to the notice of the two Corporations by the Department of Mines and the issue was still under negotiation between the Chairmen of N.M.D.C. and Bokaro Steel Ltd. The National Mineral Development Corporation conceded that the profitability of the scheme would depend upon the fixation of the selling price to Bokaro. The economics of the project would also depend on the commercial utilisation of fines.

4.18. The Committee find that the Government of India decided to divert the Kiriburu Ore to Bokaro Steel Plant in view of the long Railway lead having adverse effect on the profitability of ore of Kiriburu Mine. As the Specifications of ore and fines required by the Bokaro were different from those produced by the Kiriburu Project, the Committee find that a Detailed Project Report for Modification and Expansion of the Project was prepared in December, 1965 and after some modifications and revision, sent to Government in November, 1968 for approval.

The Committee are greatly concerned to note that even after the decision was taken in 1965 that the production in Kiriburu should be modified so as to meet the requirements of the Bokaro Steel Plant and Rourkela Steel Plant, the process of investigation, preparation of detailed project reports and sanction took nearly three years from 1965 to 1968. The Committee feel that such investigations should be carried out with a sense of urgency and in complete coordination with the agencies concerned so as to avoid unnecessary back references.

4.19. The Committee are greatly concerned to find that the ratio of lump to fine has been stated to be varying from 44:56 to 55:45. The Committee need hardly point out that in such a vital matter there should be precision and certainty for it affects the entire pattern of production, the type of equipment required etc. The Committee hope

that the matter has at least now been settled leaving no room for doubt. The Committee need hardly point out that the ratio of lump to fine should be such as would ensure the best utilisation of the iron ore resources of this mine consistent with the technological requirements of Bokaro and other steel plants.

4.20. The Committee are greatly concerned to note that NMDC which is already running in losses does not know the final financial implications of the modifications scheme as there is a difference in the sale price claimed by NMDC and the price which Bokaro Steel Plant are prepared to pay. The difference has arisen chiefly on account of the method of calculating depreciation and return on equity capital investment. The Committee are surprised that though the matter was referred to the Government|Bureau of Public Enterprises in December 1969 even after a lapse of more than three years no final decision has been given in the matter. The Committee consider that the matter should be settled without further delay so that a clear picture emerges. The Committee have no doubt that in settling the price, it would be ensured that it is equitable and fair to both the NMDC and Bokaro Steel Plant both of which are in public sector and under the same Ministry.

4.21. The Committee note that according to the original schedule the Kiriburu Modification and Expansion Project was to be completed by the February, 1972 and with this objective orders for plant and machinery were placed with the Heavy Engineering Corporation Ltd. The Committee, however, find that HEC has been changing its delivery schedules from time to time and according to the latest schedule even the critical items necessary for the completion of the project are expected to be delivered some time in March, 1973. As the delay in supply of the plant and machinery by HEC has put off the schedule of commissioning of the Kiriburu Modification and Expansion Plant, the project was expected to be completed in November, 1973. The Committee, however, find from the Annual Report for 1971-72 that there had been further delay of about four months in the delivery of crusher and mobile equipment and the completion of the project would be further delayed till January, 1974.

4.22. The Committee are not at all happy with the frequent changes in the H.E.C.'s schedules of delivery of the plant and machinery which had upset the completion of the project and commissioning of the plant. The Committee would like that the Department of Mines to take up the matter with the Ministry of Heavy Industry, investigate the reasons for delay and take appropriate action to ensure that at least the latest schedules of delivery are firmly adhered to.

D. Beneficiation Plant

4.23. The Project Report also envisaged a beneficiation plant at a cost of Rs. 92.40 lakhs which was deferred for the time being.

4.24. Asked about the reasons for the deferment of beneficiation plant, the Corporation stated that it was originally proposed in the D.P.R. to beneficiate a fraction of the plant fines and the fines from the stockpile. With analysis of additional metallurgical testing and geological date, it was found possible to produce fines from the main plant to Bokaro's specifications by proper grade control and elimination of high alumina material at the mine face itself. However, the scheme for beneficiation of stockpile fines was being implemented.

4.25. It was further stated that the scheme was approved by the Board in August, 1972 and the plant was expected to be commissioned by November, 1974. After completion of the plant the beneficiated fines would be supplied to Bokaro Steel Plant.

4.26. The Committee regret to note that the proposal for installation of a Beneficiation Plant was initially deferred by the Management although this was envisaged in the Project Report some time in August, 1969. The Committee also note that the Board of Corporation had approved the scheme in August, 1972 and the plant is expected to be commissioned by November, 1974. The Committee regret to observe that the deferment of the decision initially and taking a decision after 3 years has not only delayed disposal of fines to Bokaro Steel Plant but would affect ultimately the capital expenditure of the project.

The Committee strongly urge that at least now the Corporation should take suitable steps to ensure that the target date, i.e. November, 1974, for the commissioning of the Plant is adhered to.

V

BAILADILA PROJECT—DEPOSIT NO. 14

A. Capital Expenditure Decision for Deposit No. 14

5.1. The agreement with the Japan Steel Mills dated 19th March, 1958 envisaged that for meeting Japan's growing requirements, India would develop Iron Ore Mines in Bailadila and Sukinada areas. An Iron Ore Negotiating Committee visited Japan in March, 1960 and concluded an agreement for the supply of 4 Million tonnes of sized ore per annum to Japan commencing from the end of 1966 for a period of 15 years in the first instance. The Japan Steel Mills agreed to provide financial assistance to the extent of $21 millions to meet the foreign exchange cost for the import of plant and machinery require for the mine and the railway portion of the Bailadila-Visakhapatnam Project.

5.2. This Project was then assigned to the National Mineral Development Corporation Limited in the year 1961 for development and exploitation. The Project Report was prepared in April, 1964 by the Company on the basis of the prospecting data furnished by the Indian Bureau of Mines. As per the original Project Report, the project estimates was for Rs. 1583 lakhs. But the Government approved the estimate of Rs. 1,575.11 lakhs only. The estimates were substantially revised during the course of construction of the Project due to certain inadequacies in the earlier estimates of the cost of plant and machinery, civil works, etc. The capital estimates were revised in December, 1968 and approved by the Board of Directors for Rs. 2,520.82 lakhs. The main reasons for the increase as given by the Management are (i) Devaluation of Rupee—Rs. 305 lakhs, (ii) Customs Duty—Rs. 167.03 lakhs and (iii) Inadequate provisions|change in specifications—Rs. 473.68 lakhs. The approval of the Government has not, however, so far been received (April, 1970). A Committee of Directors was also appointed in December, 1968 to examine the various aspects of the increase over the original estimated cost and the extent to which original estimates contained in the Project Report could be considered defective.

5.3. The Committee submitted its report in December, 1969 which, after approval by the Board of Directors, was forwarded to Government on 2nd January, 1970.

5.4. The Committee of Directors were not, however, fully satisfied with the following increase in the Project estimates:—

(a) Increase on account of increase in the number of equipment, changes in specifications and price escalation Rs. 123.48 lakhs.

The Committee desired that the Management should look into the following points:—

(1) Whether there has been over designing of capacity by the acquistion of a larger number of equipment than originally planned;

(2) Whether additional purchases have been made with the approval of the competent authority;

(3) Whether the changes in the specifications have been made after examination of all the technical factors by appropriate technical authority;

(4) What is the increase in cost due to each of the above factors.

(b) Changed soil conditions of the tunnel—Rs. 28.75 lakhs.

5.5. The Committee was not fully satisfied about the justification for such an increase in expenditure and recommended that the case should be reviewed further thoroughly including fixation of personal responsibility which was stated to be under consideration of the N.M.D.C. and the Department of Mines and Metals.

5.6. Asked about the reasons for the delay in the sanction of the Revised Estimates, the Corporation stated that after the original estimates were sanctioned by Government in December, 1964. NMDC had advised Government in July, 1966 that as a result of the devaluation of the rupee w.e.f. 6th June, 1966, the Capital cost would be increased from Rs. 1575 lakhs to Rs. 1895 lakhs. Though the need for revision of the estimate on account of other factors had been felt much earlier it was only in January, 1967 that the Project prepared a revised figure of capital cost of the order of Rs. 2593 lakhs. As the revised estimate sent by the Project was an incomplete exercise, the matter remained under correspondence for a long time. The final revised estimate for Rs. 2521 lakhs gross (Rs. 2462 lakhs not) was compiled by the Corporation and submitted to Government on 25-11-1968.

5.7. The Board of Directors approved the revised capital estimate of Rs. 25.21 crores which had already been submitted to Government as the incurring of expenditure of this order had become a fait accomli. The Board also constituted a Committee of its Directors to examine the various aspects of the increase over the original estimated cost; the extent to which the original estimate as contained in the project report could be considered as being defective, the extent to which the increase was reasonable, and other connected aspects.

5.8. The Committee of Directors submitted its report in October, 1969; it was approved by the Board of Directors in December, 1969 and a copy of that report was submitted by NMDC to Government in January, 1970.

In may, 1970, the Board of Directors has directed the Financial Adviser of the Bailadila Project to investigate the increase of Rs. 123.47 lakhs under the head 'Plant and Machinery' as recommended by the Committee of Directors. The investigation Report of the Financial Adviser was submitted by the Corporation to its Boards of Directors in August, 1970 and approved by the Board and a copy of the report sent to Government in September, 1970.

5.9. In the meanwhile, the revised estimates were being examined in the Department of Mines in consultation with the Ministry of Finance and in early in September, 1970, the N.M.D.C. were requested to furnish certain clarifications asked for by the Minister of Finance. While furnishing the replies to the points raised by the Ministry of Finance in March, 1971, the Corporation indicated that the capital estimate would have to be further revised to Rs. 27.75 crores taking into account the cost of additional equipment recommended by the Technical Committee appointed by it. Subsequently, the capital estimate was further revised by the Corporation taking into account the full effect of the various recommendations made by the Technical Committee and, in September, 1971, the Board of Directors approved of a re-revised capital estimate amounting to Rs. 29.70 crores which represented the precise and final capital estimate of the Project was submitted by the Corporation to the Government in November, 1971. In the course of examination by Government, further information was sought by Government in regard to—(a) economics of the project based on the various revised capital estimates, information on which was received from the Corporation in March, 1972; and (b) foreign exchange component of the project estimates prepared by the Corporation in 1968 and 1971, the details of which were furnished to Government in July, 1972. The revised estimates were still under the examination of the Ministry in consultation with the Ministry of Finance.

5.10. In this connection, the Corporation have stated in a note after evidence that:—

"As recommended by the Committee of Directors, the Board of Directors directed in May, 1970 that the Financial Adviser of the Project should investigate in detail the increase of Rs. 123.47 lakhs in the expenditure under 'Plant and Machinery' as per guidelines indicated by the Committee of Directors and to submit a report. The Investigation Report of the Financial Adviser was submitted to the Board of Directors in August, 1970. The Board accorded its approval to the regularisation of the excess amount of Rs. 123.47 lakhs under 'Plant and Machinery' and directed that a reference may be made to Government for approval of the Project's revised estimate. The Investigation Report was sent to Government in September, 1970."

5.11. During evidence, the Committee enquired about the results of the investigations made by the Financial Adviser of the Project. The official representative of the Corporation stated as follows:—

"The Committee of Directors asked the Financial Adviser to go into the reasons. He said that according to his assessment, the expenditure was justified and no personal responsibility was involved. This report was finally approved by the Board of Directors".

5.12. The Department of Mines in a written reply furnished the following specific causes for increase of Rs. 123.47 lakhs under 'Plant and Machinery':—

(i) Increase in the inland charges on machinery, amounting to Rs. 36.23 lakhs;

(ii) Purchase of machinery not provided for in the original project report but procured as per actual requirements, amounting to Rs. 10.23 lakhs;

(iii) Increase in prices, increase in number of machines and changes in specifications of certain items of machines, amount to Rs. 76.91 lakhs.

These particular aspects were also still under examination by Government in the context of the overall revised estimates of the Project. The investigation report of the Financial Adviser of the Project; the Report of the Directors and the decision of the Board thereon together with the revised estimates were all under consideration by the Government.

5.13. In regard to Items of work not provided for in the D.P.R. and which were undertaken by the Corporation during the course of construction of the Bailadila Project, the Department of Mines stated that the following items were undertaken by the Corporation:—

	(Rs in lakhs)
(1) Gravity main from Bacheli to Kirindul (for water supply).	21·48
(2) Diesel Loco shed	3·50
(3) Security arrangements in plant buildings	1·50
(4) Temporary accommodation taken over from M/s. Hindustan Construction Co.	1·18
(5) Dividing line for main road.	0·41
	28·07

5.14. In respect of the gravity main from Bacheli to Kirindul; referred to at item No. (1) above, at the meeting of the Expenditure Finance Committee which cleared the capital estimate for the Bailadila Project amounting to Rs. 15.75 crores, the then Chairman, NDMC had pointed out the need for an additional contingent expenditure of Rs. 25 lakhs for augmentation of the water supply in case the source proposed to be tapped turned out to be inadequate for meeting the full water requirements for the project. It eventually turned out that gravity main had to be laid from Bacheli to Kirindul as had been anticipated, involving an expenditure of Rs. 21.48 lakhs, with the result that this item of work had to be taken up although not originally provided for in the DPR. The other four items of work costing Rs. 6.59 lakhs became necessary for the integrated completion of the project which was designed to fulfil the international commitment for the export of ore and these items were accordingly taken in hand during the progress of the construction work, although not specifically provided for in the DPR.

5.15. In regard to the issue as to whether there had been over-designing of the capacity by the acquisition of the large number of equipment than originally planned, recent studies including that of a high powered Technical* Committee had revealed that in order

*A Technical Committee on Bailadila Deposit No. 14 was set up in June, 1970 to go into the Question of development of minig benches, availability and utilisation of the existing mining equipment and addition necessary for the project.

to go into the rated capacity of 4 million tonnes or sized ore per annum, acquisition of the additional machinery was necessary for the Project. The purchase of additional equipment recommended by the Technical Committee had been approved by the Board of Directors and sanction had also been received from the Government for certain additional equipment recommended by the Technical Committee.

5.16. As regards the extra expenditure of Rs. 28.75 lakhs on "charged soil condition of the tunnel" the review about additional expenditure in the driving of tunnel at Dep. 14 was conducted by the Financial Adviser of the Project. The original estimates was prepared on the basis of a rough assumption as regards strata to be met based on study of surface soil conditions. No underground survey with core drilling was carried out due to lack of facilities availible at that time. Further more, since the alignment of the tunnel had to be fixed with reference to the location of the various plants, an elaborate survey would have only added to the cost of estimation because the actual expenditure to be incurred would have remained the same whether the survey was conducted by core drilling or the estimate was based on the surface conditions. The soil conditions also proved to be too treacherous and unpredictable.

B. Imbalance in the Designing of the Mine

5.17. M|s. Kobe Steel Works Limited, Japan were nominated as the Central Supply Agency in March, 1965 for arranging and financing the plants, equipment and material out of the financial assistance of $21 millions provided by the Steel Mills of Japan. An order for the supply of plant and equipment for the crushing screening, stacking and wagon-loading arrangements was placed with the same company in October, 1965. A supervision agreement was also concluded with them in October, 1965 for the supervision of erection and test run of each individual equipment. A Committee was appointed by the Management to look into the designing of the mine. The Committee held the view in May, 1968 that there were 2 lines of crushers while even a single line of crusher was in a position to treat enough ore to produce 4 million tonnes of sized ore per annum. According to the Committee, the second line of crusher was an expensive stand-by. It was, however, held by the Chief of Iron Ore in July, 1968 that the mine and plant taken together could be deemed to have excess capacity in certain sections and deficit capacity in certain others. The crushing, conveying and loading sections could handle 6 million tonnes of Run-of-Mine (as against the capacity of 5.5 million tonnes provided in the Project Report), the Mine and Screening Sections were vulnerable point with a capacity below that envisaged in the Project Report. This view was accepted by the Corporation. This imbalance in designing of the mine resulted in creation of excess capacity at a cost of Rs. 170 lakhs, leading to increased cost of production of Rs. 0.28 per tonne at the rated capacity of 4 million tonnes per annum.

5.18. The Ministry stated (May, 1970) as follows:—

> "The concrete proposals and estimates for setting right the imbalance in the various sections of the mine and plant have been formulated and are under the consideration of the management."

5.19. In a note after the evidence, the Department of Mines stated that the reasons for the imbalances were:—

(i) low lump recovery resulting in inadequate capacity of the screening plant.

(ii) high moisture in fines resulting in inadequate capacity for transport of fines; and

(iii) inadequate capacity of classifiers.

These were also investigated by the Technical Committee appointed in June 1970 by the NMDC.

5.20. The Technical Committee found that the actual lump recovery ratio at the mine on the basis of the work done since April, 1968, was 66 per cent, as against 75 per cent assumed in the Project Report, with the result that in order to achieve the rated capacity of 4 million tonnes of lump ore, it would be necessary to excavate 6.6 million tonnes (including 10 per cent waste and blue dust mining) annually, as against 5.5 million tonnes envisaged in the Project Report. In order to achieve the aforesaid target, the Committee recommended the following additional machinery at an estimated cost of Rs. 2.06 crores:—

		Rs. in Lakhs.
(a) Blast hole drill 9" dia	—1	25·88
(b) 4·6 cum. electric shovel	—1	25·09
(c) 50 tonne dumpers	—8	144·00
(d) 4½" crawler drill	—1	10·50
TOTAL		205·47

5.21. Government sanctioned the procurement of the above equipment except three out of eight 50 ton dumpers. Most of the work (excepting strengthening the dumper platform and fine ore disposal system, in respect of which work was in progress) had been completed and the balance work will be completed by 1974. After rectification, the capacity of the mine for handling R.O.M. would be 6.5 M. tons and for production of lump ore 4 M. tonnes. As production of lump ore would not be more than original capacity of Mine, disposal of extra production would not arise. The extra fines would also be pelletized.

5.22. During evidence, the Chairman, NMDC stated:—

"There was over-designing in the crusher. Normally, a crusher should be about 150 per cent capacity because we require always a standby crusher. This is so because when it steps working due to small defect or so and for removing this it takes about 2 to 3 days. I cannot keep the mine shut during these days. Therefore, normally about 150 per cent capacity is provided and it is provided in terms of two crushers. That means I should have provided a crusher of 75 per cent of capacity each. In this case, they have provided 200 per cent because each crusher could have dealt with the entire production of the mine and another crusher was provided as a standby. Moreover we have to increase the production of 5.150 million tonnes to 6.50 million tonnes. This over-designing was helpful for I had not to change the crusher to handle this increased production."

5.23. There were no extra machinery lying idle except those under breakdown or repairs. The additional crushing capacity available at the stage of throughput of 5.5 M. tonnes would, however, disappear to a great extent when the throughput was increased to 6/6.5 M. tonnes to ensure production of 4 M. tonnes of size ore.

5.24. During evidence the official representative of the Corporation stated that they were operating stackers by manual labour as we have a commitment to supply 4 million tonnes to Japanese. Just because the mine cannot produce it I cannot reduce the comitment. Therefore to that extent, till the mine gives 4 million tonnes, I have to get ore for exporting to Japan by other means. We are getting float ore. These are isolated pockets which cannot be worked out by mechanised mining. Therefore, as these isolated pockets cannot be worked by mechanised means they are working them manually in the initial stages till the plant gives the full capacity. The Float ore mining is very different from mechanised mining. They have only to pick the ore, size and supply it. So the cost involved is for sizing the ore and transportation. For us, the average cost comes to about Rs. 15.00 to Rs. 16.00 per tonne"

C. Commissioning of the Plant

5.25. The Plant was to be commissioned by December, 1966 as per the Detailed Project Report. It, however, went into trial production only in April, 1968. In para 1.19 (Page 49) of their 11th Report (Fourth Lok Sabha), the Committee on Public Undertakings commented upon the lack of co-ordinated planning in the completion of the project. The main reasons for the delay were:—

(i) Delay in the completion of civil works e.g. buildings and roads, tunels and wagon-loading arrangements.

(ii) Delay in the supply of electricity by the Madhya Pradesh State Electricity Board.

5.26. The delay in the completion of the Project led to an additional capital expenditure of Rs. 123.31 lakhs as detailed below:—

(i) Establishment changes inculding share of Head Office exp nditure	Rs. 50 lakhs
(ii) Interest charges .	Rs. 73·31 lakhs.
TOTAL	Rs. 123·31 lakhs

The incidence of this additional capital expenditure per tonne of ore would be Rs. 0.15 at the rated capacity of 4 million tonnes per annum.

5.27. In this connection the Corporation had stated as follows:—

"Regarding the construction of Crushing, Screening and Wagon Loading plants, the tenders for civil work were invited on 24.7.1964 and the work was awarded on 25th October, 1964. The scheduled date of completion was 31.12.1966. Due to increase in quantities of work in many cases and mainly due to delay in obtaining the detailed drawing from M/s. Kobe, the suppliers of the plant and equipments, the work on all these major items was delayed. In fact, the civil works for crushing plant were completed the earliest and after erection of machineries the trial runs of Crushing Plant were carried out in January, 1968. The loading plant after completion of civil works and thereafter erection of machineries, was commissioned on 2nd December, 1967. The work on tunnel also increased on account of changed soil condition and was completed on 15th November, 1967, including erection of conveyor frames and structures.

Delay in supply of electricity by Madhya Pradesh State Electricity Board was beyond the control of NMDC. The State Electricity Board was bringing transmission line from Korba with complete new construction of line between Balod to Kirindul. Their work was delayed mainly due to non-availablility of suitable steel structure for erection of transmission towers and difficulties encountered in working though a remote inaccessible and undeveloped area. The electricity was supplied by the Board to Bailadila Project only on 18th March, 1968 and the integrated plant operation was started on 7th April, 1968."

5.28. The Committee note that on account of inadequate provisions/change in specifications an expenditure of Rs. 473.68 lakhs was incurred by management over and above the provision made in the Detailed Project Report. They also note that a committee of directors of the National Mineral Development Corporation had raised a number of points about this additional expenditure incurred including the following:—

(1) whether there has been an over-designing of capacity by the acquisition of a larger number of equipment than originally planned;

(2) whether additional purchases have been made with the approval of the competent authority;

(3) whether changes in the specifications had been made after examination of the relevant factors by appropriate technical authority; and

(4) what is the increase in cost on account of each of the above factors.

The Committee of the Board of Directors had also desired that the matter should be reviewed further thoroughly.

5.29. The Committee are given to understand that subsequently the matter was gone into by the Financial Adviser of the Bailadila Iron Ore Project and his report is with the Government. The Committee would like to impress on Government that all aspects of the matter should be gone into as purchase of machinery in excess of requirement or creation of unbalanced excess capacity in certain sections have adverse effect of a recurring nature on the cost of production. The Committee are informed that it is already costing the NMDC Re. 0.28 per tonne by way of additional cost at the rated capacity of 4 million tonnes per annum. The Committee would like Government to thoroughly probe the matter and fix responsibility including those of collaborators and of officers who were entrusted with the task of scrutinising the details before placing firm orders for machinery and equipment. The Committee would like to be informed of the action taken within the next three months.

5.30. The Committee regret to note that imbalance in the designing of the mines and plant has created excess capacity at a cost of Rs. 170 lakhs resulting in increased cost of production at 28 paise per tonne. The Committee note that the Technical Committee (constituted in June, 1970) had held that a single line of crusher was in a position to treat enough ore to produce 4 million tonnes of sized ore per annum. The Chief of Iron ore was, however, of the opinion that while crushing, conveying and loading section could handle 6 million tonnes of run of mine as against 5.5 million tonnes provided in the project report the mine and screening sections were vulnerable points holding a capacity below that envisaged in the Project report. The Committee were informed that one of the reasons for the imbalance was low lump recovery. The Committee also find that a technical committee appointed by NMDC in June, 1970 found that because of the low lump recovery, it would be necessary for the Corporation to excavate 6.6 million tonnes as against 5.5 million tonnes envisaged in the project report and to achieve this target, additional machinery at an estimated cost of 2.06 crores would be necessary. During evidence, the Chairman, NMDC also admitted that there was over designing in the crusher capacity and one crusher was standby. Moreover, they had to increase the production from 5.5 million tonnes to 6.5 million tonnes. The Committee are shocked at the lack or proper planning and designing of the capacities of the machinery which had not only cost the exchequer Rs. 170 lakhs more but also increased the cost of production. The Committee see no justification

for this costly lapse where a single line of crusher could have handled the entire production of the mine. The Committee, therefore, recommend that this matter should be probed into by the Government and responsibility for the lapses fixed.

D. Excess expenditure over Project Estimate

5.31. The Committee of directors had also *inter-alia* observed as follows:—

"The Committee noted that although a comprehensive revised estimate was not finalised in time, contractual commitments continued to be entered into much in excess of the original Detailed Project estimate provision without bringing the matter to the notice of Govt. Under the powers delegated to the Board of Directors of Public Enterprises to sanction capital estimate within specified limit, it is clearly stipulated that any excess over 10 per cent of the sanctioned Detailed Project estimated provision has to be approved by the Government. It was also obligatory to report to Government as soon as it was noticed that there was a likelihood of the actual expenditure exceeding the Detailed Project Report provision by more than 10 per cent. Either of the courses of action, as required under the rules, was not, however, adopted. The drawal of funds by the N.M.D.C. from Government was also not kept within the limits of the original sanctioned estimate. The Corporation should review its mechanism of expenditure control so that commitments in excess of the Detailed Project Report provision are not entered into and drawals and remittances of moneys are regulated in conformity witl Detailed Project Report provisions."

5.32. In this connection, the Corporation have stated—

"that the Progress of expenditure/commitments against each item of the approved cost estimate of a Project is periodically reviewed. Where the provision in the approved cost estimate for any particular item is likely to exceed beyond the limit authorised by Government, the matter is brought to the notice of competent authority and sanction obtained before incurring the expenditure. Also, where the total expenditure on a Project is likely to exceed the approved cost estimated beyond the limit authorised by Government the Board of Directors and

Government are kept informed and are approached at the appropriate time for sanction of the revised estimates. In this connection, the Ministry of Finance (Bureau of Public Enterprises) have issued series of instructions on the subject resting with Director General, B.P.E. D.O. letter No. BPE-1(34)|Adv. (F)|69 dated 30.8.1969. The Corporation has been following these instructions."

5.33. In this connection during evidence, the Secretary, Department of Mines stated as under:—

"The original estimate was for Rs. 15.75 crores. By the end of 1967, they reached the limit of that estimate. From then onwards, there had been several reasons for excess expenditure sometime on civil construction and then on equipment etc. These had to be accommodated in some way, because the project could not be stopped. If we were to say that until the revised estimate is sanctioned, no further expenditure should be made, the project would have been at a stand-still. Therefore, it was made a part of the budget estimates, to the extent of what they wanted in addition, firstly, at the time of the budget estimate, and later during the revised budget proposals. These were discussed in detail with the Finance Ministry and the project authorises so that the provision for the expenditure had been covered in this process. Actually, in the revised estimate, it has just now come to us and is under examination with the Finance Ministry."

5.34. The Financial Advisor, Department of Mines further added:—

"Normally, as soon as the Project realises that the original estimates sanctioned by Government are about to be exceeded, they should have come to the Government (Deptt. of Mines) with a proposal for revising the estimates. I found that in this particular case, the bulk of the ordering had been completed by 1968, the project was commissioned. But there were certain elements like devaluation, increase in customs duty, etc. amounting to Rs. 5 crores and on two occasions the project estimates were revised. Whenever they approached Government for release of funds, it was indicated by Government that the project estimates had been exceeded and had to be revised. Therefore, we knew at every stage that additional funds would be required. At the time of inclusion of the provision in the budget, the requirements of the budget are scrutinised in the Deptt. of Mines and in the Finance Ministry. We also wanted certain other clarifications in regard to revised estimates which they had given us, about two years ago. Subsequently, we were told that the estimates were being further revised. The information asked for by us has been furnished. As the Secretary, Mines has mentioned, this matter is now under examination in the Deptt. of Mines in consultation with the Ministry of Finance. I hope this examination will be completed shortly."

5.35. Explaining about the mechanism for the control of expenditure, the Financial Advisor informed the Committee that:—

"They should not normally exceed sanctioned estimates, and even when they do, the excess should not be more than 10 per cent of the sanctioned estimates. When they realise that they are going to exceed the sanction by more than 10 per cent they should come to the Government with the revised estimates. There are instructions issued by the Finance Ministry to all the Ministries. The Bureau of Public Enterprise have already circulated instructions* in regard to the formalities and procedures the Ministries and the Projects have to observe in this connection. In case where we have to exceed by more than 20 per cent, we have to go to the Cabinet. In fact the Project should have approached the Head Office of NMDC when they came to know that the project estimates would be exceeded. Apparently this has not been done in this case. The Project has been commissioned. They did tell us that even for the revised budget of 1967-68 and for 1968-69 additional money will be required. As the original estimate was of Rs. 15.75 crores, the final estimate is going to be almost double of that amount. Certainly I would say that more care is necessary."

5.36. In this connection the Department of Mines in a note after evidence stated that—

"Ordinarily, the Board of Directors of a Public enterprise is competent to incur expenditure only upto a limit of

*Bureau of Public Enterprises have issued series of instructions on the subject resting with Director General, BPE DO. Letter No. BPE|(34)|Adv.(F)|69 dt. 30-8-1969.

10 per cent beyond the sanctioned project estimates, and release of capital funds beyond this limit it also ordinarily sanctioned by the Government only after getting revised estimates of capital cost prepared, examined and approved. In the case of the project at Bailadila-14, however, in view of the international commitments for the supply of iron ore to the Japanese Steel Mills and the embarrassment that might have resulted in the event of interruption in the progress of the project owing to non-availability of adequate additional funds in time, the Government continued to release funds as a special case, based on requests made by the Corporation from time to time. The funds were, however, released after examination of the Corporation's proposals in this behalf the budget proposals of the Corporation and other relevent aspects."

5.37. The Committee find that the original estimates approved by the Government for Rs. 15.75 crores in 1964 had undergone revision during the course of construction of the project; first in December, 1968 for Rs. 25.21 crores and again in Spetember, 1971 for Rs. 29.70 crores and the Revised Estimates submitted to Government in November, 1971. The Committee also note that the excesses over the original estimates had been examined first by a Committee of Directors and later by the Financial Advisor of the Project and their reports also submitted to Government in January, 1970 and September, 1970 respectively. The Committee regret to note that these Reports are still under the consideration of Government alongwith the Revised Estimates. The Committee however find that Government had been releasing funds on the basis of Budget provision much in excess of the sanctioned estimate without approval of the Cabinet as required under the instructions issued by the Bureau of Public Enterprises, Ministry of Finance.

The Committee take a serious view of this laps and strongly urge that the revised estimates should be gone into and sanction of the competent authority issued. The extent of revision and its implications on the economics of the Project should be specifically examined. The Committee would also like Government|Corporation to review its mechanism of expenditure control to obviate recurrence.

E. Production and Export

5.38. The rated capacity of the mine is 4 million tonnes of sized ore per annum. The mine went into production in April, 1968. The table below compares the original and the revised targets of production, despatches and shipment with the actuals for the years from 1968-69 to 1971-72:—

		Original Targets	Revised Targets	Actual	% of actual achievement to original targets.
1. Production	1968-69	19·60	15·00	17·04	86·94
	1969-70 Plant	25·00	21·85	21·86	87·44
	Float	5·00	4·40	4·35	87·00
	1970-71 Plant	30·50	22·51	22·20	72·79
	Float	11·10	11·25	10·48	94·41
	1971-72 Plant	28·00	23·81	23·74	84·78
	Float	16·50	15·49	13·86	84·00
2. Despatch	1968-69	29·30	19·40	18·13	61·88
	1969-70	30·50	28·40	28·27	92·69
	1970-71	41·01	33·89	33·14	80·63
	1971-72	44·50	39·32	36·51	82·04
3. Shipment	1968-69	28·80	17·27	16·18	56·18
	1969-70	33·00	34·54	29·27	88·70
	1970-71	40·00	35·10	32·88	82·20
	1971-72	44·37	40·30	36·46	82·17

5.39. It would be seen that production was much below the rated capacity and even the original targets from the very beginning. Further the Project could not achieve the original and revised targets of despatches and shipment during the period 1968-69 to 1971-72.

5.40. The Management had stated (December, 1969 that "shortfall in despatches in 1968-69 was due to limitation of storage capacity at the port."

5.41. In this connection the Ministry had also stated (May, 1970) as follows:—

> "A fully mechanised, sophisticated an integral plant of this nature inevitably undergoes teething troubles in the initial stages under technological compulsions, the production capacity of such a plant gets gradually and progressively built up and it takes time to reach rated capacity. The other factors which have contributed to the non-attainment of rated capacity are:—

(i) Detailed Project Report was based on 75 per cent. lump recovery whereas the actual lump recovery is around 66 per cent.

(ii) No provision for waste mining was made in the D.P.R. in practice shale bands are fund to cut across the ore body and it is estimated that waste to the tune of 8 per cent to the total R.O.M. is required to be mined.

(iii) Full bench length as provided in the D.P.R. could not be developed during the construction stage due to non-availability of electric supply by the Madhya Pradesh Electricity Board. The electric equipment like electric shovels and electric drills therefore could not be deployed on preparation of benches. The bench length available for mining during 1968-69 was about 500 metres against a provision of 2,000 metres in the D.P.R.

(iv) The Mining operation was also limited to one shift operation."

5.42. During evidence, the Chairman, National Minerals Development Corporation stated as under:—

"the principal reasons for the shortfall were that we had a strike in April. We received additional equipment. There was delay in the completion of the dumper platform to take in 50 tonnes dumper and some critical spares were not received. The teething trouble was in 1967-68 and 1968-69. The principal reasons for non-achievement of the production target was the lower lump recovery rate which is about 63 per cent to 64 per cent. We expect the rated capacity would be reached when the dumper platform is completed in December, 1972. We would be reaching 6 million tonnes rate by January 1973. The D.P.R. finally does not stipulate the time as to when the rated capacity should be achieved."

5.43. The Chairman, National Minerals Development Corporation admitted that they could not attain the target of production partly due to the faulty designing of mine and partly the benches were not developed in time and also the spares were not ordered in time. But now necessary benches and equipment were available. The only critical factor was the dumper platform which was originally to take 35 tonnes dumper. They were switching over 50 tonnes dumper. They had to reinforce the columns. The dumper itself was designed to take 35 tonnes. Now they had to modify it.

5.44. Explaining about the faulty designing of mine the Chairman, National Minerals Development Coropration said that:—

"the detailed project report was done by NMDC with some help from the Japanese based on IBM data. We will have to raise plus 6 million tonnes to yield 4 million tonnes of lump ore at the present recovery ratio. We have bought the additional equipment for this purpose. The only work remaining to be completed is the dumper platform which has to be strengthened to take a larger dumper. The extra expenditure on the additional equipment would be about Rs. 206 lakhs. The incidence would be roughly between 30 and 40 paise."

5.45. When the Committee asked the witness as to why these steps could not be taken earlier, when the project had gone into production as early as April, 1968 and when the faults were found and why could they not be rectified earlier, the Chairman, NMDC stated as under:—

"It is actually the performance failure in 1968-69 and 1969-70 and the early months of 1970 that made the Corporation itself constitute a Committee to go into these affairs. The Committee went into this and suggested certain remedies. The corrective actions suggested by the Committee have all been taken now. The Committee's main finding was that with the present recovery ratio, you could not have got 4 million tons of lump ore from this mine, unless you raise more run of mine ore. They said that it should be 6.5 million tonnes which, in turn, meant additional shovels and additional dumpers. We had to incur this expenditure of about Rs. 2 crores to buy all that. In doing this, the Committee also said that we should go in for a larger-size dumper. This resulted in having to strengthen the dumper platform, which was originally designed to accommodate 35 tonnes dumpers. Although in the original report it was 75 per cent but it would continue to be 63-64 per cent. It is again like Kiriburu where the original anticipation of recovery has not been realised in fact, in operation. I think enough geological and proving work was not done."

F. Excess Generation of Fines

5.46. The Detailed Project Report envisaged 75 per cent of the production of Run-of-Mine to be in sized ore and 25 per cent, in fines. It was also stipulated that the percentage of the fines could be reduced further resulting in higher recovery of lump ore by blasing with judicious spacing and using explosives of proper type and charge. The percentage of fines was expected to be brought down to an average figure of 13 per cent to 15 per cent. of the total production of Run-of-Mine. It was, however, seen that the precentage of fines was of the order of 35.1 of the production of Run-of-Mine in the first year of the mechanised operation of the Project. The percentage of fines during the subsequent years was as per details given below:—

Year	Run of Mine handled (Tonnes)	Recovery of limp ore as per detailed Project Report (Tonnes)	Actual recovery ore (Tonnes)	Percentage of lump ore recovered	Percentage of fines
1968-69	26·23	19·67	17·04	64·9	35·1
1969-70	33·97	24·62	21·86	64·35	35·65
1970-71	35·47	27·13	22·00	62·59	37·41
1971-72	36·63	27·47	23·74	63·70	36·30
		98·89	84·84		

5.47. 14.05 lakh tonnes of sized ore were thus lost during the period from 1968-69 to 1971-72 on account of excess generation of fines resulting in increased cost of production. No value of fines was assigned in the above working.

5.48. The Ministry had stated (May 1970) that "The variation between D.P.R. anticipation and the actual position is mainly due to natural factors as also an incidence of mechanised mining. The latter factor is a problem which all mechanised mines face in the matter of quality control .... However, the position, will be kept under constant watch and control."

5.49. In this connection the Corporation had offered the following comments:—

"The detailed project report based its calculation of lump fine rations to be obtained from Deposit 14 mine on the exploration report of I.B.M. The report gave the figure of 63 per cent recovery at plus ¼" after blasting in the main ore zone of Deposit No. 14 selected for mining. Deducting the additional generation of fines during Crushing and handing of the ore, D.P.R. envisaged 75 per cent of the production the run-of-mine to be in sized ore 3/8" and 25 per cent in fines. However, as stated in earlier paragraph much more quantity of softer ores occur in the deposit than what was envisaged in IMB report due mainly to natural factors.

The actual realisation of lump was 66 per cent of the total ore handled in the screening plan. In fact the figure of 64.9 per cent recovery during 1968-69 as given is not correct. The actual figure had been 66 per cent as the actual ore handled at screening Plant was less than what was crushed as some ore was left in the two stockpiles in between Crushing and Screening Plants (Actual ore handled 26.12 lakhs tonnes to get 17:037 lakh tonnes sized ore). Subsequent detailed exploration carried out by NMDC indicates an average lump recovery factors of 65.2 per cent for the entire deposit. The lump recovery factor, however, is slightly lower in higher benches increasing marginally in lower benches. There is also slightly more generation of fines due to the handling ore in the Plants. Additional generation of fines is being experienced even after crushing particularly during the two big drops in the two surge piles one after crushing plant at Hill top and the other just before Screeing Plant at Kirindul.

The position as regards reduction of fines by blasting work with judicious spacing and using explosive of proper type and chrage is always being kept under constant watch. However, the excess generation of fines which is being obtained and will be obtained in future is mainly due to namuch more quantity of softer ores occur in the deposit than envisaged in IBM exploration report and also due to incidence of mechanised mining which cannot be avoided."

5.50. During evidence, the representative of NMDC stated that during 1971-72, the generation of fines had actually marginally gone down. They could get better ratio by selective process. Then the average recovery would go down correspondingly in the next few months.

G. Feasibility Study of Pelletisation

5.51. In May, 1970 the Ministry informed Audit that the sale of fines either as beneficiated fines or in the form of pellets, was possible and the feasibility of the two alternative was under study.

5.52. In this connection, Chairman, NMDC stated during evidence that:

> "Feasibility study prepared by M|s Dastoor & Co. is with us. It is based on the Bailadila 14 fines. The study recommended the plant at Bailadila itself. In the meantime, we are developing a second mine, where again, the lump-ore ratio is likely to be the same. Both these mines are committed for exoprt because of the total export commitment of lump ore is 8 million tons. To feed the new plant at Vizag we have to build a third mine which is at bailadila 4, where we are drilling. All this is going to give us about 6.7 million tons fines in the area by 1978 and the railway capacity with all the expansion that is going on ————would be roughly of the order of 12 million tons. From these three mines put together the railways would have to carry about 11 million lump ore. So we studied an alternative of taking the fines down to Vizag and pelletising it as Vizag. It will be carried in slurr of form. We have completed the stduy and it is now under the consideration of a Committee of Government. The only way we can carry it by pipeline would be crushed it down to 300 mesh."

5.53. In a note after evidence, the Department of Mines stated that a Techno-economic feasibility report prepared by M/s Dastur and Company had not yet been received by Government from N.M.D.C. N.M.D.C. was reported to have undertaken a preliminary Techno-economic feasibility for pipe line transportation of pellet feed from Bailadila to Vishakhapatnam base upon Deposits 14,5 and 4. N.M.D.C. had also prepared a technical appraisal regarding the site for a pelletisation plant at Vishakhapatnam A Committee of the Government was considering the integrated proposition of pipeline transportation and installation of pelletisation plant base on Bailadila fines. The Committee had recommended some additional engineering studies which would be necessary for the preparation of a techno-economic feasibility of the integrated mining transportation, stock piling| reclaiming facilities at Vishakhapatnam to develop the pelletisation-cum-pipe line complex. These studies were likely to take about 12 months.

H. Economies of the Scheme

5.54. In a note after evidence, the Department of Mines have stated that a Techno-Economic Feabilibility Report on Pelletisation prepared by M|s Dastur and Company was essentially based upon fines and blue dust from Bailadila-14. They had estimated capital cost of about Rs. 32—34 crores for 2 million tonnes capacity plant based upon various proportions of blue dust and beneficiated fines. Assuming a price of Rs. 21.26 cost of unbeneficiated ore fines and blue dust 28.21 per tonne respectively and selling price of pellets at 26.5 US cents per Fe Unit CIF Japan, the consultants had estimated a loss of Rs. 1.65 crores to Rs. 3 crores per annum for various alternatives based upon plant located at Bailadila. The loss was mainly due to high incidence of inland transportation cost and beneficiation of fines NMDC had done a preliminary feasibility study for transportation of pelet feed to Vishakhapatnam by pipeline transportation with the help of M|s Engineers India Ltd. NMDC was also looking into the possibility of ensuring the required quality of fines by means other than beneficiation. It was anticipated by NMDC that with the possibility of reduction in the transportation cost by pipeline transportation and reduction in cost on account of elimination of beneficiation, pelletisation based upon plant location at Vishakhapatnam would become economically viable. The economics of pelletisation however, will be known after the complete techno-economic feasibility study had been completed.

5.55. With the development of Deposits 14,5 and 4 and exploitation of blue dust at Deposit—14 at the rate of about 2 million tonnes per annum, the total availability of fines in Bailadila area would be about 6—8 million tonnes per annum. To the extent these fines could be consumed by a future Steel Plant at Bailadila itself and to the extent the prices of fines assumed in Dastur's report were realised, the return on fines of NMDC would be about 15 per cent on total investment. It may be mentioned that the assumption regarding the cost of fines was based upon the fines being a co-product with lump and not as by-product.

5.56. The Committee are distressed to find that production in Bailadila even after four years of commissioning of the plant has been below the original target of 4 million tonnes. Further the percentage of lump ore recovered does not exceed 65 per cent as compared to 75 per cent envisaged in the Project Report. The Committee

cannot accept the plea that the DPR did not provide adequately for waste mining and the bench of required length as specified in the DPR could not be developed during construction due to non-availability of electric supply in time. The net result of all these factors has been that not only Bailadila has failed to achieve the targetted production and meet in full the commitments for export but the cost of production has been much higher as compared to the original estimates and even Kiriburu mines, which had been developed earlier for similar exports to Japan. The Committee note that NMDC are now considering a proposal to utilise the fine by pelletisation with and without benefication and stress that the matter should be gone into most carefully having regard to the economies of the project.

5.57. The Committee would like the Management to spare no pains to increase recovery of lump ore and enhance efficiency in production in order to improve the economics of the project.

I. Man Power Utilisation

5.58. The staff strength of the mines as per the Detailed Project Report was 1,000. The Board of Directors in their meeting held in October, 1967 sanctioned the staff strength at 800 on the Kiriburu mines staffing pattern. The Administrative Staff College, Hyderabad conducted a study of the staffing pattern in January, 1968 and suggested a strength of 1,173 employees with a little re-organisation of the mine. The actual strength as on 31st March, 1969 was, however, 1,227. The additional expenditure involved on the entertainment of excess staff works out to Rs. 6.85 lakhs during 1968-69. The table below compares the output per man-shift as given in the Project Report budgeted and the actual output per man-shift during 1968-69 to 1971-72:—

(In tonnes)

Year	Output per manshift		Actual output per man-shift	
	As per project Report	Budgeted during the year		
1968-69	16·50	6·06	4·19	69%
1969-70 . .	16·50	5·00	5·03	
1970-71 .	16·50	5·38	4·71	87%
1971-72	16·50	6·15	5·37	87%

NOTE: Production commenced only in April, 1968 and was established in November 1968.

5.59. The Ministry had stated (May, 1970) as follows:—

"The staff strength sanctioned by the Board of Directors was on provisional basis to meet the production requirements for a period of one year pending firm proposals for the regular staff strength. The study made by the Admn. Staff College "did not take into account adequately the staff requirement of certain departments like Maintenance Department and three shifts working in the loading plant. In the light of the experience gained of the working of the mine since April, 1968 and the phased increase in the level of output so as to reach the rated capacity of 4 million tonnes, the entire organisational set up of the project has been comprehensively reviewed........ the staffing strength has now been fixed at 1546 (as against the existing total strength of 1,691 persons including the daily rated staff), with the approval of the Board of Directors. Action has already been initiated to regularise suitable workers among the daily rated staff against sanctioned posts and to offer Voluntary Retirement Scheme to the remaining staff."

5.60. In this connection, the Corporation in a written reply stated as under:—

"The D.P.R. position of staff strength was on the lower side as regards a number of categories including maintenance plant operation, etc.

The staffing pattern for the Project with a total strength of 800 as approved by the Board of Directors, in October, 1967, was meant for one shift working. The Board sanctioned the strength of 800 provisionally with a note that final recommendation will be presented after studying the operation of the mine in production for period of at least 6 months. In pursuance to the above, the final sanction of 1546 was given by the Board. The recommendation of the Administrative Staff College were also on lower side. These were not accompanied with any justification for recommending the numbers in any category. The very fact that the Staff College recommended 1242 personnel for a two million tonnes mine at Kiriburu and only 1182 personnel for a four million tonne mine at Bailadila, despite the fact that the units at Biladila are spread far apart is sufficient indication of the indequacy in the strength recommended by the staff college.

In Fact, unlike at Kiriburu, the Crushing Plant and Screening Plant are separated at Bailadila 14 mines. The Crushing Plant is situated at the hill-top and the Screening Plant at Kirindul; the road connecting the two stretches over a length of 10 K.Ms. The separation requires extra manpower for operation and maintenance. Furthermore, two stockpiles have been provided in between Crushing and Screening Plant, requiring manning for operation for feeders for drawal of ores. The down hill conveyor also stretches over a length of more than 2.5 k.ms. out of which 1.6 K.M. passes through a tunnel requiring adequate posting of men. The design of the loading plant unlike at Kiriburu with a provision of large stockpile and two tunnels with conveyors within the tunnel and roller gates for drawal of ores, also require a large number of personnel for operation and maintenance.

Furthermore the shunting operation for loading and drawal of empty rakes at Bailadila, unlike at Kiriburu and other mines in India, is under the charge of NMDC. This necessitates operation of 3 locos owned by NMDC round the clock with consequent requirement of loco drivers, shunters, pointsmen, etc. In practice, the Project has to carry outloading operation on all 3 shifts as the empties are supplied by the Railways at any hour.

The above points, are amongst some special features at Bailadila 14 mines necessitating requirement of extra manpower. Moreover, the staff College also did not provide staff for 3 shifts loading. The provision of staff for maintenance in the recommendation of staff college for the number of machineries and the plant that exist at Deposit 14 mine also falls short of actual requirements.

Later on, the sanction of Board was accordingly obtained for 1546 persons on the basis of actual experience gained in operation and most suitable organisation structure for operational efficiency."

5.61. During the evidence the Chairman, National Minerals Development Corporation stated in this connection that in 1971-72, they budgeted for output per man shift of 5.83 tonnes, but because of the lower production, they got only 4.71. Regarding the study made by the Administrative Staff College, the witness said that it was a study by an objective body. It helped to the extent that the Project estimate figures were probably a little lower than necessary. The Staff College people visited the project to make this assessment. The staff strength of 1546 was approved by the Board in April, 1970. Also there were additional 86 people for float ore operations in November, 1970. Against the sanctioned strength of 1632 in Bailadila, the actual strngth was little less now which was 1556. The number of people who had availed of voluntary retirement was four. In Bailadila, the Project was not recruiting any more except where a skilled man was necessary to replace an equally skilled man.

5.62. The Committee note that the Board of Directors in October, 1967 fixed the staff strength of the Bailadila Project at 800 on the Kiriburu mines staffing pattern. Later in January 1968 the Administrative Staff College, Hyderabad conducted a study of the requirements of the staff for the project and suggested a strength of 1173. As this study made by the Staff College "did not take into account adequately the staff requirements of certain departments like the Maintenance Department and three shifts working in the loading plant, the Board of Directors fixed the staff strength at 1546 in the light of experience gained in the working of the mine since April, 1968 and phased increase in the level of output". The Committee, however, note that the present strength of the project is 1691 about 10 per cent in excess of the strength approved by the Board after a comprehensive study.

The Committee regret to note that in spite of the excess staff, the output per-man-shift is less than the budgeted output from 1968-69 to 1971-72 except for one year. The Committee, therefore, recommend that concerted efforts should be made to improve the efficiency and maximise output so that the output per-man-shift may increase consistent with the staff employed.

J. Cost Analysis

5.63. The F.O.R. cost per tonne of lump ore worked out for the years from 1968-69 to 1971-72 was as under:—

Year	Cost per tonne	Percentage of operating of the mine to rated capacity
1968-69	23·76	42·6
1969-70 .	22·07	54
1970-71 .	24·34	55
1971-72	25·10	60

As the production was started in 1968-69 when only 42.6 per cent of the rated capacity was attained, the cost of production thus worked out did not provide the true index for a meaningful comparison with that of Kiriburu or that indicated in the Project Report.

5.64. During evidence, the representative of the N.M.D.C. stated that against the project estimated cost of Rs. 13.62 which was based on 4 million tonnes and operation at 100 per cent efficiency, the cost in Bailadila was Rs. 25.1 during 1971-72. As indicated above their operation was about 60 per cent of the capacity in 1971-72. While comparing the various components of cost as per the project estimates and the actual of 1971-72, the position was:—

	Project estimate	Actual
Direct operation	6·14	12·48
Royalty	2·50	1·93
Depreciation	3·64	7·33
Interest	1·34	3·36
TOTAL	13·62	25·10
Port charges	9·49	9·00
Export duty etc.	1·25	4·25

The export duty was now Rs. 10.5, M.M.T.C. charges a commission of 75 paise and incidentals worked out to Rs. 1.75 making a total of Rs. 82.0 of external cost. The F.O.B.T. cost of Rs. 82.1 against a realisation of Rs. 69.67—exchange realisation.

5.65. Actually the loss to the economy was Rs 12.43 per tonne. If export duty was excluded it came down to Rs. 2:00 and odd. In the same year, the Kiriburu mine was operating at about 58 per cent capacity ore and the estimated cost was Rs. 21.36. The external cost was Rs. 49.5. The total F.O.B.T. cost was about Rs. 7086 but the sale realisation in Kiriburu was only Rs. 56.94 because of the lower grade ore. The export duty paid in this case was Rs. 6.00 because below 63 per cent f.e. export duty was Rs. 6.0. If you exclude that the loss to the economy would be about Rs. 7.80 (i.e. the loss in rupee term). So far as the Bailadila was concerned which was a continuing contract, the price was fixed over the period *i.e.* at $9.73 per tonne. It will be about Rs. 69.00 at the exchange rate of Rs. 7.20 per dollar.

The export price was Rs. 69.67 and $ 9.73 for DLT. On the FOBT basis they would get Rs. 12.00 and odd. But this was only applicable upto the month of April, 1971 when they switched on to F.O.R. basis.

5.66. In a note after evidence, the Department of Mines furnished a comparison of cost of production at Bailadila 14 Deposit in 1971-72 with that in Kiriburu (for the year 1969-70 which was a normal year for that project) and as per DPR of Bailadila Deposit-14 as under:—

	Deposit 14		
	D.P.R. (1964)	1971-72	Kiriburu 1969-70 (normal year)
1. *Output*			
Lump (Million tonnes)	4·0	2·4	1·6
	(Rs. per tonne)		
2. Operating cost	6·14	12·48*	9·66
Royalty & Cess . .	2·50	1·93*	1·52
Depreciation	3·64	7·33*	4·23
Interest	1·34	3·36*	0·34
TOTAL F.O.R.	13·62	25·10*	15·75

NOTE : (A) Variation between 1971-72 cost and DPR (1964) is due to :—

(i) Increase in capital outlay from 15·75 crores to Rs. 29·70 crores resulting in increased depreciation and interest charges.

(ii) Production level being less than 60% in 1971-72 as compared to 100% indicated in DPR (1964).

(iii) Lower lump recovery.

(B) Reasons for variation between Kiriburu and Bailadila costs :—

(i) Interest charges at Kiriburu were lower as Govt. and foreign loans allocated to Kiribru have been repaid almost entirely.

(ii) Depreciation at Kiriburu was lower due to lower capital investment.

(iii) Royalty and cess were lower at Kiriburu due to lower grade of ore.

(iv) Operating cost at Kiriburu was lower because of higher operating capacity.

5.67. During evidence, the Chairman, NMDC informed the Committee the proposal for fixing the price of ore after April, 1971 had been referred to the Government.

*As per local verification by Audit, the figure should be 12.25, 1.86, 7.85, 3.39 and total 25.35 respectively.

5.68. In a note after evidence, the Department of Mines stated that the Committee of Secretaries on Iron Ore Exports, in its meeting held on 4-2-1971 desired that "should there be any points of difference in the context of F.O.R. arrangement for supply of ore by NMDC to MMTC, these should be referred to Secretary, Ministry of Finance (Deptt. of Expenditure) for resolving the matter." There was difference of opinion between NMDC and MMTC in regard to price, which was referred to Secretary (Expenditure). (Yardi's price Rs. 20.50 per DMT NMDC is asking a price Rs. 24.91 per WMT. His recommendation on the price was received in October, 1971. NMDC considered the price to be low and could not, therefore, accept it. They, however, started discussion with MMTC which also did not yield any fruitful results NMDC's claim was based on cost adjusting at 90 per cent of operation. Depreciation was on a straight line basis plus 12 per cent of return of capital. NMDC then referred the matter to Government in March, 1972, which was considered in a meeting in the Ministry of Finance held in July, 1972. In this meeting also no final conclusions were reached. NMDC were still negotiating for a fair price with MMTC, but no final settlement between the two Corporations had yet been reached although some points have been settled in discussion.

5.69. The Committee find that as compared to the project estimate of Rs. 6.14 per tonne for operating cost, the actual cost in Bailadila in 1971-72 was Rs. 12.48 per tonne, an increase of more than 100 per cent. It is pertinent to recall that the operating cost in Kiriburu—an older mine developed earlier for export to Japan—is only Rs. 9.66 per tonne. The Committee therefore are unable to appreciate why Bailadila which was developed later than Kiriburu should have a higher operating cost. In fact, gaining from the experience of Kiriburu, it should have been possible to effect substantial reduction in the operating cost. The Committee would like Government/NMDC to examine the matter in depth and take concerted measures to bring about reduction in the operating cost by improving efficiency and effecting economics in management.

5.70. The Committee would also like that NMDC and MMTC should arrive at an early settlement of the price as this has intimate effect on the financial position of the Corporation.

VI

BAILADILA DEPOSIT NO. 5

A. Decision for development

6.1. Consequent on the decision of the Government of India to divert the Kiriburu iron ore to Bokaro Steel Plant, Government approved the setting up of a mine at Bailadila Deposit No. 5 so that the export commitments from Kiriburu mine could be transferred to the Project when the supplies from Kiriburu Project were switched over to the Bokaro Steel Plant.

Project Report

6.2. Based on the prospecting data furnished by the Indian Bureau of Mines, the Corporation made a feasibility study and prepared a Project Report in October, 1964. It envisaged production of 5.5 m. tonnes of ROM and 4 million tonnes of sized ore (lump)—1 m. ton of fines per annum with a capital outlay of Rs. 20.01 crores which included a foreign exchange component of Rs. 6.46 crores.

6.3. The development of Deposit No. 5 with a capacity of 4 million tonnes as stated above would have resulted in the availability of a total of 8 million tonnes of sized ore for export through the Visakhapatnam Port. The port was, however, not capable of handling 8 million tonnes per annum. It was therefore decided to limit the investment at the Deposit to the first phase production of 2 million tonnes per annum.

6.4. The Project Report was accordingly split up in July, 1966 into two phases *viz.* first phase with a capital outlay of Rs. 15.25 crores (post devaluation) and the second phase for the production of additional 2 million tonnes at a capital outlay of Rs. 23.64 crores (post devaluation).

6.5. In August, 1968 the Corporation examined in detail the profitability of the mine with reference to the proposed phasing. It was found that the mine would remain a losing venture for all times to come but the loss per tonne at 2 milion and 4 million tonnes capacity was estimated at Rs. 10.50 and Rs. 6.80 per tonne respectively after taking into account the export duty of Rs. 10.50 per tonne. Accordingly, in a note to the Government in August, 1968 the Corporation suggested that it may be authorised to develop the plant and mine at deposit No. 5 straightaway to a capacity of 4 million tonnes of sized ore per annum. The capital outlay for the consolidated development of the mine was estimated to be Rs. 38 crores. The Government accepted the suggestion and conveyed its approval on 18th November, 1968.

B. Plant and Machinery

6.6. The Government also desired that the Corporation should place orders immediately with the Heavy Engineering Corporation Limited for all the machinery required on the basis of the belt conveyor transportation system from mine to the railway yard.

6.7. A formal letter of intent alongwith the specifications of various equipment was sent to the Heavy Engineering Corporation Limited on 11/12th March, 1969. An advance payment of Rs. 51 lakhs representing 20 per cent of the cost of the equipment was also made on 24th April, 1969. At that time the Heavy Engineering Corporation Limited confirmed the delivery date of crushers as April, 1972.

C. Consultancy services

6.8. The Corporation also issued a formal letter of intent to M/s National Industrial Development Corporation Limited on 1st November, 1969 appointing them as the Prime Indian Consultants for the Project with M|s. Nittetsu Mining Consultants as National Industrial Development Corporation's foreign consultants. The total amount payable for rendering consultancy services would be Rs. 92 lakhs including a sum of Rs. 19.4 lakhs in foreign currency payable to M/s. Nittetsu Mining Consultants. An advance payment of Rs. 14.52 lakhs representing 20 per cent. of the Rupee portion was also made on 1st November, 1969. It was observed that the Corporation could not make much progress even after a lapse of one year from the date of sanction of the Project and five years since the preparation of the Project Report in October, 1964.

D. Completion of Project

6.9. The original target date for the completion of this project was December, 1973. The trial runs were expected to commence in early, 1974. This was to synchronise with the completion of the outer harbour at Vizag.

E. Establishment Charges

6.10. The Project Report envisaged Rs. 100 lakhs as establishment charges which was 2.63 per cent of the capital expenditure of Rs. 38 crores. The Incidental Expenditure *viz.*, Establishment Charges during construction upto 31st March, 1969 was, however, Rs. 30 lakhs in a total expenditure of Rs. 129 lakhs *viz.* 23.25 per cent.

6.11. Asked as to why no feasibility study was made before asking the Corporation to develop the project, the Chairman NMDC informed the Commitee during evidence that the NMDC made a feasibility study and prepared a Project Report in October, 1964 for Bailadila Deposit No. 5 which envisaged a production of 4 million tonnes of sized ore per annum with a capital outlay of 20·01 crores including a Foreign Exchange component of 6·46 crores. It was then proposed that the ore from No. 5 Deposit would be exported through the Visakhapatnam outer harbour. When the production of ore from Kiriburu being exported through Visakhapatnam was switched over to Bokaro, the total contract-actual commitment for export to Japan was then 6 million tonnes but in view of the geographical situation of Deposit No. 5 the Corporation felt that it would be economical to develop a mine with a capacity of 4 million tonnes of sized ore. It would have given a total production of 8 million tonnes from the two mines in the area and would have matched the capacity of the Vizag Outer Harbour. In 1965 the Transport Ministry appointed consultants for studying the optimum capacity of the Vizag Outer Harbour. The experts suggested certain modifications in the original scheme. They also said that even with modifications, the port would not be able to handle more than 6 million tonnes. In view of the reduced capacity of the port, the Corporation worked back and it was considered desirable to develop No. 5 to produce two million tonnes in the first instance later increasing production to 4 million tonnes. When a decision for a domestic steel plant based on Bailadila ore was taken, the Project Report for the exploitation of Deposit No. 5 was phased into two parts in July, 1966. Considering however the adverse economics of a mine with two million tonnes capacity and a decision to construct a second port outlet (which eventually took the shape of the Vizag Outer Harbour) that would have a capacity to handle 15 million tonnes ore, Government decided that Deposit No. 5 should be developed to raise 4 million tonnes of sized ore, as production in Deposit Nos. 5 and 14 was meant for export.

6.12 The Chairman NMDC added that 4 Million tonnes Mine was certainly more economical than 2 Million tonnes Mine.

6.13. In regard to the change in the decision for the development of the Project and its effect on planning of production. The Department of Mines in a written Reply stated that the Government had taken decision to develop this Project to a capacity of 4 m. tonnes of lump ore after taking into account the development and the associated infra-structure of railway and port facilities and the interest of the Japanese Steel.

6.14. The Ministry informed Audit in May, 1970 that in terms of an agreement concluded with the Japanese Steel Mills for the supply of 61.26 million Dry long tonnes of iron ore over a period of 10 years commencing from April, 1971, a price of $ 10.30 per D.L.T. was to be received in respect of the supply from Vizag Outer Harbour from where iron ore from this Project was to be shipped. On the basis of this price, the Project was expected to incur a loss of Rs. 2.55 per tonne at a production level of 4 million tonnes of lump ore per year.

6.15. The Deptt. of Mines stated that the price of dollar 10·30 per D.L.T for supply from the Vizag Outer Harbour entered into between M.M.T.C. and the Japanese Steel Mills was firm for the outer Harbour for ten years.

6.16. In regard to Plant and Machinery, the Corporation intimated after evidence that equipment to be supplied by Heavy Engineering Corporation Ltd., for Bailadila 5 Project had not been received. Against the original expectation of supplies by middle of 1972, the latest supply position was indicated as July/August, 1973 in respect of reclaimer, wagon loader and stacker. It was also stated that the latest delivery schedules for Primary Gyrator Crushers was May|June 1973 and that for Secondary Crushers February|March, 1973. If the latest schedule be adhered to it would not affect the schedule date of completion of the Project *viz.*, June, 1974.

6.17. As regards consultancy services, the Corporation stated that the work of consultants was proceeding according to the schedule and upto June, 1972, they had been paid a sum of Rs. 54.07 lakhs based on the quantum of work done.

6.18. When asked whether time schedule for completion of the project would be adhered to considering the physical progress so far made, Corporation stated in a note after evidence that most of the works were by and large as per schedule except the tunnel where the project was behind schedule. The work for the tunnel was awarded to M|s. National Project Contn. Corporation Ltd., in December, 1969 with a completion schedule of 36 months. There had been considerable delay in the tunnel construction. Against a target of 1500 meters by end of August, 1972, M|s. N.P.C.C. had done only 775 meters till 25-8-72. The matter had been taken up at Government level so that M|s. N.P.C.C. improve their performance.

6.19. The Corporation further stated that "the main power lines have already been erected. Bench preparation work is satisfactory. 90 per cent of the main road from Bacheli to Deposit No. 5 Hill Top has already been completed. 50 per cent of the excavation work at the Crusher site and Screening site has already been completed. 90 per cent of the residential buildings have been completed. The physical progress on the rest of the activities is as per schedule. The date of completion of Bailadila Deposit-5 is likely to be June, 1974 subject to:—

(a) NPCC completing tunnel.

(b) MAMC delivering Apron feeders|related drawings etc. as per schedule now agreed.

(c) Conveyor Part II order cleared immediately by Government as per Board's recommendation.

(d) Conveyor Part III and other major equipment deliveries from HEC|MAMC and other suppliers materialising as per contract.

It was also stated that the Vizag. Outer Harbour Project is on schedule".

6.20. According to the indication given by the Ministry of Shipping and Transport, the Vizag Outer Harbour was likely to be completed by May, 1974.

6.21. In this connection it has also been stated in para 25(p. 9) of the Fourteenth Annual Report of NMDC that driving of a tunnel through which the convey our system would pass was on the critical path. In the intial stages, there was delay by M|s. NPCC to whom the contract for driving the tunnel was awarded. As a result of intervention by the Government, they gathered some momentum after obtaining, in the beginning of 1971-72, the additional equipment required. Since the end of April, 1972, there had, however, been practically no advance on the inlet face where highly sheered and flowing strata had been encountered. Further geological studies were in hand to assess the extent of this sheer zone. If the tunnel was completed by March, 1974, the project could be commission during September|October, 1974.

6.22. It is seen that till March, 31, 1972, the cumulative expenditure on Establishment was *Rs. 85.49 lakhs and the percentage of "Establishment Expenses" worked out to 7.89 per cent of the progressive expenditure on the project up to 31st March, 1972.

6.23. When asked about the reasons for the high incidence of Establishment charges, the Corporation stated in the early stage of a Project, an adequate organisation has to be built up for its proper implementation. The progress of expenditure on "Plant and Machinery" and "Civil Works", the major components of a Project cost estimates was, however, comparatively slow in the early stages. Hence, at these stages the percentage of expenditure on "Establishment" was high in relation to the total progressive expenditure on the Project. With the progress of work on a Project (and consequently the expenditure), the percentage of progressive under "Establishment Charges" in relation to the progressive expenditure on the Project tends to come down. (incidentally at Kiriburu and Bailadila Deposit No. 14, the percentage of esablishment charges works out to 5 per cent of the final project cost).

6.24. The corporation has since prepared the revised cost estimate of Bailadila (Deposit No. 5) Project at Rs. 48.69 crores (net) which includes a provision of Rs. 200 lakhs under "Establishment Expenses". This works out to Rs. 4.1 per cent of the revised cost estimate.

The main reasons for increase in the estimate under "Establishment Expenses" included in the revised cost estimate are:—

(i) Revision of wage structure of employees with effect from April 1, 1970; and

(ii) extension in the time-schedule for the completion of the Project by about six months.

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*As per local verification by Audit this figure is exclusive of expenditure on work charge establishment.

6·25 Against the budget grant of Rs. 650 lakhs for 1971-72 actual expenditure incurred upto the end of March, 1972 was Rs. 510·00 lakhs (provisional) as detailed given below:—

Sl. No.	Main components of project	Original Estimate	Revised in lakhs of Rupees	Expenditure upto March 1971	For the year 1971-72 upto 31-3-1972	Total Expenditure till March, 1972 (Provisional)
1	2	3	4	5	6	7
1	Land compensation	3·00	9·00			
2	Preliminary expenses, survey and feasibility on transportation of ore from mine to crushing/screening leading plant and detailed prospecting. Payment to IBM/GSI on account of exploration and prospecting work on the deposits. Preparation of Mining benches etc.	114·50	165·50	53·40	..	53·40
3	Plant and equipment	1962·00	2321·52	245·66	244·31	589·97
4	Civil and Structural work	890·43	1311·88	148·69	200·20	348·89
5	Railway Siding	45·00	120·00	14·11	1·00	15·11
6	Establishment expenses	100·00	200·00	46·85	38·55	85·40
7	Initial Spares	188·00	250·00	13·20	20·00	33·20
8	Interest during construction	243·00	141·00	13·73	5·94	19·67
9	Head Office	25·00	50·00	6·00	..	6·00
10	Contingency	107·74	140·07	..	..	..
11	Others	..	115·00 145·00	30·16	..	30·16
	TOTAL	3678·68	4968·97	571·80	510·00	1081·80
	Less Credit	26·00	55·00	..	..	..
	TOTAL	3652·68	4913·97	571·80	510·00	1081·00

(1) Duding 1972-73 upto 31-8-72 approximate expenditure incurred on this Project was Rs, 338 lakhs, Thus total accumulated expenditure upto 31-8-72 was Rs, 1420 lakhs, (approxi mately),

(2) Another Rs, 700|- lakhs had been committed towards purchase of plant and equipment by August, 1972. Expenditure of Rs. 177 lakhs was expected to be booked shortly for Convey Part II. Rs. 50. lakhs had been committed for steel purchase. Hence the committed expenditure by end of September, would be over Rs. 2347 lakhs.

F. Project Estimates

6.26. The Corporation stated in a written note that an estimate for Rs. 38.25 crores for the Project was prepared by the Corporation in August, 1969 and this was sanctioned by the Government on 14-4-1970 for Rs. 35.53 crores. Reductions were under the following heads:—

Head	Reduction (Rs. in crores)
1. Plant and Equipment	0·48
2. Civil and Structural Work	0·45
3. Spare parts	0·49
4. Contingenies	0·04
	1·46

6.27. In addition, Government took a credit of Rs. 0.26 crores in the Capital Estimate on account of the value of ore to be won during the period of construction, bringing the net capital estimate to Rs. 36.53 crores.

Due mainly to escalation in prices since August, 1969 when the estimate of Rs. 38 crores was prepared, the approved cost estimate was expected to go up substantially.

6.28. The Management informed in a written reply after evidence that the cost estimates of Bailadila No. 5 sanctioned for Rs. 36.53 crores was revised for the first time in August, 1972 for a net capital investment of Rs. 48.69 crores taking note of the actual expenditure incurred, commitments made, the trend of prices and changes in the actual quantum of certain items of works on the basis of experience gained.

6.29. Explaining the reasons for the increase over the original estimates, the Chairman, NMDC informed the Committee during evidence that against the original provision of 12 dozers, they had now provided for 14 dozers as they expected problems similar to Bailadila 14 and also against the sanctioned provision of 18 dumpers, a provision of 24 dumpers had been made in the revised estimates. The revised Project Estimates had been approved by the Board of Directors on August 19, 1972 and were being submitted to the Government. The sanctioned estimates, revised estimates and the reasons for variations are given in the statement apprendix II.

6.30. The Department of Mines however stated in a written reply in November, 1972 that the revised estimates were awaited by the Government.

6.31. The Committee note that a decision was taken to execute the Bailadila Deposit No. 5 in two phases, the first phase with production of 2 million tonnes and the second phase of 4 million tonnes, to match the handling capacity of Vizag. Port. Thereafter, with the scheme for expansion of the Vizag. Harbour, it was decided that it would be economical to develop a mine with a capacity of 4 million tonnes of sized ore. The Project feasibility report was examined in August, 1968 and it was found that mine would remain a losing venture for all time to come, and that the project would be losing at the rate of Rs. 2.55 per tonne, on the basis of the price to be received in respect of the supplies from Vizag Outer Harbour and that the price for the supply to the Japanese Steel Mills was firm for 10 years. The Committee were informed that the revised decision was taken after taking into account the development and the associated infra-sructure of railway and port facilities and the interest of the Japanese Steel Mills.

6.32. The Committee are at a loss to understand as to how an investment decision on a Project with a capital outlay of more than Rs. 38 crores had been taken even with the full knowledge of the fact that it would be a losing venture for all times.

The Committee would like that Government should carefully analyse the various components of cost and take concerted measures to ensure that the cost of production and transport charges do not exceed the sale price which is fixed with reference to the international conditions. In fact with experience and large production, it should be possible for the Corporation to reduce the cost of production and increase the margin of profit so that it may act as an

incentive for developing more mining areas, stepping up the exports and winning more foreign exchange.

6.33. The Committee note that the revised estimates submitted to Government is in excess of original estimates by about 33 per cent and the excesses are mainly under Plant and Machinery, Civil and structural work. Establishment expenses, consultancy charges, and provision for future escalation. The Committee desire that Government should carefully go into to the reasons for the excesses before the revised estimates are approved as any undue excess in the project cost is bound to affect adversly the financial viability of the project.

6.34. The Committee note that the original target date for completion of project was December, 1973 and the trial runs were to commence in early 1974 to synchronise with the completion of Vizag. Outer Harbour. While the Committee were informed that the Outer Harbour at Vizag. is likely to be completed by May, 1974, the Committee regret to note the delay in the completion of the Bailadila No. 5 Project. According to the present indication, the project is likely to be commissioned towards the end of 1974 only. The Committee were informed that even this target is subject to completion of the tunnel work entrusted to NPCC by March, 1974 and delivery schedule of plant and machinery by the Heavy Engineering Corporation Ltd. and MAMC on whom orders were placed even as early as March, 1969 being adhered to. The Committee were also informed that HEC would be able to complete the supply only in July|August. 1973.

The Committee view with concern that even the present anticipation for completion of the Bailadila No. 5 Project cannot be adhered to unless the sister public undertakings are geared up to fulfil their contractual obligations to NMDC and adhere to their time schedules as otherwise the facilities provided by Vizag. Outer Harbour would perhaps remain un-utilised.

6.35. The Committee need hardly stress that Government/Public Undertakings should realise that once a contractual commitment is made with a foreign party, Government should ensure through concerted measures that the commitments are honoured so as to generate and sustain the confidence with the foreign parties. The Committee would also like Government/Corporation that, with their experience of mining in the other projects, they should use the latest technology and equipments so as to achieve production at an economic cost so that the prices may be competitive.

G. Inadequate Planning for construction of a road expenditure of about Rs. 1.45 lakhs

6.36. The Bailadila Project commenced the construction of a road for connecting the Deposit No. 14 and Deposit No. 5. The capital cost of this road was estimated at Rs. 30 lakhs in November, 1967, which included Rs. 20 lakhs on account of the excavation for preparation of the road formation. Under the Articles of Association of the Company all capital works costing more than Rs. 25 lakhs require sanction of the Board and Government of India. The Project, however, called for the tenders for the construction of the Road in March, 1968, even though the Head Office desired that the estimates should be got approved from them as also the Government.

6.37. It was at this stage that the entire question of the desirability of constructing the road was re-examined and it was concluded that the construction of the road was not economical. Instead the construction of a road between Bacheli and Deposit No. 5 was found to be of better functional utility and the road between Deposit No. 14 and Deposit No. 5 was abandoned. By this time, the Project had already spent Rs. 1.45 lakhs towards cost of labour and machinery employed for the excavation job and construction of the road from booth ends i.e., 600 metres from Deposit No. 14 and 4.5 K. metres from Deposit No. 5.

6.38. The Ministry stated (May, 1970) as follows:—

"The operation of the road from the end of Deposit No. 14 would be made use of for transport of material for H.T. line. The road up to Galli Nallah (4.5 Kms.) from the end of Deposit No. 5 is a multipurpose road and serves the fowing purposes:—

(a) connecting the Project Service Centre area;

(b) as an approach road to the magazine building;

(c) as an approach road to the operation township area;

(d) ultimately leads to the Galli Nallah pump site, it would be required for central water supply scheme for the Project".

6.39. It is observed by the Audit that "for the transportation of materials for H.T. Line, this type of road is not necessary".

6.40. In this connection the Management stated that the aforesaid road was planned and taken up in 1968 and at the same time the papers were submitted by the Project to Head Office for approval as works in excess of Rs. 25.00 lakhs require sanction of Board and Government of India. However, preparatory work was undertaken departmentally and 0.6 Km Road from Deposit No. 14 and 4.5 K.M. from Deposit No. 5 was departmentally prepared to make it jeepable. No. further action to make it a *pucca* road was taken. In the meantime, the entire issue was re-examined in March, 1969 and it was concluded that a permanent road from Bacheli to Deposit 5 would be of better functional utility and economical. Therefore, the idea to make the road between Deposit-5 and Deposit-14 through Galli Nallah was dropped. However, it may be stated that construction of a Katcha road upto Galli Nallah from Deposit-5 and from Deposit-14 to Galli Nallah was already under construction and was found necessary even in 1968 for the purpose of the construction of High Tension Line which passes through Galli Nallah as the power has been drawn from Deposit No. 14 Hilltop. The entire H.T. Line alignment passes through deep jungle, Ghats and valleys and it was simply not possible to construct a H.T. Line of this magnitude without providing at least a jeepable road along the alignment. The alignment passes near the road which was already constructed and to make use of this road the alignments were also slightly amended. But for the road which was constructed in 1968 the construction of H.T. Line would have been delayed considerably as it would have been necessary to provide a road. In any case service roads to take care of the breakdowns of this line was necessary. In addition to that the road constructed in 1968 was used for the H.T. Line, the following purposes are also being served by the same road:—

(i) It connects the Project Service Centre Area and also Crushing Plant site.

(ii) This road also passes through the Transfer House at Down Hill Belt Conveyer where a road is necessary.

(iii) This road will also serve as an approach road to the Operational Township area.

(iv) At Galli Nallah we are tapping water for our Crushing Plant and for our other water supply schemes and in any case a road upto Galli Nallah is required. The road which has already been constructed is being made use of the same purpose.

It is not correct to say that this type of road is not required for transportation of H.T. Line material. The road which has been constructed is a purely kutcha Jeepable and Truckable road. The road has already been made use of for much more value than the Project had incurred on this Kachha road, and has proved very handy in the survey of Galli Nallah for Pump site and in the construction of H.T. Line, as stated above."

6.41. In this connection it may be stated that the Financial Controller of the Corporation in his D.O. letter No. IOD-13(1)/68-Bail(5) dated 27th August, 1968 addressed to General Manager of the Project *inter-alia* stated as follows:—

"....I advised as follows in my letter to you No. 68F/P&S/Dep-5 dated 2nd March, 1968. "Before tender papers can be checked, it is necessary to have the estimate on the basis of which these tender papers have been prepared. Will you kindly send me the detailed estimate for this work as vetted by your Financial Adviser.

In the meantime general conditions and terms forming part of the tender papers are being examined in consultation with the legal adviser.

Nevertheless, tenders were called for by the Project on 11th March, 1968 without taking into consideration the views of the Head Office and without getting the estimates sanctioned."

6.42. In a note after evidence the Corporation have intimated the facts of the case as under:—

"The work of construction of the road was not started without preparing estimates. An estimates for Rs. 29,61,300 prepared in August, 1967 and duly concurred in by the Project Financial Adviser [subject to (a) excess over budget provision of Rs. 9.77 lakhs being included in the revised estimates; and (b) obtaining administrative approval] in October, 1967, was sent to Head Office along with draft NIT. The same was examined by the Chief Engineer (Fin.) in December, 1967 and the approved estimate, with changes and draft NIT (Notice Inviting Tenders) were sent back to the G.M. under H.O. letter No. 100-1 3(1)|68-Bld-5 dated 12th January, 1968. The Project treated it as appoved by Head Office.

The G.M. received a letter from the F.C. No. 68F/P-Bld. 5 dated 2nd March, 1968 asking the basis for preparation of the estimate for this road. He recorded on this letter that the papers regarding the road has already been received from H.O. duly vetted long ago and perhaps the F.C. had indicated the tunnel and crushing and screening plant papers. The F.A. also recorded that NIT for the road has been vetted in December, 1967 and submitted to the Head Office and that this had since been received in Finance on 27th February, 1968. Therefore, the project presumed it had H.O. approval, NIT was issued to press indicating the suggestions of C.E. (Plg.) which *inter alia* reduced the estimate from Rs. 29.61 lakhs to Rs. 22.66 lakhs"

6.43. In the meantime a Kachha Road was required upto Galli Nallah for carrying out survey and other works and this was, therefore done departmentally. As already stated this road also ultimately proved to be very useful for installation of HT lines and also as an approach road from Galli Nallah site to the new Township.

6.44. With the joining of the new Chief Engineer in 1968 the entire estimate for the road was re-examined and the proposal was dropped. Some work, however, had been done departmentally keeping in view future requirements. As this road ultimately proved very useful and as the procedure of preparing estimate before floating NIT had been duly adopted, the matter was not pursued further.

6.45. In a note after evidence, the Deptt. of Mines stated that the estimates were prepared by the Project for Rs. 29,61,300 and submitted to Head Office of NMDC on 26th August, 1967. This had the concurrence of the then Financial Adviser of the Project. His concurrence was subject to:—

(a) Excess in the estimate over original provision of Rs. 9.77 lakhs to be provided in the revised estimates with suitable explanation; and

(b) Separate administrative approval being obtained.

The estimate was sent to the Head Office along with a draft notice inviting tenders and these were examined by the then Chief (Planning). The estimates, with certain modifications, and draft Notices for Invitation of Tenders was sent back b ythe Head Office of NMDC to General Manager, Bailadila. The Project treated this as administrative approval of the Head Office. Notice for Invitation of Tenders was issued in the Press after incorporating certain suggestions made by Chief (Planning) which *inter-alia* required reduction in quantities, thus bringing down the total estimated cost from Rs. 29,61,300 to 22,66,050. The Notice for Invitation of Tenders was issued after perusal by the Financial Adviser of the Project.

After detailed surveys for location of screening Plant Railway siding, etc. and a township at Bacheli, as also the desirability of treating Deposit-5 as a separate project, in view of its size and magnitude (rated capacity 4 million tonnes of sized lump ore per annum), it was decided by N.M.D.C. to drop the construction of the above road, as it would have served no useful purpose in the changed circumstances.

Expenditure actually incurred was not specifically in connection with the proposed permanent road. In the meantime, a Kuchha Road was required upto Galli Nullah for carrying out detailed Survey for dam and laying of H.T. line. Preparatory work was, therefore, started by the Project authorities departmentally and the Kuchha road was built upto Galli Nullah.

In view of the above the proposal to construct the road was ultimately dropped, and the question of any approval of the work by the Board or by the Government did not arise.

The Kachha road constructed was, as explained above, required in any case and hence its construction cannot be considered as irregular.

6.46. The Committee regret to note that the work of construction of jeepable road as part of the road from Bailadila deposit No. 5 to deposit No. 14 through Galli Nallaha was undertaken departmentally and tenders were invited in March, 1968 even without a sanctioned estimate for the work inspite of instructions from the Head Office that the estimate should be got approved from them as also from Government. The issue was re-examined in March, 1969 and it was concluded that a permanent road from Bacheli to deposit No. 5 would be of better functional utility and economical and therefore the idea to make the road from Bailadila No. 5 to Bailadila No. 14 was abandoned after already incurring an expenditure of Rs. 1.45 lakhs. Although the Corporation had sought to justify their action stating that but for this road, construction of HT line would be delayed and the road serves useful purposes, the Committee are not convinced as to why the General Manager of the Project should not have followed the prescribed procedure of taking prior sanction of estimates before incurring any expenditure on the road. The Committee feel that the

explanation of the General Manager that he treated the letter communicating the approval of the draft NIT in January, 1968 as approval to the estimates, would seem to be an after thought. It is surprising that even after the headquarters had asked (in March, 1968) the General Manager, the basis of preparation of the estimate, the General Manager persisted in saying that the headquarters has already vetted the papers long ago.

From a note received from the Ministry, the Committee note that it was decided by the NMDC to drop the construction of the above road as it would have served no useful purpose in the changed circumstances of the project and a Kutcha Road was required upto Galli Nullah for carrying out detailed Survey for dam and laying of H.T. line. Therefore, the question of any approval of the work by the Board or the Government did not arise. As the Kutcha Road was required in any case, its construction cannot be considered as irregular.

The Committee are not satisfied with the justification for the road as given by Undertaking/Ministry and feel convinced that had adequate care and caution been exercised in planning, the expenditure of Rs. 1·45 lakhs incurred on the road could have been avoided.

VII

PANNA DIAMOND MINING PROJECT

A. Objectives

7.1. Towards the middle of 1955 the Government of India had set up a Committee to investigate into the problems of the Diamond Mining Industry in the former state of Vindhya Pradesh of which Panna formed a part. The Committee recommended that the Diamond Mining Industry should be taken over by Government and given a high priority in the Second Five Year Plan. Accordingly, Government decided in December, 1959 to hand over the Panna Diamond Mining Project to the National Mineral Development Corporation Ltd. for development, with a tentative target production of 90,000 carats of diamonds per annum during the Third Five Year Plan. The existing Panna Diamond Mining Project comprises two main mines viz. Majhgawan and Ramkheria.

B. Project Reports and Revision thereof

(i) Original Project Report

7.2. The then Chief Engineer of Panna Diamond Project carried out prospecting and detailed exploratory work in this area till March, 1961 and on the basis of the data collected, the NMDC prepared in April, 1961 two Project Reports for Ramkheria and Majhgawan Mines envisaging an annual production of 65,000 carats of diamonds (Ramkheria 12,500 carats and Majhgawan-52 500 carats) at a total capital cost of Rs. 166 lakhs with a foreign exchange component of Rs. 56·9 lakhs. These reports were approved by Government in November, 1961 and February, 1962 respectively.

(ii) Consultancy Service

7.3. In February, 1962, the Corporation appointed M|s. John Taylor and Sons, London for a period of 3 years to act as consulting Geologists and Engineers and to assist on all aspects connected with the programmes of explorations and prospecting and the establishment of the two mines. As the Consultants expressed the view that the quantum of prospecting and exploratory work done was not adequate, a re-appraisal of the capital cost and economics of the two projects was done in consultation with the consultants and the Indian Bureau of Mines, and the following decisions were taken:—

(i) Further exploratory work should be undertaken immediately and completed in two years at an estimated cost of Rs. 10 lakhs to ascertain the potentialities of the deposits at Ramkheria.

(ii) The mine at Majhgawan should be developed in stages instead of developing it straightaway on the scale envisaged in the original Project Report and potentialities of the Project should be ascertained through underground explorations at an estimated cost of Rs. 15 lakhs. Meanwhile, on the basis of sampling already done, the open cast mine should be exploited on a small scale of 750 tonnes of tuff per day (*i.e.* 22,500 carats per annum).

7.4. In view of the above decisions, the two Projects sanctioned by Government in November, 1961 and February 1962 thus become inoperative and the expenditure of Rs. 9.06 lakhs incurred on the preparation of the two project Reports was rendered infructuous.

(iii) *Revised Project Report*

7.5. On the basis of the further exploratory work done, the consultants submitted in October, 1965 and November, 1965 the Revised Project Reports for the two mines. However, for reasons of economy, Government decided in September, 1966 to defer the two projects and asked the Corporation to examine the financial implications of putting them on purely "care and maintenance" basis. Accordingly, the Corporation prepared two interim schemes which were also not considered practicable and economical by Government who asked the Corporation in March, 1967 to revive the two Projects.

7.6. In June, 1967 the Corporation submitted the revised schemes for the two Projects envisaging an annual production of 23,250 carats of diamonds (Ramkheria-11,250 carats and Majhgawan-12,000 carats) at a capital cost of 173 lakhs (net) (Ramkheria Rs. 68 lakhs and Majhgawan—Rs. 105 lakhs) excluding Rs. 15 lakhs already sanctioned for further exploration work of Majhgawan. The schemes were approved by Government in December, 1967. The actual expenditure incurred on the two Projects up to 31st March, 1969 amounted to Rs. 210·77 lakhs.

7.7. It will be seen that the projects sanctioned in 1961-62 on the basis of inadequate prospecting and exploratory data were completely revised in 1965 were deferred in September, 1966 and were again re-reviewed in December, 1967. The frequent revision of Government decisions for the development of these projects was already commented upon by the Committee on public Undertakings in para 180 of their 11th Report (4th Lok Sabha- April, 1968). The observations of the Committee were noted by Government (January, 1969) and the Committee decided not to pursue their recommendations.

C. Project Report for Expansion of Majhgawan Mine

7.8. It is seen from the annual report of the Corporation for 1969-70 that a feasibility study for the expansion of diamond production from the Majhgawan Mine from 12,000 carats per year to 45,000 carats at an additional cost of Rs. 1.50 crores prepared by the Corporation was accepted by Government in principle. The Corporation was authorised to prepare a Detailed Project Reports also.

7.9. The Corporation had accordingly prepared a D.P.R. for the expansion of the Majhgawan Mine from the existing capacity of 12,000 carats of diamonds to 43,200 carats per annum. The D.P.R. was approved by the Board of Directors and was submitted to Government on 22nd May, 1972 for sanction.

7.10. As regards the broad features of the project, the Chairman N.M.D.C. informed the Committee during evidence that the Project Report envisaged about 5 million tonnes reserves in the area and the incidence would be 12 carats per hundred tonnes. The idea was to increase the capacity of the project from 12,000 carats per year to 43,200 carats. The mine would have a life of 15 years and the cost would be Rs. 2½ crores. The projects was yet to be approved by Government.

7.11. After evidence, the Department of Mines stated in a written reply that the Detailed Project Report on Majhgawan Expansion was under technical examination in the Ministry in consultation with the concerned Ministries.

The broad features of the Expansion Project were stated to be as follows:—

(i) Reserves (available for exploration) . . 5·4 m tonnes.

(ii)	Incidence of diamonds	12 carats per 100 tonnes upto 27·5 metres. 10 carats per 100 tonnes from 27·5 to 40 metres.
(iii)	Annual production	43,200 carats
(iv)	Percentage of diamonds, gems, off colour and industrial diamonds.	32%, 45% and 23%
(v)	Life of the mine	15 years
(vi)	Foreign Exchange	Rs. 2·50 lakhs
(vii)	Capital cost	Rs. 252 lakhs
(viii)	Assumed sale price	Rs. 270·00 per carat (gross)
		Rs. 229·00 per carat (net).
(ix)	Average estimated production cost.	Rs. 194·00 per carat.
(x)	Return on capital investment (Average) (before Taxation)	4·11%

While the return on capital investment was 4.11 per cent on the average, it was stated that the Project was sensitive to variations in incidence and sales realisation from time to time.

D. Production Performance

7.12. The following table gives the targets an actual production of diamonds from the two mines during 1968-69 to 1971-72:—

Figures in Carats

Year	Targets		Actual Production	Shortfall (in percentage) (Col. 4 to 2)
	Original	Revised		
1	2	3	4	5
1968-69	16,600	9,000	7,445	44·8
1969-70 . . .	23,500	14,000	15,472	34·16
1970-71 . .	23,250	20,000	19,030	18·15
1971-72 . . .	23,250	19,000	19,722	14·10

7.13. The shortfall in production in 1968-69 had been attributed to non-materialisation of certain facilities, such as the provision of dragline at Ramkheria mines and shovels at Majhgawan mines.

7.14. Break up Mine-wise of the targets and actual production during the years 1969-70 to 1971-72 is given below:—

(Figures in Carats)

	Original targets.	Revised targets	Actual	Shortfall (in % Col. 4 to 2)
Majhgawan				
1969-70	12000	12000	11617	
1970-71	12000	12000	15814	
1971-72 . .	15000	15000	15643	
Ramkheria				
1969-70 . . .	11000	2000	3855	
1970-71	11500	8000	3218	
1971-72	11250	4200	4079	

7.15. Giving the reasons of the losses suffered by the Project the Chairman, N.M.D.C. said during evidence:—

"Because in one of the Mines (Ramkheria) where the target is 11,000 but our annual production is 4,000. So, the incidence is completely contrary to the anticipation. The only way of saving is to close down, the Ramkheria operation where there is no life left and enlarge the Majhgawan mine. If we close down Ramkheria and if we expand Majhgawan it would not make an adequate return on capital, but it would make 4.5 per cent."

7.16. During evidence the Secretary (Mines) informed the Committee that:—

"of the two mines, Majhgawan has turned out to be better than what was expected of it. The target was 12,000 carats, it gave 15,800 carats in 1970-71 and 15,700 in 1971-72. Unfortunately, Ramkheria's performance has been much worse. The result is the one deposit counterbalances the poor performance of the other to some extent. Its working is poor. NMDC proposes that it should be closed and Majhgawan should be expanded.. The investigations show that Majhgawan can be expanded very substantially to 43,000 carats, but there are a number of other implications in closing Ramkheria mine. Majhgawan expansion project report has just come in and we are examining it. At the moment, taking the two units together, the Panna Diamond Project has been losing. In 1970-71, there was a loss of 22 lakhs. In 1971-72, the provisional estimate of loss is 28.75 lakhs. When this expansion programme at Majhgawan is completed, the project will cease to lose. The total investment at Majhgawan is 105 lakhs and at Ramkheria Rs. 68 lakhs, total is 173 lakhs."

7.17. When asked about the reasons for the shortfall and the remedial measures taken to overcome them, the Corporation stated that while Majagawan had exceeded the rated capacity and had maintained its annual targets, the performance of Ramkheria *vis-a-vis* rated capacity had been low. The principal factors responsible for the discrepancy between the rated capacity and annual production at Ramkheria were as follows:—

(i) Against anticipated incidence of 23 carats per 100 cu. metre, the actual average realisation has been 13 carats only;

(ii) the poor performance of the over-burden removal equipment, continued unsatisfactory after sales service of draglines by Hindustan motors and aging of scrappers;

(iii) the poor performance of the processing plant fabricated at site.

7.18. Besides the poor economics of present operation at Ramkheria its continuous operation was being further affected by inadequate reserves and continued lower incidence in the area leased out to NMDC. The reserves portion of the area under occupation was as below:—

Block I (West)	1000 carats
(average incidence)	0.13 carats M^3
Block II	5000 carats
Average incidence	0.18 carats M^3

The targetted capacity, as far as Ramkheria mine was concerned was unlikely to be reached.

7.19. In a note after evidence the Department of Mines stated that the Government was awaiting the recommendations of the NMDC regarding the future level of operation at the Ramkheria Mine and its economics, and a decision would be taken after the Corporation's recommendations had been received and examined. The actual expenditure incurred upto 31st March, 1972 was Rs. 65.85 lakhs.

7.20. The Committee note that the actual production of diamonds from the two mines viz. Ramkheria and Majhgawan fell short of the original targets during the period from 1968-69 to 1971-72. Although the overall percentage of shortfall of production in the two Projects together showed a declining trend from 44.8 per cent in 1968-69 to 14. 10 per cent in 1971-72, the actual performance in Majhagwan exceeded the targets and the performance of the Ramkheria mines fell very much below the tagets. As admitted by the representative of Department of Mines during evidence, "the result is one deposit counter-balances the poor performance of the other. NDMC proposes that it should be closed down and Majhgawan expanded."

7.21. The Committee regret to find that though the Ramkheria mine was taken up for exploitation on the basis of further prospecting and exploratory works done in consultation with the Foreign Consultants and the IBM it could not attain the targetted capacity, and the performance is only about one-fourth of the target. The Committee, therefore, feel that even the further exploratory and prospective works were not done with the necessary care and caution with the result that the project is losing heavily. The Committee are not impressed with the statement of the Ministry that "one deposit counter-balances the other". The Committee take a serious view of the undue haste with which the mine was taken up for exploitation without a thorough and careful techno-economic study of the project resulting in an infructuous expenditure.

The Committee strongly recommend that the entire matter should be thoroughly investigated by the Government as to the quantum of the loss and the responsibility for such costly lapses be also fixed.

E. Imports of Diamonds

(i) *Policy objective*

7.22. From the annual report of the Corporation for 1969-70 it was noticed that at the instance of Government, the Corporation started importing rough diamonds from Ghana, German Democratic Republic and Brazil for supply and trade to certain imports of precious stones were also made from Burma.

7.23. The Department of Mines in a note after evidence, stated that the object of importing rough diamonds from abroad was to counter, to the extent possible, the squeeze by foreign monopolistic suppliers on the Indian Trade, and to provide at least small quantities of rough diamonds to the Indian cutting and polishing trade at reasonable prices.

7.24. During evidence, the Chairman, NMDC stated that the policy objective of Government in asking the NMDC to go into importing diamonds was that the Corporation should secure the primary source in addition to the normal source.

7.25. During evidence, the Secretary, Department of Mines, added that "the considerations that weighed with the Government were these—the idea was that the trade was completely in the hands of the merchants. All sorts of malpractices were going on. Government had an idea of it and the only agency with some expertise in handling diamonds being the NMDC. Government in October, 1970 nominated NMDC as a canalising agency for rough diamonds to the extent of 10 per cent of import replenishment. At least 90 per cent of this total import was done by private merchants. Their major job was to get them cut and polished and then re-export. The 10 per cent canalising has been increased to 20 per cent with effect from 1st April, 1972."

7.26. The Chairman, NMDC further informed the Committee that, "my predecessor went abroad to explore the possibilities of getting diamonds from either Ghana or Congo. He visited both countries. He failed in Congo but in Ghana we were able to make some arrangements. Actually there is a Corollary to this: The number of Indian sight holders increased because we visited the primary source. We continued to import rough diamonds. But we were importing diamonds worth less than Rs. 10 lakhs. Ghana was then one big seller. We also brought diamonds worth Rs. 16 lakhs from Germany. Actually, they bought it from the primary source and then gave it to us. They only purchase from the primary source was in 1970 from Ghana. Actually we bought 203 thousand carats at Rs. 78 lakhs. We bought very little quantity of Emaralds from Brazil."

7.27. Asked whether the objectives in entrusting the work to NMDC was realised, the NMDC stated that at the time of NMDC's negotiations with Ghana, there were hardy 4 or 5 Indian merchants to whom the Diamond Trading Corporation London was giving diamond sights. Immediately following the completion of the memorandum of understanding with Ghana, the Diamond Trading Corporation raised the number of Indian sights to 13, in order to counter any move by India to turn more to the primary sources of supply than to the Diamond Trading Corporation.

7.28. The Committee wanted to know why the imports were made from Ghana and German Democratic Republic only. The Corporation stated that the only sources outside the control of the Diamond Trading Corporation which were prepared to deal India were Ghana and GDR. (The import from Brazil was of emeralds and other precious and semiprecious stones, and not diamonds). In Ghana, the purchases were made on the basis of a tender in accordance with their rules and regulations. An import licence of Rs. 80 lakhs was issued to the NMDC for purchasing the rough diamonds from Ghana. Out of this 77.41 lakhs was utilised in purchasing and importing 2,03,401.50 carats of rough diamonds consisting partly of gems and partly of industrials, at the average rate of Sh. 42 per carat. In the case of GDR, the diamonds were selected by representatives of the merchants themselves and the prices were negotiated by NMDC. The first import was made from GDR in 1969 and middle of 1970 for about 5 lakhs. The prices compared favourably with the international prices then in force.

7.29. In this connection, the Department of Mines stated that in order to test the capacity of NMDC to participate in the sale of rough diamonds in Ghana effectively, the Diamonds Marketing Corporation invited NMDC to participate in a special sale organised in Accra in August, 1970. At the instance of the Ministry of Foreign Trade, NMDC participated by sending a purchase delegation. Before proceeding to Accra, the delegation acquainted itself with such data as were available with the Collectorate of customs, Bombay, regarding the then current prices of various quantities of rough diamonds imported into India from different countries, including diamonds from Ghana Mines. This information was collected on a confidential basis by the then Diamond Valuation Officer of the Corporation who was on deputation with the NMDC from the Collectorate of Customs, Bombay, and who was also a member of the delegation to Ghana. Information had also been collected from various sources in Antwerp, Amsterdam and London, regarding the price levels of Ghana diamonds from time to time in the international markets. After reaching Ghana, with the assistance of the Commercial Counsellor in the Indian High Commission in Accra, the delegation collected statistics of the Ghana Government, pertaining to exports of rough diamonds from Ghana to various countries of the world and the prices at which the exports were effected. The studies in Ghana showed that, during 1969-70, the price per carat at the various sales in Ghana, ranged between 41 Sh. 9d. and Sh. 51. As against this, after a detailed assortment of the qualities and sizes, the delegation arrived at a price of

Sh. 42 per carat as being reasonable with reference to the size, quality and proportion of the diamonds between gems and industrials.

7.30. One basic assumption in making the purchase from Ghana was that the Indian diamond trade would extend cooperation to the NMDC in buying the rough diamonds procured by it from Ghana. This assumption did not, however materialise as the trade immediately after the purchase, protested against Government's policy to enter the diamond trade.

7.31. Asked whether any guide lines were given by Government before asking the Corporation to undertake the imports of rough diamonds, it had been stated by the Corporation that no guide lines were given by the Government. The intention was that NMDC would try to import rough diamonds (both industrials and gems as the primary source would not sell only the gems). The gem diamonds were to be made available to the cutting and polishing industry and the industrial diamonds were to be sold to industrial users such as diamonds tool manufacturers who are on the list of actual users.

7.32. The imports were made in accordance with the intentions of the Government. The trade did not, however like Government's entry into the diamond trade and did not, therefore, cooperate with the NMDC in purchasing the imported diamonds except for small quantities. The bulk of the imported industrial diamond had, therefore, to be disposed of abroad. In the case of imports from Ghana, there was a loss of Rs. 5.16 lakhs, after taking into account the interest on capital to the extent of Rs. 4.36 lakhs and refund of custom duty, due from the Bombay Customs, amounting to Rs. 1.12 lakhs. The entire stock of diamonds imported from Ghana had, however, since been disposed of. The disposal of unsold diamonds was made after contacting the principal purchasers of Ghana diamonds in bulk in Belgium and London. To meet the demands of canalisation, the NMDC had to import roughs from abroad to ensure steady supplies to the trade. The NMDC explored the possibility of entering into arrangements with foreign suppliers of rough diamonds. The Corporation had now an arrangement with a leading London firm for the import of rough diamonds on "consignment" basis, *viz.*, sale and remittance of sale proceeds in respect of sold goods and return of the unsold goods. The first sale of diamonds under this arrangement began on December 10, 1971. The position at the end of May, 1972 was as under:—

	Imports		Sales		Closing stocks	
	Carats	Rs. lakhs	Carats	Rs. lakhs	Carats	Rs. lakhs
Since inception to March 31, 1972	174,627	108·17	104,736	75·18	69,891	32·99
April, 1972	6,819	3·17	10,515	6·48	66,195	29·68
Cumulative till April 4, 1972 .	181,446	111·34	115,251	81·66	66,195	29·68
May, 1972 . . .	35,980	27·53	22,780	22·80	79,395	34·41
Cumulative till May, 31, 1972. .	217,426	138·87	138,031	104·46	79,395	34·41

The Corporation had also imported:—

(i) rough diamonds of the value of about Rs. 15 lakhs from the German Democratic Republic (from intrac, a state-owned agency of the GDR); and

(ii) emerald and precious and semi-precicus stones from Brazil and UK for about Rs. 10 lakhs for sale to the merchants who were interested in converting import licences into release orders.

The above transactions altogether yielded a profit of about Rs. 5.60 lakhs, thus wiping off completely the loss sustained in the Ghana deal.

(ii) *Stock of Rough Diamonds*

7.33. The closing stock of imported rough diamonds as on 31st July, 1972 was Rs. 86 lakh (approximate). Asked as to how far this would meet the total requirements of the country the Corporation stated that the Current imports of rough diamonds by India were of the order of Rs. 23 crores per year. The stocks held by NMDC account for less than 2 per cent of the annual requirement of rough gem diamonds. NMDC's responsibility was, however, limited to the supply of rough diamonds against release orders issued on it under the canalisation scheme which broadly, was for 20 per cent of the replenishment in respect of cut and polished diamonds below 30 points in weight and Rs. 1,125 per carat in value, the balance of the imports being made by the trade itself directly. The volume of outstanding release orders on 31st July, 1972 was about Rs. 1.70 crores. The stocks thus account for about 21 per cent of the outstanding release orders.

7.34. As regards the complaint that diamonds purchased from a Company were resold to the same Company, the factual position was stated to be as under:—

> "Imports of rough diamonds are being made by NMDC from the Star Diamond Co. Ltd London, from December, 1971, on "consignment basis". The diamonds are not purchased and paid for by NMDC in the first instance. The diamonds are merely sent by Star Diamond Co. Ltd., to NMDC for sales in India. In respect of such quantities as are actually sold by NMDC, the invoice price is remitted by NMDC to Star Diamond Co. Ltd., and the unsold goods, if any, are to be sent back to Star Diamond Co. Ltd., after a specific period. There is thus no purchase or any resale of the purchased goods by NMDC, to Star Diamond Co. Ltd., and, in the circumstances, there has been no loss in respect of the imports from Star Diamond Co. Ltd., on consignment basis."

7.35. In a note after evidence, the Department of Mines have informed the Committee "that the import|export of rough diamonds, which was previously done by National Mineral Development Corporation, has been transferred to the Minerals & Metals Trading Corporation, under the Ministry of Foreign Trade. The N.M.D.C. and M.M.T.C. are working out the details of the transfer of the concerned staff etc., to the latter.

7.36. The Committee note that in accordance with the policy objective of Government, to import rough diamonds from abroad to counter, to the extent possible, squeeze by foreign monopolistic suppliers on the Indian Trade, and to provide at least small quantities of rough diamonds to the Indian cutting and polishing trade at reasonable prices, the NMDC was nominated as the canalising agency for the import of rough diamonds to the extent of 10 per cent of the import replenishment. NMDC imported diamonds so that the Corporation may secure primary source in addition to the normal source and started importing rough diamonds from Ghana and German Democratic Republic—about Rs. 10 lakhs from Ghana and Rs. 15 lakhs from Germany. The Committee were informed that the basic assumption in making purchase from Ghana was that Indian diamond trade would extend cooperation to NMDC in buying the rough diamonds procured from Ghana. This assumption did not, however, materialise as the trade immediately after purchase protested against Government policy to enter the diamond trade with the result that the bulk of the imported diamonds had to be disposed of abroad and the whole

transaction ended in a loss of more than Rs. 5.16 lakhs, after taking into account interest on capital to the extent of Rs. 4.36 lakhs and refund of customs duty. The Committee were also informed that the entire stock of diamonds imported from Ghana had since been disposed of.

The Committe also note that NMDC in order to meet the demands of canalization and to ensure steady supplies entered into arrangements with a leading London firm for the import of rough diamonds on consignment basis, and this transaction yielded a profit of about Rs. 5.6 lakhs wiping off completely the loss sustained in the Ghana deal.

7.37. The Committee are not able to understand for rationale of canalising the import of rough diamonds through the NMDC who are primarily concerned with exploration and development of minerals. The Committee are also distressed to note that before appointing the NMDC as the canalising agency for import trade, Government have not issued specific guidelines in regard to the particular quality of rough diamonds to be imported keeping in view the demands of trade and requirements of the country but simply left the matter entirely in the hands of the Corporation with the result that the transaction has not only ended in a loss of Rs. 5.16 lakhs but the specific objective with which this task was undertaken was not fulfilled.

7.38. The Committee would strongly urge that the entire deal should be thoroughly investigated and responsibility for such costly lapses fixed. The Committee were now informed that the import and export of diamonds done by the NMDC has since been transferred to the MMTC. The Committee hope that the MMTC would ensure that such costly lapses do not recur and imports of rough diamonds are made in consultation with consumers.

F. Cost Analysis

7.39. The actual* cost per carat during 1968-69 was 127.5 per cent of the estimated cost (based on estimated production level of 16,000 carats) and 86.9 per cent of the revised cost (at a production level of 9,000 carats). The Management expected that the cost of production during 1970-71 would be of the order of 47.8 per cent of the revised estimated cost of 1968-69, at a production level of 23,250 carats.

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†Provisional subject to verification by Audit.

7.40. The actual cost of production per carat during the subsequent periods was as follows:—

Year	Estimated cost per carat based on original budget	Estimated cost per carat based on revised budget	Actual cost per carat	Percentage to columns.	
1	2	3	4	5	6
1969-70 . . .	264·80	344·99	*304·32	115%	88%
1970-71 . .	271·75	290·36	*288·02	106%	99%
1971-72 . .			*342·45		
1972-73 (upto July 1972) .			*313·01		

*Provisional subject to verification by Audit.

7.41. There was no proposal to set-up a cutting and polishing Unit for Panna Diamonds.

Export of cut and polished diamonds would held in earning foreign exchange. But, for the time being, in view of the comparatively high cost of production at Panna (on account of the limited output) the loss might be minimised if sales were made as rough diamonds in India in order to take advantage of the higher internal prices for diamonds in India (the international prices were about 20-30 per cent lower than the ruling Indian prices).

7.42. The Secretary, Department of Mines stated during evidence that the Corporation had suffered a net loss of about 5 lakhs of rupees by importing the diamonds and then exporting them.

7.43. The Committee note that the actual cost of production of diamond per carat during 1968-69 was 127.5 per cent of the estimated cost based on original target production of 16000 carats for that year and 86.9 per cent of the revised cost based on revised target of 9000 carats.

The Committee regret to note that the cost per carat during 1969-70 and 1970-71 increased to 88 per cent and 99 per cent of the estimated cost based on the revised targets of 14000 and 20000 carats respectively. The Committee recommend that the Corporation should spare no pains to improve their production performance in Panna and ensure that the cost of production compares favourably with international market prices

VIII
DONIMALAI IRON ORE PROJECT

A. Feasibility Report

8.1. In May, 1964, the Government asked the National Mineral Development Corporation Ltd. to develop one or more of the deposits in the Bellary-Hospet Iron Ore Range reserved for exploitation in the Public Sector and to prepare a feasibility report by the end of December, 1964 for a mechanised iron ore mine of the capacity of 7 million tonnes per annum. In October, 1964, the Corporation took up the Ramandrug Deposit for investigation which was supposed to be the most extensive deposit.

8.2. The adverse lump-fine recovery ratio, however, led to its being passed over after initial investigations. Thereafter, in November, 1965, the Corporation entered the Donimalai South Block, and after June, 1966, extended its investigation to cover the North Block also. The geological investigations were done by the Geological Survey of India in coordination and conjunction with NMDC.

8.3. The feasibility report envisaging a capital outlay of Rs. 21.50 crores (including foreign exchange element of Rs. 4.21 crores) for an annual production of 4 million tonnes of lump ore, fines and blue dust, was submitted by the Corporation to Government in February, 1967 on the basis of data available upto June, 1966. This was considered by Government in July, 1967.

B. Project Report

8.4. On the basis of the detailed prospecting and investigations made by the Geological Survey of India, a Detailed Project Report was prepared by the Corporation in September, 1968 which after scrutiny by a panel of experts was revised in December, 1968 and submitted to Government for approval. In January, 1969 Government approved of the Project, in principle, but directed certain further studies. While framing the Detailed Project Report, it was anticipated that the Government's sanction would be received by December, 1968 and the trial runs of the integrated plant would commence in September, 1972 and the mine was expected to go to into commercial production by January, 1973. Full production at the rated capacity was due to commence during 1973-74. However, the administrative approval to the DPR was communicated by the Government in January, 1971 at a cost of Rs. 19.46 crores (as against Rs. 21.54 crores with a foreign exchange component of Rs. 171 lakhs) excluding railway siding and second phase of township. In view of the delay in receipt of the sanction the final target for commissioning of the plant was being placed in 1974.

8.5. In a note after evidence, the Department of mines informed the Committee that the Project would be completed within a period of 3-1|2 to 4 years from the date of sanction (i.e., in January, 1971) and that the full rate of capacity would be achieved in a phased manner within a period of three years after commissioning. Although the cost estimates of the project were sanctioned in January, 1971 *ad hoc* releases of funds were being made by the Government from time to time to enable the Corporation to carry on with the preliminary works at the site. The Corporation expected to complete the project by last quarter of 1974 and achieve the rated capacity within the time spans envisaged in the Detailed Project Report (1977).

C. Revised Estimates

8.6. The Management informed the Committee after evidence that the Project estimates had, however, been revised as a result of detailed testing in National Mettallurgical Laboratory and fresh profitability was being worked out on the basis of revised estimates. The revised estimates as since drawn up are for an investment of Rs. 27.92 crores as against Rs. 19.46 crores originally sanctioned.

8.7. The Department of Mines in a written note after evidence stated that the Corporation prepared the revised estimates of the Donimalai Project which had been approved by their Board in August, 1972. These estimates were yet to be received in the Ministry (The original sanctioned estimate was for Rs. 19.46 crores and the revised estimates yet to be received is Rs. 27.92 crores). Expenditure of Rs. 690 lakhs has been booked against the project by the end of March, 1972.

D. Profitability

8.8. According to the profitability study of the Project, based on 1968 estimates the Corporation expected to make a profit of Rs. 71.57 lakhs @ Rs. 4.09 per tonne on the sale of lump ore and incur a loss of Rs. 127.57 lakhs @ Rs. 7.29 per tonne on the sale of fines after taking into account export duty of Rs. 10.50 per tonne on lump ore and Rs. 5.00 per tonne of fines (subsequently reduced to Rs. 4 per tonne). The overall annual loss, therefore, was estimated as Rs. 56 lakhs on full production of 1.75 million tonnes each of lump ore and fines. The annual foreign exchange earnings from the Project were expected to be Rs. 23 Crores at the current prices.

8.9. The Management had stated (December, 1969) that:—

> "........while the projected loss will be to N.M.D.C.'s account there will be no loss to the national economy on account of the Iron Ore and fines exported from Donimalai because of the earnings of the exchequer by way of export duty."

8.10. To a question whether any fresh profitability was undertaken after the revision of estimates, the Management stated in a note after evidence that the Project estimates had been revised and the profitability was being worked out on the basis of revised estimates.

8.11. The Management had stated in a written reply that the Government, while communicating the sanction for cost estimates of Rs. 19.46 crores in January, 1971, had also stated that in order to improve the financial viability of the Project, a Pelletisation Project should also be taken up. The services of M|s M. N. Dastur & Co. had already been engaged to conduct techno-economic feasibility studies on benefication and pelletisation on Donimalai Iron Ore in August, 1968. On the basis of field studies and laboratory and pilot plant test data on ore samples supplied by the National Mettallurgical Laboratory, M|s Dastur & Co. submitted their report in December, 1969. They recommended the setting up of a pellet plant of 1.5 million tonnes capacity at a cost of Rs. 19.1 crores including a foreign exchange content of Rs. 39 million. The cost of 2 million tonne plant was indicated by them as 222 million.

8.12. As nearly three years had elapsed since the report of Dastur & Co., was submitted; it was considered necessary to up-date the capital and operating costs and include ancillary facilities etc., as well as the revised economics of the project based on the latest information available so that the Government could take investment decision on the project. The techno-economic feasibility report submitted by M|s Dastur & Co. for installation of Donimalai Pelletisation Plant had since been finalised by the Corporation. The capacity of the pelletisation plant is now proposed to be two million tonnes per year with an estimated capital investment of Rs. 33

crores approximately. The Report was sent to Government on June 20, 1972. The total cost of pelletisation plant had been estimated at Rs. 33 crores including foreign exchange cost of Rs. 8.5 crores.

8.13. In a note after evidence, the Department of Mines stated that the aforesaid report had been considered by the inter-Ministerial group in a meeting taken by Secretary, Department of Mines on 9th August, 1972 and had been generally agreed to by various Ministries. A draft Cabinet paper on these discussions had been circulated to concerned Ministries on 6-9-1972. Their comments were awaited.

8.14. Simultaneously Government had authorised NMDC to prepare tender papers for two million tonnes pelletisation plant so that the tender could be issued as soon as investment decision was taken by the Government and conveyed to NMDC.

8.15. It was also stated that lump ore and pellets produced at Donimalai Mine were being considered for export to Japan or other European countries, and that MMTC in association with NMDC was exploring the possibilities of a market.

E. Economics of the Project

8.16. The overall economics of the composite project *viz.* mine and the pellet plant had been worked out on the basis of production of 1.45 million tonnes of lump ore and 1.8 million tonnes of pellet per annum, both at 90 per cent of the rated capacity and on the basis of an assumed FOBT export price of $ 10.30 per DLT for lumps (—30+10 mm) and 26.5 cents per M.t Fe CIF for pellets, the return was estimated to be of the order of Rs. 290 lakhs per annum, which worked out to about 9 per cent on the equity capital before tax on the FOBT basis.

8.17. The Committee note that while framing the Detailed Project Report, it was anticipated that Government's sanction would be received by December, 1968 and the Project would go into full production by 1973-74. The Committee regret to note that Government had taken two years to approve the DPR although they had communicated their approval in principle as early as January, 1969. The Committee also regret to observe that on account of the delay in the sanction of estimates, not only has the cost of project increased but the completion of the project has also been delayed by three years.

8.18. The Committee further observe that even the revised estimates aproved by the Board in August, 1972 are still awaiting sanction by Government.

8.19. The Committee also regret to add that so far no decision has been taken on the techno-economic feasibility report prepared by M/s. Dastur & Co. on beneficiation and pelletisation on Donimalai Iron Ore submitted by Corporation to Government in June, 1972.

8.20. The Committee need hardly stress that Government should not rush to take an investment decision on the project unless and until a thorough and critical analysis of the techno-economic feasibility report is made and Government are satisfied that the project would be financially viable.

IX

I. FEASIBILITY STUDIES

9.1. Besides the various other projects entrusted to the Corporation for development the Government had asked the Corporation to undertake the feasibility studies in respect of the following:—

(i) Kudremukh Magnetite Iron Ore studies.

(ii) Rock Phosphate studies at Mussoorie.

A. Kudremukh Magnetite Iron Ore

Feasibility Report

9.2. Realising the importance of the reports of magnetite|quartizite ore existing in the Kudremukh-Gangamula range of hills in the Chikmaglore District of Mysore State approximately about 60 kilometres from the port of Mangalore. The National Mineral Development Corporation was asked by Government in 1963-64 to undertake the feasibility studies for the production of magnetite ore in that region. The Corporation accordingly took up a preliminary survey of that range in April, 1965 and later took up the magnetite deposits at Aroli range for detailed prospecting as the deposits were nearest from the proposed port of Mangalore. The detailed prospecting and geological mapping at Aroli-Kudremukh undertaken by the Corporation from December, 1965 to November, 1966 proved a vast reserve of magnetite ore on the Eastern Coast near the new mangalore Harbour.

9.3. On the basis of the prospecting done, test results of the deposits, and the technical advice obtained from the foreign experts, the Corporation prepared a feasibility report in April, 1967 for the annual production of 14 million tonnes of Run-of-Mine (to produce 4 million tonnes of concentrates) at a capital cost of Rs. 55.83 crores (excluding capital) with foreign exchange component of Rs. 19.43 crores.

9.4. In October, 1968 Government agreed for further investigation of these deposits by the Corporation with the technical collaboration and financial partnership (not exceeding 49 per cent of the total cost) of M|s Marcona of USA and the MON Group of Japan at a cost not exceeding Rs. 45 lakhs to be shared in proportion of

51 per cent for NMDC, 25 per cent for Marcona and 24 per cent the MON Group. The techno-economic feasibility studies was launched on 1st December, 1968 and was scheduled to be completed within 18 months *i.e.* by 31st May, 1970. The studies were, however, completed in March, 1970 at a total cost of Rs. 40.84 lakhs well within the approved budget and report was submitted to Government in May, 1970. While approving the feasibility report in principle Government had authorised the preparation of a Project Report to form the basis of the investment decision and also sanctioned a further amount of Rs. 32.2 lakhs for the Project Report studies, for running the project on "Care and Maintenance" basis during the period June-November, 1970. The preparation of detailed project report was commenced in June, 1970.

9.5. The break-up of the additional expenditure sanctioned was as follow:—

	Capital	Operational	Total
		(Rs. in lakhs)	
(i) Care & Maintenance	2·20	9·75	11·95
(ii) Advance action	4·55	2·40	6·95
(iii) Engineering studies	..	12·25	12·25
(iv) Laboratory tests etc.	0·45	0·60	1·05
TOTAL	7·20	25·00	32·30

The contributors to the venture were expected to subscribe as below:—

	Capital	Operational	Total
		(Rs. in lakhs.)	
(i) NDMC 51%	3·672	12·750	16·422
(ii) Marcona 25%	1·800	6·250	8·050
(iii) MON group 25%	1·728	6·000	7·728
TOTAL	7·20	25·00	32·20

9.6. The Detailed Project Report was prepared and submitted to the Government of India in March, 1971. The investment policy decision by the Government was still awaited. The collaborators had agreed to share the 'Care and Maintenance' expenditure both on operational and capital in the same ratio from 1st June, 1970 to

31st March, 1971 till the investment decision on D.P.R. was reached. As the Collaborators had declined to share any expenditure beyond December, 1971 the care and maintenance establishment at Kudremukh had been closed since May, 1972 except for Watch and Ward staff and small nucleus of officers and staff at Mangalore and a few survey parties. The nucleus establishment was undertaking a number of advance action in the area of surveying location of a constructing material, soil testing, acquisition of land and leases, power supply, water supply, railway siding for store handling, additional metallurgical studies etc. Government of India had also authorised marine survey (Wave and current surveys) near the single buoy mooring site of Mangalore port. For the work of wave-current surveys NMDC had appointed M|s. EIL as consultants and M|s. CGG of France as contractors.

9.7. According to para 43 of Annual Report 1970-71 (p. 15) the project Report envisaged a production of 7.5 million tonnes of iron ore concentrate assaying over 66 per cent Fe with a size distribution of 70-80 per cent minus 325 mesh suitable for the manufacture of pellets. The size consistency also enable the concentrate to be transported from the mine to the port and into the ship through pipe-line system in the form of slurry. The scheme was to transport the concentrate to Japan and Europe in Bulk ocean carriers specially designed for slurry loading, transportation and unloading using Marcona flow Technique.

9.8. In a note after evidence, the Department of Mines stated in this connection that the transportation of iron ore in slurry form through an off shore terminal had been found to be much more economical than transport of iron ore in pellet form from the port. It had been estimated by a study group appointed by the Government that transportation of ore in pellet form would involve (i) an additional capital expenditure amounting to Rs. 41.40 crores including cost of additional port facilities and of the required number of ships, and (ii) an additional, recurring operational expenditure, on account of higher freight and port charges, estimated at about Rs. 15 per tonne in the case of export to Japan and Rs. 20 per tonne in the case of export to Europe.

9.9. It has been intimated by the Department of Mines that having regard to the size and magnitude of the project; the expected investment; the complexity of the technology involved; and other relevant considerations, Government considered it necessary to subject the Detailed Project Report to a thorough technical and economical evaluation through various Committees and groups appointed by it. These studies had been completed in 1972 and the recommendations made by the Committee and groups were now under consideration of the Government at the highest level. Keeping in view the urgency and importance of the project, Government expected to complete their examination and take a decision as early as possible.

9.10. In a subsequent note (March, 1973) received from the Corporation it was stated that Government have accorded their investment decision in principle subject however, to a long terms sales contract for substantial quantity of the annual production. It was also stated that the project when completed would be the largest Iron Ore Mine in the country and in fact in whole of the Asia. It envisaged mining of 20.6 million tonnes of magnetite|quartzite ore, concentrating it to produce 7.5 million tonnes of high grade concentrates of pellet-feed size, transport and loading of concentrates through a pipeline in the form of slurry and export of concentrates in large slurry carriers. The estimated capital cost of the project stated to be is Rs. 183 crores.

9.11. The Committee note that though the techno-economic studies were completed as early as in March, 1970, it had taken one full year for the Corporation to prepare the detailed project report. During this period expenditure was incurred on 'care and maintenance' basis and this was agreed to be shared with the foreign collaborators till investment decision was taken by Government, in the same ratio as originally accepted for the period from June, 1970 to March 1971 subsequently extended upto December, 1971. The collaborators declined to share any expenditure on 'care and maintenance' beyond December, 1971 and, therefore, 'care and maintenance' estiablishment was practically closed from May, 1972.

The Committee were informed (March, 1973) that Government have accorded investment decision in principle subject, however, to a long terms sales contract for a substantial quantity of the annual production. The Committee would, however, strike a note of caution that Government should undertake a careful and thorough evaluation of the technology and economics of transporting the concentrates of pellet feed through a pipeline in slurry form and exporting them in large slurry carriers before a long terms sales agreement is considered.

The Committee need hardly stress that Government should learn a lesson from their past experience and ensure that the shortcomings which adversely affected the operation of the other projects do not recur.

9.12. Needless to emphasise that the execution of this project should synchronise with the development of the hinterland of Mangalore which is being developed as a major port. Since this mine ore is for export purposes, the Committee need hardly point out that there should be close co-ordination with the Mangalore Port authorities from the very beginning so that the requisite facilities are developed in time.

B. Mussoorie Rock Phosphate Operations

9.13. Government decided, in February, 1968 that NMDC should prepare an appraisal report for starting a rock phosphate mine based on the deposits in Mussoorie area other than Maldeota block. Work was started by NMDC in April, 1968. Action was, therefore, taken to organise a base camp and to depute an advance team to get the work of field investigations and exploration going on. A prospecting camp was established on 8th October, 1968, at Mussoorie. Prospecting licence for the entire phosphate bearing deposits expecting Maldeota *i.e.* Paritibba, Chamasari, Kimoi, Masrana, Mathiangaon Bhusti and Nagini was granted in favour of NMDC although, to begin with, eorts were concentrated on the Paritibba block. Again Government decided, in July, 1968 that NMDC should also explore the Masrana area. Further, it was decided, in December, 1968 that in view of its rich potential Durmala area should also be included in the exploration programme of NMDC and G.S.I. Pursuant to this decision, operations, thus, cover now three areas *viz.* Paritibba Masrana and Durmala.

9.14. Accordingly a preliminary exploratioin report on the geology and mining of Paritibba-Chamsari-Masrana rock Phosphate deposits was prepared by NMDC, in November, 1968 indicating the total quantity of surface, drilling, exploratory mining and trench cutting required to be carried out at these three blocks in connection with the exploration programme, the progress achieved till then and the balance to be achieved. The exploratory operations at Paritibba-Chamasari was complete. During 1970-71 the work on major portions of Bhusti and Durmala areas comprising deep trenching pitting additing as well as trail mining, was in progress. Apart from this, sufficient number of samples of the deposits will also be submitted to ore dressing tests.

9.15. Although the techno-economic feasibility report was expected to be ready by October, 1969 and the Detailed Project Report by December, 1969, the techno-economic feasibility report had not been prepared by April, 1970. The Geological Survey of India **had**

placed a sum of Rs. 43 lakhs (Rs. 24 lakhs in 1968-69 and Rs. 19 lakhs in 1969-70) at the disposal of the Corporation for meeting the expenditure on the above investigations.

9.16. After completion of first stage of exploration at Mussoorie, it was decided that a trial mine at Durmala (one of the promising deposits of the area) may be taken up by the Corporation. For the completion of this study the Ministry agreed to the extension of time for submitting the Feasibility Report upto 31st December, 1971.

9.17. However in May, 1971 Government decided that the operations at Mussoorie may be transferred to the Pyrites and Phosphates Ltd. (another Government Company). Consequent on this decision NMDC closed down the Musscerie Project with effect from 15-6-1971. The transfer of the project to P.P. & C. Ltd., had however, not yet been finalised. The men and material had been transferred to various other Iron Ore Feasibility Studies.

9.18. The Expenditure incurred so far on the operations is as under:—

	(Rs. in lakhs)
Upto 31-3-1971.	44·10
1971-72	2·91
TOTAL .	47·01

9.19. The Committee note that NMDC commenced the investigations of Mussoorie Rock Phosphate as early as October, 1968. Although the techno-economic studies were expected to be ready by October, 1969 and the Detailed Project Report by December, 1969, the techno-economic feasibility report had not been prepared by April, 1970. The Committee find that only the first stage of exploration operations of the project had so far been completed and the Ministry had agreed to give extension of time for the feasibility report upto December, 1971. The Committee note that in May, 1971, the Government had decided to transfer these operations to the newly formed Company viz. Pyrites, Phosphates and Chemicals Ltd. The NMDC closed down the Project from 15-6-1971.

The Committee would strongly urge that Government/P.P. & C. should take immediate steps to examine the economics of the project carefully and initiate further action for exploiting the mine, as

otherwise the expenditure of more than Rs. 47 lakhs incurred by NMDC may become infructuous. The Committee would like to be kept informed of the action taken in the matter.

II. FUTURE PLANS

9.20. In addition to the existing projects, the NMDC is also currently engaged with the following detailed investigating schemes:—

(i) *Ramadrug|Kumaraswamy*

9.21. With the decision to locate a steel plant at Vijayanagar, it became necessary to build another mine based upon Ramadurg/ Kumaraswamy iron ore bodies in Bellary-Hospet area. The mine would be developed taking into account the additional export targets as well. With these objectives in view, NMDC had started detailed prospecting at Ramadrug during 1971-72. The GSI were working at Kumaraswamy. Based upon the geological and metallurgical work at Ramadurg and Kumaraswamy, it should be possible to take a decision on the deposit likely to be developed by early 1973.

On the basis of evalution of the two deposits with reference to the Geological Survey reports, Kumaraswamy was considered more favourable for earlier development because of its being a more concentrated deposit (181 million tonnes of iron ore in a length of 2.5 kms. at Kumarsawamy as compared to 220 million tonnes in 10.6 kms. in Ramadurg), its being richer in quality (everage Fe at Kumaraswamy 63.89 compared to 63.2 at Ramadurg) and its less waste content.

A detailed plan of engineering survey and investigation for Kumaraswamy leading to preparation of Detailed Project Report for establishing a mine at Kumaraswamy Deposit is being taken up.

(ii) *Bailadila Deposit No. 4*

9.22. The Geological exploration of Deposit-4 in Bailadila for development of a third mine was taken up in November, 1968 with the sanction of the Government at an estimated cost of Rs. 12.50 lakhs. In view of Government's decision to set-up a steel plant at Vizag which was likely to be commissioned by 1978, it was proposed to indentity the exploration being carried out at Bailadila-4 so that Detailed Project Report could be prepared latest by 1972-73 and the mine was ready for production by 1978.

The geological and metallurgical work was expected to be completed by early 1973, after which the project planning would be undertaken. The work in hand would also help the progress of Bailadila Pelletisation.

9.23. The Committee hope that in view of the export commitment to Japan from the Bailadila Sector, the work on Bailadila—Deposit No. 4 would be accelerated.

(iii) *Meghahataburu*

9.24. In view of the Government decision to develop the Meghahataburu Iron Ore Deposit to feed the iron ore requirements for the second phase of the Bokaro Steel Plant which was likely to be completed by 1975-76, it became necessary to take a crash programme for completing the detailed exploration of the deposit. The NMDC had completed prospecting of the deposit including core-drilling of 1500 m. in 1962-63 on the basis of which a Detailed Project Report was prepared which recommended additional quantum of work for a detailed evaluation of the deposit. Further in view of the rigidity of the specifications of the ore required by Bokaro, extensive core-drilling was pre-requisite for (a) proper advanced mine planning, (b) working out precisely the grade of ore available in Meghahataburu, and (c) for actual quality control programmes during the production stage of the mine.

In order to take up the proposed/exploration work, a scheme at an estimated cost of Rs. 86.85 lakhs was submitted to the Government on 30-11-1971 the sanction for which had not been received.

A detailed plan of engineering survey and investigation leading to preparation of detailed project report by July, 1974 had been drawn up Engineering Survey had already been started.

9.25. The Committee would like Government to take up the development of the Meghahataburu Project only after careful exploratory studies and assessment of the economics of the project to ensure supply of ore of appropriate quality and specification to Bokaro Steel Plant.

(iv) *Investigation of Diamond Project in Andhra Pradesh*

9.26. The Corporation took this investigation at the instance of the Department of Mines & Metals and was for the present intended for preparing a techno-economic feasibility study report on

"Diamond Belts in Andhra Pradesh". These investigations would embrace:—

(i) Conglomerate deposits of Ramallakota and Bengnapalle area (near Kurnool).

(ii) Kimberlite diamond pipe of Wajrakarpur (near Gunkakul) and Latta Varam in Anantapur Distt; and

(iii) Alluvial gravel deposits of Krishna River based in Kurnool, Mahboobnagar, Guntur and Krishna District.

The investigation of Bangnappalle conglomerate deposits was taken up, in August, 1969. The funds requirements were included in the Budget proposals for 1968-69 and 1969-70 submitted by NMDC to Government. However, no specific allocation of funds was made out *vide* their letter dated 10th April, 1969 Department of Mines & Metals approved expenditure of Rs. 16 lakhs.

Actual expenditure during 1968-69, 1969-70 and 1970-71 were Rs. 2.31 lakhs, Rs. 14.00 lakhs and Rs. 13.12 lakhs respectively.

21 carats of Diamonds had been recovered during 1970-71. The stock of Diamonds as on 31-3-1971 was 45 carats.

During evidence, the Chairman, NMDC stated that the Corporation abandoned the project because the incidence proved very poor (4 carats per 100 tons) and cost of production exceeded Rs. 500.00 per carat.

(v) *Emerald Investigation in Rajasthan*

9.27. At the 107th meeting held on 16th June, 1969, the Board of Directors approved the preliminary investigations for emeralds in Rajasthan. Against the Board's approval for Rs. 3.5 lakhs for 1969-70, the expenditure incurred was Rs. 1.01 lakhs upto 31st March, 1970.

During the year 1970-71, Rs. 5 lakhs was proposed as revised estimates against which expenditure upto March, 1971 was Rs. 1.63 lakhs. Expenditure incurred from April to June, 1971 for compensation for retrenchment of staff etc. was Rs. 1.49 lakhs.

The project had been closed down with effect from 1st April, 1971 as in the case of Kurnool investigations.

X

ORGANISATIONAL SET UP

10.1. The Registered office of the National Mineral Development Corporation Ltd. is now located at Hyderabad.* At present, the Corporation is responsible for the execution of the following projects|schemes:—

1. Kiriburu Iron Ore Projects.
2. Kirburu Expansion|modification project.
3. Bailadila Iron Ore Projects, 14 and 5.
4. Donimalai Iron Ore Project.
5. Kudremukh Iron Ore Project.
6. Diamond Mining Project, Panna.
7. Other Feasibility studies.

10.2. The Corporation is at present headed by a Chairman-*cum*-Managing Director. According to the Articles of Association, the Board of Directors of the Corporation shall not have less than two and more than twelve Directors.

10.3. The Chairman-cum-Managing Director is assisted by three functional Directors in-charge respectively of Production, Planning and Finance. Besides, the Chief Administrative Office, the Commercial Manager and Chief of Training, work under the Chairman.

A. Commercial Office, Bombay

10.4. The Commercial Manager of the Corporation (located at Bombay) is in-charge of the import and sale of diamonds, including the diamonds being produced in the mines at Panna. (The office at Bombay also contains a nucleus of materials progress personnel). The Corporation has a Purchase Office at Calcutta and Regional Office at Vizag. The latter is responsible for the coordination of all work relating to the export of iron ore with the Minerals and Metals Trading Corporation.**

*The Head office of the Corporation was first shifted from Delhi to Faridabad in the middle of 1963. It was thereafter shifted to New Delhi in March, 1971 and again shifted from New Delhi to Hyderabad.

**At the time of factual verification, the Corporation have stated that with the transfer of functions relating to import of diamonds, mark of the personnel of the commercial wing at Bombay have been transferred to the MMTC along with the work. The rest have been transferred to Head Office/Projects. Only a nucleus of material progress personnel now remains at Bombay.

10.5. The Committee note that there is an office of the Commercial Manager of the Corporation at Bombay in charge of the imports and sales of diamonds. Since the work of import and trade of diamonds has now been entrusted to MMTC, the Committee see no justification for the continuance of that office at Bombay. The Committee hope that with the transfer of the functions of this office to M.M.T.C., the personnel of this office would also be simultaneously transferred along with the work.

B. **Management Information System**

10.6. In a note furnished to the Committee, it has been stated by the Corporation that "N.M.D.C. is a developing organisation and so also the management reporting system. Corporation has recently shifted the Head Office from New Delhi to Hyderabad. Various projects are situated in different states of the country. In addition, we have got offices in Calcutta, Bombay, Delhi and Bangalore.

Coordination among different Divisions|Departments or Wings in the Corporation is, so far as the Head Office is concerned, achieved both at the level of the Head of Divisions|Departments and of the functional Directors incharge. The Chairman also takes periodical meetings with the functional Directors and Heads of Divisions|Departments *inter-alia* to ensure co-ordination. At the Project level, such co-ordination is the function of the Head of the Project who like-wise holds regular meetings with the heads of the various wings to achieve the necessary co-ordination.

Mainly, three types of activities. relating to the production, construction and feasibility govern the operations of N.M.D.C.'s projects. Accordingly, the existing reporting systems also follow these three categories. Besides, there exist, common services like finance, administration, Materials Management and Industrial Relations etc. which also receive various types of reports for control purposes, from different projects.

10.7. The working of the existing reporting system is briefly described below:—

Presently, we have three production projects, namely, Kiriburu, Bailadila Deposit-14 for iron ore and Panna for Diamonds. The construction work on iron ore projects is going on at Bailadila Deposit-5, Kiriburu Expansion, and Donimalai. Besides, the feasibility studies for iron ore are being carried Bailadila-4. Bellary—Hospet and Barajamda area. Feasibility studies are directly conducted through central supervision at Head Office. The heads of projects have been delegated adequate power to control their normal activities and operations various policy matters and cases beyond the delegated powers of the heads of the projects are, however, referred to head office for necessary decision. It may, therefore, be observed that first stage of management reporting in N.M.D.C. exists at the head of the projects level; the second stage is at the corporate level and the last stage is at the Secretary's (Ministry of Steel and Mines) level.

The information relating to, Production, Despatches, Stock position of ore, Wagons and Rake Supply positions, Equipment availability, plant availability, pending purchase proposals, progress of Civil Works and Labour, Administration, Training and Welfare matters etc. is received from the production projects and monthly progress reports of the construction projects is intimated by the heads of the projects to the Chairman. The information relating to the progress of feasibility studies is reported from the field to the Chief (Investigation & Research) of Head Office who submits every month only the essential information to the Chairman.

Besides, other reports are also been received at the Head Office in the common disciplines like Finance, Administration, Materials Management and Industrial Relations. These reports are compiled by the concerned department and only the information requiring top attention is submitted to Chairman.

10.8. On the basis of the above mentioned inputs, the information essential for reporting to the Ministry is sent by Chairman in his monthly d.o. letter. Also executive action, for correcting the situation in the projects, as reported by the head of he projects, is initiated.

It is thus evident that the reporting procedure in N.M.D.C. has been evolved, basically, to serve the following functions:—

(i) to apprise the top management with the progress of work;

(ii) to seek guidance for corrective action by the top management; and

(iii) to help the top management in apprising the Secretary, Ministry of Steel & Mines and other agencies like Bureau of Public Enterprises regarding the progress of projects.

10.9. The existing reporting system is, however, still at the evolutionary stage and is being reviewed from time to time. The action for developing the existing Management Information Systems in an objective and systematic manner, is in hand.

10.10. The Committee find that the Management reporting system at present followed by the Corporation is still stated to be in the evolutionary stage. The Committee suggest that the procedures may be streamlined and the reporting system organised in a systematic manner so that the system really enables the top management to have an overall control on the different wings as well as the aspects of the working of the organisation.

C. Shifting of Headquarters

10.11. National Mineral Development Corporation was registered as a Company under the Companies Act, 1956 on November 15, 1958, with its Registered Office at New Delhi. The Government of India, towards the end of 1962, directed the Corporation to shift its headquarters out of Delhi. In January, 1963 they conveyed their decision to the effect that the headquarters should be moved either to Ajmer or Jaipur and only a skeleton staff retained in Delhi.

The various aspects relating to the proposed shifting were examined. It was considered that the shifting of the Head Office to Faridabad instead of Jaipur or Ajmer would be better and more useful. Accordingly, the Head Office of the Corporation was shifted to Faridabad, with the approval of the Government, by the middle of 1963. Only the Registered Office of the Corporation with a skeleton staff was retained at Delhi.

10.12. The Corporation then constructed its temporary office accommodation (tabular sheds) at Faridabad. Fifty six staff quarters were also constructed for staff and some quarters were arranged through the Directorate of Estates. Subsequently, the Corporation also constructed some permanent office buildings. The total cost of construction of the office and residential buildings was of the order of about Rs. 12 lakhs.

10.13. The Committee on Public Undertakings in its 11th Report of NMDC, however, suggested that for the effective planning and development of iron ore deposits, it was necessary that the Planning & Iron Ore Divisions of the NMDC should be located near one of the Iron Ore Projects, and the work of co-ordination with the port and railways, etc., handled by the non-technical staff at the Head Office. The Committee also felt that by virtue of its location near a project site, the Planning Division and the Chief of Iron Ore would be in a proper position to understand advise on the problems of the projects. It was also felt that such a location would enable the

Planning Division to Plan effectively for the future projects and to suggest remedies for the present difficulties of the Projects.

10.14. The question of the location of the Iron Ore Division of the Head Office was discussed by the then Managing Director with the Government. The need for a Planning Division to deal with the iron ore projects was appreciated, but the question of its location was left to be decided after taking into account various factors, such as, its utility for the iron ore projects in developmental stages, and the feasibility areas entrusted to the Corporation at that time and the availability of residential and office accommodation and other facilities to make the officers and staff as comfortable as possible. The consensus of opinion seemed to be for location of the Iron Ore Division in cities like Nagpur, Hyderabad, Bangalore or Jamshedpur.

10.15. The matter was considered by the Board at its meeting held on April, 17, 1968. The Board decided to shift the iron ore Division of the Head Office to Hyderabad and to bring the rest of the staff of the Head Office from Faridabad to Delhi. The Government of India was apprised of this decision. They, however, suggested that the question should be examined from the point of view of office and residential accommodation owned by the Corporation at Faridabad, their disposal etc. This fact was reported to the Board at its meeting held on September 5, 1968. The matter remained under correspondence with the then Department of Mines and Metals. Ultimately, the Department of Mines and Metals in their O.M.No.4(9)|67-MVI dated February 27, 1969, replied to the Committee on Public Undertakings to the effect that the integrated office of the Chairman and functional Directors of NMDC with the minimum possible number of officers and staff would be located at New Delhi.

10.16. The matter was also discussed at the meeting of the Board of Directors of NMDC held on July 16, 1969. The Board decided to approach the Government for permission to shift the entire Head Office to Delhi. This was considered to be conducive to efficiency and economy. Pending the availability of office accommodation in Delhi on a permanent basis in the MMTC's proposed building, or in some other suitable building, it was also decided that efforts be made to house the office in Delhi in a single premises, if possible. The matter again came up for discussion before the Board of Directors at its meeting held on May 9, 1970. The Board reiterated its earlier decision regarding the location of the office in Delhi in some suitable building and suggested that steps should be taken to implement this decision early. The Research and Development Division and the Laboratory were decided to be located at Faridabad.

10.17. In pursuance of the decisions taken earlier by it to bring the entire Head Office under one roof, the Board of Directors of the NMDC at its meeting held on December 1, 1970, authorised the Corporation to file their tender for hiring one of the Buildings of NDMC, [New Delhi Municipal Committee (Mohan Singh Place)]. This tender was accepted by NDMC and the entire Head Office of the Corporation was brought under one roof as decided by the Board of Directors in March, 1971. In the meanwhile, the Cabinet Committee on Accommodation, at its meeting held on December 16, 1970 while considering the question of housing of public sector employees in Delhi decided that the Bureau of Public Enterprises should review the necessity for continuance in Delhi of the Head Office of Public Sector Enterprises located here and put up a note for consideration of the Committee. Because of the acute shortage of both office and residential accommodation in Delhi, the Bureau of Public Enterprises considered it essential that public sector undertakings should have their Head Offices in Delhi only if it was absolutely essential. The BPE formulated certain principles about the desirability of the continuance or otherwise of Head Offices of various public undertakings in Delhi. Based on those principles, it was suggested that the headquarters of the NMDC be shifted either to Bhubaneswar or to Madras.

10.18. The suggestions were examined by the NMDC. It was indicated that none of the locations suggested suited the Corporation and that, if the Head Office of the Corporation had necessarily to move out, it would be moved to Hyderabad. The rationale of this suggestion was that Hyderabad is central. It has direct communication with all the major cities in India. But for Panna, it would take less time to reach any one of the Corporation's projects from Hyderabad than from Delhi. In fact, both Bailadila and Donimalai are accessible by road. The Corporation will save considerably by the move, the cost of accommodation and living being cheaper in Hyderabad. Government approved the proposal to shift the headquarters of the NMDC to Hyderabad and requested NMDC to take further necessary action in this regard.

10.19. The decision of the Government was placed before the Board of Directors at its meeting held on October 22, 1971. The Board resolved that the Registered Office of the Corporation (including offices located in Delhi, Faridabad and in part at Vizag, be shifted from Delhi to Hyderabad and the matter placed before the Annual General Meeting for passing the necessary resolutions under Section 17 and 18 of the Companies Act as a special case. These resolutions were passed in the Annual General Meeting held on November 29,

1971. Thereafter, action for the shifting of the Head Office was initiated. Office accommodation at Hyderabad was accordingly arranged from the Andhra Pradesh Housing Board. NMDC was informed that the first two floors would be ready by February 10, 1972 and the next two floors by the first week of April, 1972. The move of the Head Office to Hyderabad was phased accordingly. The construction programme was, however, delayed. The ground floor was completed on February 16, 1972; the first floor on February 26, 1972; the second floor on April 28, 1972; and third floor on August 10, 1972. The monthly rent for the entire building is Rs. 40,075.25 Further the Corporation have taken on hire the following two buildings for the purpose and at the rent indicated against each:—

(i) Building at Uppal Road. . .	Rs. 1500/- p.m.	For the Laboratory.
(ii) Building at Rajbhavan Road. .	Rs. 1500/- p.m.	For Guest House.

10.20. The total expenditure incurred on the shifting of the Head Office in three phases *viz.* first from Delhi to Faridabad again from Faridabad to Delhi and then again from Delhi to Hyderabad amounted to Rs. 7.19 lakhs.

10.21. The Registered Office of the Corporation continued to be at Delhi. The Ministry of Company Law Affairs had been moved in regard to its shifting to Hyderabad under the relevant provisions of the Companies Act.

The Corporation had acquired, during 1963, free-hold land measuring 22,447 sq. yards, at Faridabad at a cost of Rs. 1.91 lakhs and subsequently constructed the following offices|residential buildings on this land:—

Sl. No.	Building	Area Sq. Ft.	Year of completion.	Cost of construction (in lakh of Rs.)
1	2	3	4	5
1.	*Temporary Office*			
	Single shed . .	3532	1963-64	1·52
	Double . .	7175		
	Garage & Store. .	1200		
2.	*Residential Colony*			
	36 Type II Qrs. .	16569	1966-67	6·63 (including cost of compound wall, sewerage, water supplies, roads etc.)
	20 Type III Qrs.	13985		
	Community Centre	3876		

1	2	3	4	5
3.	Additional office building	4703	1965-66	0·65
4.	New Office building .	8835	1967-68	1·50
5.	Ore Dressing Lab. .	4800	1969-70	1·05
6.	Gas Plant Room	220	1970-71	Not available separately.

The office accommodation at Sl. Nos. 3 and 4 above had been rented out to Air Borne Mineral Survey of India, a Subordinate Office under this Ministry at a monthly rent of Rs. 3,043. The remaining office building was being utilised by the Corporation itself and its rent has never been assessed. The quarters were allotted to the employees of the Corporation. The rent realized from the employees of the Corporation for these quarters from 1967-68 to 1971-72 was as follows:—

	Rs.
1967-68	11,424·61
1968-69	8,747·13
1969-70	12,032·99
1970-71	16,542·87
1971-72 . .	19,253·60
TOTAL .	68,001·20

(The rent realised in 1966-67 is not separately available in the Annual Accounts.)

The written down value of the assets of the Corporation at Faridabad as at 31st March, 1972 was Rs. 10,70,167·30. It was proposed to dispose of the property immediately on receipt of the approval of the Government of India. Therefore, it was not considered advisable to let-out any part of the office building or the residential quarters in order to attract suitable buyers. The Ministry of Works and Housing were making an evaluation of this property with a view to possibly to take over it to meet their pending demands for accommodation.

10.22. The following staff had been retained at Faridabad for looking after the assets of the Corporation till these were disposed of:—

(1)	Engineering Assistant	1
(2)	Works Mistry	1
(3)	Plumber-cum-Pump Operator	1
(4)	Chowkidars	5
(5)	Sweeper	1

10.23. The following offices and staff were in position at Delhi:—

1.	Liaison-cum-Administrative Officer	1
2.	Asstt. Liaison Officer	1
3.	Junior Stenographer	1
4.	Telex Operator	1
5.	Cook	1
6.	Staff Car Driver	1
7.	Peon	1
8.	Scooter-rider-cum-Messanger	1
9.	Chowkidars	2
10.	Sweeper	1

10.24. The offices and staff stationed at Delhi had not been provided rented accommodation by the Corporation. The monthly rent for the office building-cum-guest house was Rs. 1320|- p.m. Total expenditure (salary and allowances) on staff stationed at Delhi and Faridabad for the period from May, 1972 to October, 1972 was Rs. 63,639·76.

10.25. The Committee note that though a decision was taken by the Government of India towards the end of 1962 to shift the Headquarters of the Corporation, the Government had been changing

their decisions from time to time and it was only after 9 years that a final decision has been taken to shift the headquarters to Hyderabad. The Committee are constrained to observe that these frequent changes in the decision had not only led to creation of assets worth rupees more than Rs. 11 lakhs at Faridabad but has resulted in additional expenditure on the shifting of the offices, rents of buildings at Hyderabad etc. In the opinion of the Committee, the headquarters of the Corporation should have been located centrally so that all the projects undertaken by it are easily accessible for supervision and effective control over their execution.

The Committee also recommend that the Corporation should take timely action for the disposal of the property at Faridabad in the best public interest to obviate the recurring expenses on staff deputed to look after the property and on its maintenance.

XI

MATERIAL MANAGEMENT AND INVENTORY CONTROL

A. Stock of Spares

11.1. The minimum, maximum and reserve stock limits of stores and spares had not been fixed by the Corporation till 1969-70 either at Kiriburu or at Bailadila Projects. The classification and codification of various items of stores had also not been completed except for about 40 per cent of the total items of stores at Bailadila Project.

11.2. The Management had stated (December, 1969) that "The work relating to codification of the stores at Bailadila is being taken up and is further proposed to be improved by the installations of mechanised punch card data processing machines."

11.3. The Ministry had stated (May, 1970) that "the forecast of the requirements of the stores and spares and programming and procurement keeping in view the lead time, sale margin and review frequency depending upon the category of items based on ABC analysis and source of supply has been completed in the Kiriburu and Bailadila Projects. The review is in progress taking into account whether an item is a regular item of stores or an insurance item as also the requirements of preventive maintenance."

11.4. The following table indicates the position of stores and spares at Kiriburu at the close of the last six yeai

(Rs. in lakhs)

	1966-67		1967-68		1968-69		1969-70	1970-71	1971-72
	Indi-genous	Import-ed	Indi-genous	Import-ed	Indi-genous	Import-ed			
1	2	3	4	5	6	7			
(1) Closing balance at the end of the year	81·59	15·97	92·51	23·45	89·33	25·27	122·97	137·76	172·63
(2) Consumption during the year	31·52	8·47	37·07	13·83	29·66	13·36	63·57	77·32	62·41
(3) Closing balance in terms of months, consumption	31	23	30	20	36	23	23·21	21·37	33·19
(4) Purchases	(Data not available)		46·47	24·09	32·77	5·13	23·62	53·11	25·19

11.5. It will be observed from the above figures that during the period from 1966-67 to 1968-69 while the stock of imported materials represented between 20 and 23 months' consumption, the holding of indigenous stored represented between 30 and 36 monthss' consumption. Even though the stock of indigenous stores was very much on the high side, the purchases during 1967-68 and 1968-69 represented more than a year's consumption, thus further adding to the inventory of stores and spares. This had resulted in unnecessary blocking up of capital and consequent expenditure on storage, loss of interest, etc.

11.6. The Management stated (December, 1969) as follows:—

"In the case of imported spares as the lead time involved in procurement is considerably longer than indigenous available spares, certain amount of excess stockings becomes inevitable particularly as the projects are located in remote localities. Secondly, a number of spares are kept in the Projects as insurance items and this naturally adds to the value of the inventory.

In case of vital imported items the lead time is approximately 18 months and that in case of safety stocks to even achieve approximately 85 per cent. availability on first demand is approximately 12 to 18 months. Very high percentage of items have no regular pattern of consumption and have to be classified as insurance items. It is, therefore, not feasible to bring down the inventory level to the norms generally prevailing for manufacturing industries with substantial amount of indigenous content. It can only be done at the cost of increase in the down time of machines."

In this connection the corporation stated that:—

"The present inventory holding has been taken into account while reviewing the requirements and raising the indents with a view to avoid heavy inventory holding.

Codification of stores for NMDC as a whole has been established for all major equipment spares except for general store.

Unit Record Data Processing system has been introduced at Bailadila-14 Project and it is in operation since May, 1971."

11.7. The following table indicates the comparative position of inventory and the distribution at the close of last three years.

(Rupees in lakhs)

	1969-70	1970-71	1971-72
1. Stores & spares Parts.	376·58	517·23	955·02
2. Closing stock of diamonds, Iron Ore etc. . .	250·67	263·07	146·48

The stock of stores and spare parts was equivalent to 157·1 months consumption for production and development in 1971-72 as compared with 78.3 months in 1970-71 and 53.9 months in 1969-70. The closing stock of Iron Ore, diamonds etc. represented 1·1 months sales during 1971-72 as compared with 0·9 month during 1970-71 and 1 month during 1969-70.

11.8. A Statement showing the position of stores as at the end of 31st March, 1970, 31st March, 1971 and 31st March, 1972 for three Projects (viz. Bailadila, Kiriburu and Panna Diamond).

(Rupees in lakhs)

	Bailadila			Kiriburu			Panna		
	1969-70	1970-71	1971-72	1969-70	1970-71	1971-72	1969-70	1970-71	1971-72
1. Closing balance at the end of the year	156·68	228·94	344·00	122·97	137·76	172·63	18·15	29·56	30·47
2. Consumption during the year	108·00	152·56	152·72	63·57	77·32	62·41	15·12	22·73	21·32
3. Closing balance in terms of months consumption	17·41	17·99	27·06	23·21	21·37	33·19	14·40	15·60	17·15
4. Purchases	50·93	167·22	59·69	23·62	53·11	25·19	33·70	34·74	12.50

(Separate break up for indigenous & imported stores is being ascertained from the projects and will be intimated as soon as we received them)

11.9. In regard to the review of spares and stores undertaken by the Corporation it was stated that "stores were classified as moving and non-moving items. Stores were subjected to ABC analysis. Stocks level were fixed and reviews were made periodically. Stocks of about 70 per cent in the usage value were subject to thorough control and review. Non-moving items were categorised as insurance and non-insurance items. They were periodically reviewed. Non-moving items which have not moved over a long period are declared surplus for disposal. These steps have been taken recently."

11.10. In a note after evidence, the Department of Mines stated that in May, 1970 a "Committee on Inventory Control", was constituted by the Bureau of Public Enterprises. That Committee submitted its report in January, 1972 which *inter-alia* made the following recommendations:—

(i) "Percentage of out of stock items is very high. Stock cards may be reviewed and proper follow up action should be ensured. While fixing norms and safety levels etc. it is necessary that the availability factor be kept high to ensure proper maintenance of the equipments since otherwise the down time losses could be considerable.

(ii) Material Management Department should be reorganised so as to centralise the purchase work under materials manager.

(iii) Schedules have now been drawn by N.M.D.C. for periodical overhaul of the equipment. In the absence of proper maintenance schedule, proper provisioning of spares was difficult in the past. It is very essential particularly for spares that NMDC bulk the requirements of different Projects and initiate procurement action according to a programme spread throughout the year.

(iv) Insurance and standby spares in all the three periodical reviewed by a technical Committee of the Undertaking to examine the necessity of their continued retention. Stocks of moving spares may be controlled on the basis of their past and anticipated consumption.

(v) With the introduction of data processing the values could be conveniently worked out in order to keep an overall watch on inventory levels of such items. It is also necessary to exercise at higher level effective control over the consuming and ordering of 'A' items.

(vi) Inspection procedure should be streamlined an additional staff posted if necessary so that in coming materials are normally cleared from inspection within 7 days.

(vii) At present there is no proper reporting system for inventory management in any of the units of NMDC.

(viii) No proper record of the arising and disposals of scrap etc. is being maintained by the Undertaking to exercise proper control over arising and disposal of scrap, it is necessary to have proper account of the same.

(ix) The system of weighment of float ore and dumping the same on heaps along with the mechanically mined, needs to be looked into to plug loopholes for malpractices. It may be desirable to provide suitable regular checks by associating a representative from Finance or from MMTC.

(x) N.M.D.C. should list out surplus and obsolete items which have not moved in the past and put them up before a Survey Board for decision regarding their disposal. Initially all items which have not moved for three years should be taken up for survey by the Committee.

(xi) Safety stock levels fixed by the NMDC are high. Realistic safety stock levels should be fixed taking into consideration the variations in the consumption and lead time and the criticality of the items."

The Report submitted by that Committee was considered by the Secretaries' Committee on Public Sector Enterprises in May, 1972 at which it was decided that the Bureau of Public Enterprises should further review the Inventory position in regard to NMDC's projects. It was stated during evidence. that further action was in hand with the Bureau of Public Enterprises.

11.11. The Committee note that the stock of stores and spares parts of NMDC as on 31st March, 1972 represented 157·1 months' consumption for production and development as compared to 78·3 months in 1970-71 and 53·9 months in 1969-70. The Committee also note that the closing balance of the stores in respect of Bailadila, Kiriburu and Panna Diamond projects as on 31sct March, 1972 represented 27,06,33·19 and 17·15 months consumption of the stores and the inventory level showed an increasing trend in all the projects from 1969-70 to 1971-72. The Committee feel that with the experience of working of the project, the NMDC should not have found it difficult to fix realistic norms of levels of inventory separately. for

indigenous and imported items of stores and spares so as not to overburden the inventory.

11.12. The Committee also note that the purchases in Bailadila and Panna Diamond Projects were in excess of the years' consumption during 1970-71 and 1969-70 and 1970-71 respectively, thus further adding to the inventory of stores. With the introduction of data processing system it should be possible for NMDC to have ready information of stock levels, consumption etc. so that purchases may be made on realistic basis. The Committee need hardly stress that accummulation of inventory and excessive purchases result in unnecessary blocking of capital with consequential expenditure on storage, loss of interest etc.

11.13. The Committee were informed that an "Inventory Control Committee" was constituted by the Bureau of Public Enterprises. That Committee in its report submitted in January, 1972 had made certain recommendations regarding procedures of purchase and inventory control. The Secretaries' Committee on Public Sector Enterprises which considered that report in May, 1972 decided that the Bureau of Public Enterprises should further review the inventory position in regard to NMDC's projects.

11.14. The Committee would like the Government/Bureau of Public Enterprises should complete the review without delay and fix suitable norms for the stores and spares consistent with the needs of production and development works of NMDC. The Committee were informed that stocks of about 70 per cent in the usage value were only being subject to thorough control and review. The Committee strongly urge that a thorough review of all the items of stocks should be undertaken half-yearly and action taken to reduce the inventory levels to avoid unnecessary accumulation of stores.

B. Surplus, Slow moving and Non-moving items

11.15. (i) The following table indicates the stores which did not move for a considerable period at Kiriburu:—

(Position as on 31-5-1969)

(Rs. in lakhs)

1.	Value of stores which did not move for more than a year	Imported Indigenous	2·82 0·22
2.	Value of stores which did not move for more than 2 years	Imported Indigenous	9·24 0·75
3.	Value of stores which did not move for more than 3 years	Imported Indigenous	15·20 0·01
			28·24

11.16. Similarly at Bailadila, Stores of the value of Rs. 2.91 lakhs did not move during the last 2-3 years while stores of the value of Rs. 12.18 lakhs were moving at a very slow rate.

11.17. In a note after evidence the Corporation stated that:—

"Store-holder periodically reviews and identifies non-moving and obsolete spares on the basis of which lists are prepared. These lists are circulated to sister Projects and to the extent they are required by them they are transferred. For the balance disposal action is taken by circulating the lists to other concerns who may be interested in such spares or by calling of tenders. List of surplus|obsolete spares already prepared have been partly disposed of by transfer to other projects and other means. Action is in progress. These surplus has arisen partly due to larger inventory of insurance items and partly due to irratic consumption. The slow moving spares in Kiriburu. Bailadila and Panna are mainly insurance spares. They would have to be stocked for emergent requirements."

11.18. At Panna Project, the stores of the value of Rs. 2.25 lakhs and Rs. 3.52 lakhs did not move during 2 years and one year respectively.

The Management stated (December, 1969) that:—

"The necessity to maintain adequate inventories on account of longer lead time, transportation problems, safety margin required for imported spares and the necessity to retain some slow moving items as insurance items is to some extent unavoidable in out of the way mining-Projeccts."

11.19. (iii) The following items declared surplus by the various projects had not been disposed of till July, 1969:—

Name of the Project	Nature of item	When declared surplus	Value (Rs. in lakh)
Kiriburu	Equipment Construction machinery and stores	7-6-1968	2·97
Bailadila		October, 1968	35·56
Panna . .	Stores	March, 1968	0·90

11.20. The Ministry stated (May, 1970) that surplus items worth over Rs. 26 lakhs had since been transferred to other projects of the Corporation or otherwise disposed of and that the lists of other surplus items had been circulated to Public Undertakings|advertised in the newspapers for disposal.

11.21. (iv) The Panna Project received a shovel valuing Rs. 9 lakhs from Bailadila in January, 1968 which was not utilised for want of certain repairs and was returned to Bailadila in May, 1969 after a lapse of almost 1-1|4 years.

11.22. The following table indicates the stores which did not move for a considerable period in the Bailadila, Kiriburu and Panna Projects.

Rs. in lakhs

	Bailadila	Kiriburu	Panna	Total
1. Value of stores which did not move for more than 1 year (as on 31-3-70)	139	85·87	3·11	227·98
2. Value of stores which did not move for more than 2 years (as on 31-3-71)	74	62·00	1·69	137·69

11.23. The position of items declared surplus in the various Projects but awaiting disposal as on 31-3-72 is stated to be as under:

Project	Nature of item	Surplus awaiting disposal as on		Value in Rs. lakhs
Bailadila	Spares	31-3-72		16·04
Kiriburu	1. Spares			6·52
	2. Construction special	31-3-72		0.17
			TOTAL	6·69
Panna	1. Spares			0·25
	2. Stores other than spaes	(†)		0·04
	3. Construction and Special			0·04
				0·33

11.24. In a note after the evidence, Corporation stated that in regard to the Shovel received from Panna Project, it was transferred from Bailadila to Panna Project, to meet their urgent requirement for removal of overburden pending receipt of equipment ordered by them. Though the shovel was received at Panna they could not use it as it required major repairs and was taking time. Meanwhile, they received their own equipment and the shovel was sent back to Bailadila. On receipt at Bailadila it could not be used and had been declared as surplus for disposal.

11.25. The Committee note that in the Bailadila, Kiriburu and Panna Diamond Projects, stores of the value of Rs. 137.69 lakhs did not move for more than two years as on 31-3-71 and stores of value of Rs. 227.98 lakhs did not move for more than one year as on 31-3-71. The Committee also note that Rs. 23.06 lakhs worth of stores including spares and construction and special parts are awaiting disposal as on 31-3-72. The very fact that more than Rs. 3 crores worth of stores are not moving for over one/two years only proves that sufficient care was not exercise before ordering purchases. The Committee were informed that periodical reviews are undertaken by the Store holder to identify non-moving and obsolete spares, lists are prepared and circulated to Sister Projects or the items are transferred to other projects. The Committee are strongly of the view that the review of stores should not be left to the storeholder but should be conducted systematically by an independent store officer|stock verification officer so that a systematic analysis of all the slow-moving|non-moving items is undertaken and items surplus to requirements are identified and timely action taken for their transfer to other projects, public undertakings where they could be more usefully utilised instead of allowing them to become obsolete to be ultimately written off as a loss. The Committee also find that the shovel received by the Panna Diamond Project from Bailadila in January, 1968 on the plea of urgency for removal of over burden could not be utilised for want of certain repairs and had ultimately to be returned in May, 1969 to Bailadila without any use after more than 15 months. Even after the shovel was received back at Bailadila it could not be put to use and had to be declared as surplus. The Committee are not convinced about the plea of urgency for the transfer of equipment from Bailadila.

The Committee fail to understand as to why the Corporation could not have verified the condition of the shovel even before it was transferred to Panna, and why it had taken more 15 months for Panna Project to return it Bailadila. The Committee would like that this should be investigated in detail and a report furnished to them.

The Committee feel concerned that on the one hand the Corporation is carrying heavy inventory of stores and a large amount of surplus stores are accumulated on the other hand. Common equipment like shovel remain unutilised for want of spares for repairs.

The Committee would like the Corporation to undertake a thorough review of similar cases of Plant and Machinery which may be lying unutilised for want of spares or repairs of which may be uneconomical so that the Corporation may take immediate measures to bring them in working order or take action for their disposal to other Undertakings.

The Committee suggest that the Inventory Control Committee on NMDC should also critically examine this aspect and suggest ways and means for adequate provisioning of spares and stores so that the machinery in the Corporation may not at any time remain unutilised on the plea of want of spares and production affected on this account.

(i) *Delay in placing an order*

11.26. In response to the global tenders invited by the Corporation on 24th June, 1964 for the purchase of 5 Blast Hole Drills, the Corporation received the lowest offer of Rs. 24.51 lakhs valid up to 26th December, 1964. On receipt of a request from the Corporation, the firm agreed to supply the equipment on 'deferred payment terms' and also extended the validity period of the offer upto 31st January, 1965 (further extended upto 15th February, 1965).

On 27th January, 1965 the Corporation decided to accept the firm's offer and requested the Government on 3rd February, 1965 for the release of foreign exchange on 'deferred payment basis'. The Government sanction was received on 21st September, 1965.

11.27. On 24th September, 1965 when the Corporation placed an order on the firm, the latter asked for a price of Rs. 25.70 lakhs (reduced to Rs. 25.57 lakhs on 27th October, 1965 after negotiations). Thus due to delay in placing the order on the firm the Corporation incurred an extra expenditure on Rs. 1.06 lakhs.

11.28. The Ministry informed Audit in May, 1970 that the delay in the case of placing of an order on the firm for purchase of 5 Blast Hole Drills occurred due to observance of time consuming formalities in obtaining the various clearances.

11.29. The Corporation stated in a note after evidence that observance of special formalities regarding obtaining waiver against rules of EXIM Sixth line credit arose as the order was placed for this equipment prior to actual release of foreign exchange. Some delay took place in justifying reasons to obtain this waiver.

11.30. The Corporation further stated that such a situation would not arise henceforth as orders would be placed after receipt of import licence.

11.31. The Committee regret to note that because of the failure of the Corporation in not initially obtaining the prior sanction/release

of foreign exchange and the procedural delays in obtaining the various clearance thereafter, the Corporation suffered a loss of Rs. 1.06 lakhs in the transaction. The Committee are not convinced of the justification for the delay in this case. The Committee need hardly stress that the Corporation should have taken advance action for the settlement of formalities and secured sanction for foreign exchange in time. The Committee hope the Corporation would ensure that such delays do not recur in future.

(ii) *Failure to review the existing contracts*

11.32. The contract for the transportation of cement from Jaimul/Dhumtari to Kirindul at the rate of 2.15 paise per ton mile and from Jaimul|Dhumtari to Bhansi at the rate of 19 paise per ton mile expired on 31st March, 1966. Instead of inviting fresh tenders, the contract for the subsequent period was awarded to the 2 other firms 'A' and 'B' at a negotiated rate of 27 paise per ton mile. As this rate was higher than the rates allowed to the previous contractor, it was decided that the contract with these firms should be reviewed after three months.

11.33. The contract was not reviewed as decided earlier but was extended up to 31st March, 1967 at the existing rate. On the basis of tender invited in April, 1967 a fresh contract was entered into with a new firm with effect from 1st May, 1967 at the rate of 19.36 paise and 19.63 paise per ton mile from Jaimul to Kirindul and Jaimul to Bhansi respectively. Failure to invite fresh tenders after the expiry of 3 months from 1st April, 1966 thus resulted in an extra expenditure of Rs. 2.40 lakhs on the transportation of cement during the period from 1st July, 1966 to 30th April, 1967 as compared with the rates obtained after the invitation of tenders in April, 1967.

11.34. In this connection the Corporation stated after evidence that the transport contractor for 1965-66 could not keep pace with the work and expressed his unwillingness to continue on the same rates next year, so, on the expiry of the contract, the General Manager Bailadila invited tenders for the transport of cement from Dhumtari to Kirindul. The quotations received ranges from 29 p. per tonne to 40 paise per tonne per mile (except in regard to the previous year's contractor who was ignored because of his poor performance in the existing contract and another from his son who also did not furnish Earnest Money). The General Manager, therefore, called for limited tenders from 5 known local firms across the table and after negotiations with the parties and in consultation with Project Finance awarded the contracts for 3 months—1-4-66 to 30-6-66. As the project was keen to transport cement which was badly needed, expeditiously, and as it was apprehended that a single transport contractor may not be able to cope with the work, it was decided to award the work to two contractors. The General Manager reported to Head Office the negotiation conducted by himself in association with local Finance.

11.35. The contract was originally awarded upto 30-6-1966 and subsequently reviewed by the General Manager from time to time and extensions were granted to the contractors at the negotiated rate of 27 paise per tonne per mile which was considered to be reasonable, compared to the rate of 31 paise being paid by the State Government during that period for transport of food grains.

11.36. Attempts were also made by the Project to explore possibilities of reduction in rates, but in view of poor response and dearth of suitable transport contractors the contracts had to be extended. In April, 1967, the situation changed due to recession. Fresh quotations were invited and lower rates were obtained.

The contracts required the approval of the Board of Directors. The extensions were not made with the Board's sanction. The General Manager went ahead in consultation with However, *expostfacto* approval of the Board to the award of the contract together with extensions upto 31-3-1967, was obtained in its 90th Meeting held on 6-12-1967.

11.37. The Committee note that on the expiry of the contract for transport of cement from Jaimul-Dhumtari to Kirindul at 21.5 paise per ton/mile and from Jaimul-Dhumtari to Bansi at 19 paise per ton/mile, on 31-3-66 two contracts were entered into at the rate of 27 paise per ton|mile on the basis of tenders invited from local firms across the table and after negotiation with the parties without associating the contractors on the plea of his poor performance. Though these contracts were required to be reviewed after three months, instead of reviewing them and inviting fresh tenders, the earlier contracts were extended upto 31-3-67. It was only in April, 1967 that tenders were again invited when the rates obtained were 19.36 p. and 19,63 p. per tonne/mile rspectively. The Committee regret to note that non-invitation of tenders and failure to conduct the review from time to time has resulted in an avoidable extra expenditure of Rs. 2.4 lakhs to the Corporation.

The Committee are also at a loss to understand as to why no action was taken against earlier contractor for his poor performance. Apart from this, the Committee find that General Manager had been giving extension to the contracts in consultations with the head-office without obtaining the approval of the Board as prescribed under the rules. And it was only as late as December, 1967 that ex-post-facto **approval of the Board was obtained, the Committee take serious view of the irregularities in the case and urge that Government should probe into them and take action against those responsible for the lapses.**

XII

PRICING POLICY

A. Functions of the MMTC LTD.

12.1. The sale of iron ore to Japanese Steel Mills in terms of the agreements entered into with them for the development of the mines at Kiriburu and Bailadila, is made by the Corporation through the Minerals and Metals Trading Corporation of India Ltd. (another Government Company). Besides negotiating the price with Japanese Steel Mills, the MMTC Ltd. would also be required to arrange, on behalf of the NMDC, for the financing of the railway freight, port charges, siding charges, export duty and also for the payment of analysis charges at the loading port, supervision charges at the destination port, drought survey charges, customs charges, etc. It was also responsible for to drawing up of the shipping schedule in consultation with NMDC and the steel Mills of Japan, and supervision at the loading and destination ports.

B. Commission to MMTC

12.2. For the functions mentioned above, the Minerals and Metals Trading Corporation Limited were to recover from National Mineral Development Corporation service charges at the rate of Re. 1 per Dry Long Ton (Reduced to Rs. 0.75 per Dry Long Ton from 1968-69 onwards).

12.3. In paragraph 77 of their 11th Report (4th Lok Sabha) April, 1968; the Committee on Public Undertakings suggested that the Corporation should work out its cost of exporting the ore independently, and if the cost did not work out to be more than the commission paid to the MMTC, it might be economical for the Corporation to take over the work from the MMTC. This aspect was examined by National Development Corporation in 1969 and it came to the conclusion that if funds were made available to the extent of Rs. 2.3 crores, either by Government as loan bearing the same rate of interest as was charged by the Banks from export industries, or by the State Bank of India under cash credit arrangements bearing interest at 6 per cent. per annum, it need not pay to the MMTC the element of the service charges representing, "Finance obligations" excepting the overhead expenses amounting to Rs. 0.05 per M. ton. Final decision had not, however, been taken in the matter.

12.4. The Ministry had stated (May, 1970) that "the Corporation has been advised to obtain the approval of the Board of Directors whether it should confine itself to the sale of iron ore to the MMTC, on FOR basis. Till this is done, the proposal for giving loan to the Corporation to take up the financing obligations itself has been kept pending. Further the Corporation has also taken up with MMTC the question of further reduction in the service charge."

12.5. In this connection the Corporation stated that NMDC encountered difficulties in the iron ore exports through MMTC. The main difficulty had been in regard to interpretation of the terms of contract in the past. Certain provisions in the contract had been interpreted differently by MMTC, with the result that certain items involving substantial amounts were still under dispute.

12.6. The provisions in the contract, which had been linked with the provisions and terms of MMTC's contract with the Japanese had been causing delays in securing dues of NMDC. In the collection of dues from foreign buyers and its transmission to NMDC. the claims preferred and received by MMTC were required to be verified and checked in NMDC involving duplication of the clerical and accounts work.

12.7. The Corporation suggested that terms of agreement between MMTC and NMDC, might be simplified so that NMDC would get the amounts|payments straight as the producer at mine-head. NMDC should not be loaded with liabilities and responsibilities of trade risk and transportation loses beyond "FOR" stage; those should be borne by the trading organisation.

12.8. During evidence the Financial Adviser, Department of Mines stated that the price was fixed by the Government in 1966 and it was going on for a number of years. Thereafter the NMDC desired that the system might be changed. So this matter was referred again back to the Government. The Finance Secretary (Expenditure) who was deputed by the Committee of Secretaries to give an award in this matter, gave the award that the Bailadila price may be fixed on FOR basis at Rs. 20.50 per tonne. This award was accepted by the MMTC but was not accepted by the NMDC. The Corporation raised objections to this award and so the matter was again referred to the Finance Secretary. In the finding it was also mentioned that the price of Rs. 20.50 might be continued for the year 1971-72. Further discussions between the NMDC and MMTC were to be held for the year 1972-73. Final decision for 1972-73 is yet to be arrived at.

12.9. The salient points of award by the Finance Secretary were as follows:—

(1) The new basis for price will be FOR Vizag. Port, the actual railway freight according to R|R and sales tax, if any, paid by NMDC would be to the account of MMTC.

(2) The period of contract on the new basis will be three years from the 1st April, 1971. Although the Export of Kiriburu ore will cease after 1971-72, the existing arrangement for the pricing of Kiriburu ore may continue in 1971-72.

Bailadila

(3) NMDC accepted full liability in regard to moisture and fines in terms of long term contracts between MMTC and Japanese Steel Mills.

(4) An addition of one percentage by weight will be made to all shipments in 1971-72 to compensate the NMDC for losses in transit. Final payment to NMDC would be made on the basis of weight so determined. Actual percentage of loss and transit during a year would be studied and applied to next year's shipment.

(5) The stock of Bailadila ore in the port dumped as on 1-4-71 would be revalued at mutually agreed price, FOR loading point at the mine, effective from that date. Other charges like freight etc. paid by NMDC would be reimbursed by MMTC. This should also apply to ore in transit from the mine to the port on 1-4-71.

(6) For any shortages and excess in the port dumps, no adjustment would be made.

(7) NMDC would bear 50 per cent expenditure by NMDC on sampling and survey.

(8) MMTC will pay 90 per cent of the price of ore on the basis of R|R weight each week which will be adjusted in relation to each shipment taking note of variations from the contractual specifications, the weight of each shipment as determined by the draft survey and other factors. The final adjustment bills will be settled by the MMTC as quickly as possible after each shipment.

(9) There was no agreement between the NMDC and MMTC in regard to (i) price of Bailadila ore; and (ii) the wage

escalation clause suggested by NMDC. The price of Rs. 20.50 per DMT equivalent to 19.89 per WMT would give profit of Rs. 4.36 per WMT on Bailadila ore after charging devaluation but before a payment of interest. In other words, this would give a gross return of 5.2 per cent on capital.

In regard to escalation on wages, it was stated that the wage rates prevailing at Bailadila Mine were substantially higher than the statutory minimum wages. If there be any increase in wages as a result of recommendations of Wage Board and NMDC were to pay more wages according to such recommendations, the question of any increase in price as a result of such revision of wages might be mutually settled by the two Corporations.

12.10. In a note after evidence, the Department of Mines stated as under:—

"The Committee of Secretaries on Iron Ore Exports, in its meeting held on 4-2-1971, accepted the suggestion made by the Department of Mines, that MMTC should pay to NMDC for the iron ore exported by the latter, on the F.O.R. basis, effective from April 1, 1971. The Committee also desired that the Chairman of the two Corporations should discuss the whole question between themselves and if there were any differences these should be referred to Secretary Ministry of Finance Dept. of (Expenditure) for settlement. No settlement could be reached between the two Corporations specially on the specific F.O.R. price. The matter was, therefore, referred to Secretary (Expenditure) who recommended in October, 1971, a price of Rs. 20.50 per DMT for the Bailadila ore for a period of three years upto March, 1974. He also recommended that the *status quo* for exports from Kiriburu which were to be stopped by the end of 1971-72 should be maintained. The recommendations made by Secretary (Expenditure) were considered by the Board of Directors of NMDC who decided that the Corporation should write to the Government again, as the recommendations were not acceptable to it. On receipt of a reference from the Corporation, the Ministry took up the matter with the Ministry of Finance. A meeting was held in the Ministry of Finance in July, 1972, at which it was decided that the Chairmen of the two Corporations should again meet and try to settle the price questions for Bailadila exports. It was also decided in that meeting that the recommendations given by Secretary (Expenditure) in regard to price of

Kiriburu ore need not be reopened. The matter is accordingly under discussion between the two Chairmen. Based on the discussions so far held, Chairman, NMDC, has already made a revised offer to Chairman, MMTC proposing (a) a composite prices for the ore produced from the mechanised mine and the float ore at Bailadila for a period of three years ending March, 1974; (b) the price for the mechanised operations being based on 90 per cent operational efficiency with a return of 12 per cent on the capital; (c) acceptance of the other terms of the contract as recommended by Secretary (Expenditure); and (d) an *ad hoc* payment by MMTC to NMDC of Rs. 1.5 crores pending settlement of the price question. (The outstanding with MMTC is now Rs. 15 lakhs.

Thus, some of the points have already been narrowed down and Government expects that the matter would be satisfactorily concluded very soon. However, in the event of any difference of opinion on specific aspect still remaining between the two Corporations, Government would intervene at the appropriate stage."

12.11. The Committee invited the attention of the Chairman of National Mineral Development Corporation to his speech at the 12th Annual General Meeting held on 31st October, 1970 which *inter-alia* stated as follows:—

"......An indication of the seriousness of the situation can be had by considering the fact that every tonne of ore shipped by your Corporation from the beginning from Kiriburu and Bailadila has fetched for it an everage amount which is not even half the prevailing market price at which MMTC purchases ore for the similar grade and specifications for the Barajamda area."

12.12. The Committee wanted to know whether on this basis it would be correct to say that a differential treatment was given to the Corporation. In a note after evidence, the Corporation clarified that NMDC was treated on a different footing from other producers of iron ore from whom ore was purchased and exported by MMTC to Japan as indicated below:—

(1) Other producers of iron ore were paid on FOR|Plot at Mine head price with no obligations for risks or liabilities and expenses beyond sales-tax, if payable, being the liability of MMTC.

Against this, NMDC got from MMTC, the net residue from the FORT realisation after deduction therefrom all expenses (e.g. customs duty, port charges, rail freight etc.) payments including MMTC's own margin of 75 paise per tonne.

(2) Besides, NMDC bore all losses in transit as well as the exchange losses in foreign currency.

(3) NMDC also bore the loss in realisation at destinational port on account of weight, moisture percentage variations etc. as per contract between MMTC and Japan Steel Mills besides penalities and destinational supervision expenses. (The sales-tax payable was also to be borne by NMDC).

(4) The time-lag in getting NMDC's dues on the basis of FORT realisation had been significant as such payments were linked with the payments received from the Japanese buyers by MMTC.

(5) The quantum of residual realisation was major factor that made all the difference.

On an average, NMDC had been getting very low amount per-tonne as would be seen from the statements, given below, showing the residue received by MMTC on an average from year to year:—

I KIRIBURU ORE

Items	1967-68 Rs.tonne	percentage	1968-69 and 1969-70 Rs. tonne	percentage	1970-71 Rs. tonne	percentage	1971-72 Rs. tonne	percentage
(A) FOBT Reasisarion	56·94	100	56.94	100	56·94	100	@55·94	100
(B) Railway freight	23·00	40·4	28·00	49·2	32·00	56·3	32·00	57·9
percentages	9·00	15·3	9·00	15·8	9·00	15·8	9·00	16·3
Export dty	10·00	17·6	6·00	10·5	6·00	10·5	6·00	10·9
MMTC,z Commission	1·00	1·6	0·75	1·3	0·75	1·35	0·75	1·4
Incidentals	1·75	3·1	1·75	3·1	1·75	3·1	1·75	3·2
Royalty & Cess	1·75	3·1	1·75	3·1	1·75	3·1	*2·25	4·0
(B) TOTAL	46·50	81·6	47·25	83·0	51·25	90·1	51·75	93·7
Residue available to NMDC(A-B)	10·44	18·4	9·69	17·0	5·69	9·9	3·51	6.3

@From January, 1972
*From December, 1971

2. BAILADILA DEPOSIT-14

Items	1968-69		1969-70		1970-71 (Provisional)	
	Rs./tonne/percentage		Rs./tonne/percentage		Rs./tonne/percentage	
(A) F.O.B. T. Realisation	69·67	100	69·67	100	69·67	100
(B) Railway freight	33·50	48·1	33·50	48·1	35·00	50·2
(C) Port charges	9·00	12·9	9·00	12·9	9·00	12·9
Export Duty	10·50	15·1	10·50	15·1	10·50	15·1
MMTC's commission	0·75	1·1	0·75	1·1	0·75	1·1
Incidentals	1·75	2·5	1·75	2·5	1·75	2·5
Royalty & Cess	1·50	2·2	1·75	2·5	1·75	2·5
TOTAL	57·00	81·9	57·25	82·2	58·75	84·3
Residue available to NMDC(A-B)	12·67	18·1	12·42	17·8	10·92	15·7

*(2) In respect of Bailadila Deposit 14, for the year 1971-72, pending finalisation of price on FOR basis, MMTC is paying Rs. 18.43 per WMT after deducting therefrom sampling and analysis charges and other penalties.

To summarise, NMDC had been getting, on an average, Rs. 3.51 to Rs. 12.67 per tonne excluding Royalty and Cess during the last few years against Rs. 19/- per tonne being paid by MMTC to other iron ore producers at Brajamda and Bellary Hospet."

It may also be seen from the statement "contribution to other agencies" in paragraph "that the total commission paid to MMTC upto end of 1971-72 amounted to Rs. 161.40 lakhs.

12.13. The Department of Mines also confirmed that NMDC was being treated by MMTC on a different footing from other producers of iron ore who were paid by MMTC on FOR/examine plot basis and it was in view of this consideration that Government decided that the price payable to NMDC should be on FOR basis. It was also stated that the matter was still under negotiation between the two Corporations.

12.14. Asked about the experience of NMDC in the matter of export through MMTC and whether it would be advantageous for NMDC if they themselves were to take up exports directly, the Corporation stated that it would be to NMDC's advantage to export ore

*Subject to verification

directly only if it could get residual FOR price comprising the cost and a reasonable return on investment. Ore produced manually or from semimechanised mines in Bellary|Hospet and Barajamda areas was cheaper than ore produced from mechanised mines. However, if fair wages were also paid by the former category of mines, ore from mechanised mines would be cheaper. Historically, export of ore was being canalised through MMTC and it had acquired adequate market knowledge and expertise in trading. It would, therefore, be advantageous to keep the trading activities with MMTC long as NMDC was paid a fair price inclusive of adequate return on investment.

12.15. In this connection, the Department of Mines also stated that it was the policy of the Government to canalise all exports of iron ore through a separate trading agency which in this case was the MMTC. NMDC was meant only as public sector producing agency. The Department of Mines therefore, had no comments on the advantages if any, if the exports were arranged directly by NMDC.

12.16. The following dues to be realised from MMTC as on 31-3-1972 are still outstanding on 1-8-1972.

(i) *Bailadila*-14

For the difference between the sale price and money received from MMTC for the quantity of ore exported|despatched during 1971-72, NMDC received for Bailadila ore export Rs. 677 lakhs. On the basis of Rs. 18.43 per D.W.T. FOR, which had been fixed as an ad hoc price payable to NMDC (pending a final settlement of prices) NMDC was to get Rs. 66.73 lakhs more for 1971-72 exports as on 31st March, 1972. In addition, sale price of iron ore stock and in transit as on 31-3-1972 was also to be received. The actual dues could be worked out after FOR price was finally fixed. In respect of previous years the following were due to be realised:—

	(Rs. in lakhs)
Final payments	66·73
Despatch money	1·55
Freight account . . .	00·38
(Statement as in Appendix III)	

(ii) *Kiriburu*

The outstanding was Rs. 12.44 lakhs on 31-3-1972 (Statement as in Appendix III). This figure was based on computation of net residual FOBT price of ore. If Government decides on FOR price for this ore also, the amount will need amendment on that basis.

Besides there were a few disputed items pertaining to pre-rupee-devaluation period (prior to 6-6-1966) on which decision was still awaited. They relate to:—

	(Rupees in Lakhs)
Railway freight for moisture debited to NMDC in the pre-rupee devaluation period	14
Port charges for moisture	5
Loading and Trimming charges	1.28
Tax credit refund	41
	61.28

12.17. The Committee note that the sale of iron ore to Japanese Steel Mills in terms of agreement entered with them for the development of Kiriburu and Bailadila Mines is being made by the NMDC through the MMTC. In paragraph 77 of their 11th Report, the Committee suggested that the Corporation should work out its costs of exporting the ore independently and if the cost did not work out to be more than the commission paid to the MMTC it might be economical for the Corporation to take over the work from the MMTC. This aspect was examined by the NMDC in 1969 and it came to the conclusion that if the funds to the extent of Rs. 2.3 crores were made available to the Corporation, it need not pay to the MMTC the element of the service charges representing "Finance obligations" excepting over-head expenses. The Committee find that already NMDC has paid Rs. 1.61 crores as commission charges to MMTC upto 1971-72. The Committee were informed that it was the policy of Government to canalise all export of iron ore through a separate trade agency which, in this case, was MMTC and so long as the NMDC was paid a fair price inclusive of adequate return on investment it should be advantageous to keep the trading activities with MMTC. The Committee also find that the question of price payable by MMTC in respect of ores exported through it, has been for long under dispute and it was only in October, 1971 that the Finance Secretary had given award about the fair price payable by MMTC, according to which the Corporation would be selling the Bailadila ore to MMTC on a FOR Vizag Port basis w.e.f. 1-4-1971 and the existing price formula for Kiriburu ore may continue for 1971-72. Though the MMTC had accepted the award, the Committee find that NMDC had been making further representations on the award. The Committee were also informed that the matter was still under negotiation between the two Corporations. The Committee need hardly stress that in the interest of improving the financial position of the Corporation, an early settlement of the price should be arrived at.

XIII

FINANCIAL MATTERS

A. Capital Structure

13.1. The Corporation was registered with an authorised capital of Rs. 15 crores. The authorised capital and paid-up capital as on 31st March, 1972 were Rs. 70 crores and Rs. 58.97 crores respectively. In addition, Government had from time to time granted loans to the extent of Rs. 2605 lakhs excluding Rs. 559.50 lakhs drawn for the Khetri Project. Consequent on the transfer of Khetri Copper Project to the Hindustan Copper Limited, the loans due from the Corporation were reduced by Rs. 1016.88 lakhs representing the value of the net assets transferred. The loans allocated to the Khetri Project by the Corporation being Rs. 559.50 lakhs, the balance of Rs. 457.38 lakhs was reduced from the loans allocated to the Kiriburu Project. The Corporation repaid loans to the extent of Rs. 1146.50 lakhs excluding adjustment of Rs. 559.50 lakhs pertaining to Khetri and leaving a balance of Rs. 1458.50 lakhs as on 31-3-72.

13.2. The debt equity ratio as on 31.3.1972 was 0.26:1. The deviation from the accepted pattern (viz. 1:1) of debt equity ratio was due to treatment of the entire value of assets transferred on account of Khetri Project as loan, without reducing the equity of the National Mineral Development Corporation Limited.

B. Financial Position

13·3. The table below summarises the financial position of the Company under broad h[illegible] during the last six y[illegible]

(Rs. in lakhs)

	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72
1	2	3	4	5	6	7
Liabilities						
(*a*) Paid-up Capital (including advance for shares)	1622·03	2406·03	2506·03	3334·03	4528·03	5897·03
(*b*) Borrowings:						
(*i*) From Govt. of India	1816·00	1633·83	1571·91	1385·81	1295·50	1458·50
(*ii*) Foreign Credits	562·60	583·28	405·39			
(*iii*) Cash Credit Account.	10·07	0·29		..	..	
(*iv*) Deferred payments liabilities				286·44	169·14	63·79
(*c*) Current Liabilities and Provisions	337·16	285·18	455·11	491·00	639·02	968·46
TOTAL	4347·86	4908·61	4938·44	5497·28	6631·69	8387·78
Assets						
(*d*) Gross Block	1559·90	2427·02	3290·37	3553·82	3905·44	4340·87
(*e*) *Less* Depreciation	378·96	473·43	678·46	883·73	1213·30	1470·35
(*f*) Net Fixed Assets	1181·64	1953·59	2611·91	2670·09	2692·14	2870·52

1	2	3	4	5	6	7
(g) Capital Goods-in-Transit	809·83	235·04	100·75	..	..	
(h) Capital Works-in-Progress	476·83	311·68	77·42	134·06	201·02	415·52
(i) Machinery in Transit and under installation	..	..	..	45·75	47·42	111·87
(j) Construction period expenses pending allocation	537·60	405·84	92·96	134·11	278·69	454·70
(k) Current Assets, Loans and Advances (including investments)	745·52	1225·16	1059·95	1523·44	2038·51	2733·39
(l) Deferred Revenue Expenditure	..	..	..	64·43	74·75	108·24
(m) Miscellaneous Expenditure	301 14	323·07	367·34			
(n) Development Expenditure adjusted		..		313·47	329·24	333·22
(o) Other Assets	..	..	..	50·74	95·45	89·49
(p) Profit and Loss Account	295·30	454·23	628·11	561·19	920·80	1270·83
TOTAL	4347·86	4908·61	4938·44	5497·28	6679·01	8387·78
Capital Employed	1590·00	2893·57	3216·75	3702·29	4044·04	4635·18
Net Worth	1025·59	1628·73	1510·58	2344·20	3107·79	4095·25

Notes: (i) Capital employed represents net fixed assets plus working capital (excluding provision for gratuity). Assets relating to the units under construction have not been separated in working out the capital employed.

(ii) Net worth represents paid up capital less intangible assets.

The cumulative loss incurred by the Corporation upto 31st March, 1972 amounted to Rs. 1270.83 lakhs.

13.4. The Committee asked the Corporation the rationale of asking for reimbursement of cash losses. The Corporation informed the Committee that "the loss had been caused mainly to external payments which constituted now about 93 per cent of sales realisation in Kiriburu and at Bailadila it is about 87.6 per cent of the FOBT sales realisation. Corporation's costs are comparable with the costs in other similar mechanised mines with the sale price externally fixed and other participants getting their full share, NMDC's residual realisation has been dwindling, due to factors beyond their control. If the entire export transaction had been reflected in the Books of MMTC, MMTC would have got reimbursement as applicable from time to time. NMDC is asking for nothing more, NMDC's cumulative losses are less than 90 per cent of export duty paid to the Government". No decision has however, been taken regarding reimbursement of losses pertaining Kiriburu or Bailadila Project.

13.5. The Corporation has been incurring losses every year. The losses incurred by the Corporation during 1968-69, 1969-70, 1970-71 and 1971-72 are as under:—

	Loss during the year	Cumulative losses beginning
	(Rs. in lakhs)	
1968-69	188·49	628·11
1969-70	48·28	561·19
1970-71	359·61	920·80
1971-72	350·03	1270·83

The loss upto 31-3-1971 amounts to Rs. 920.80 lakhs and equity as on 31-3-1971 stands at Rs. 4528.03 lakhs. The percentage of loss works out to 20.03 per cent. The loss upto 31-3-1972 is Rs. 1270.83 lakhs which works out to 21.55 per cent of the equity capital as on 31-3-1972.

13.6. Asked about the reasons for the increase in losses during 1970-71. The Corporation in a written reply stated that the reasons for the increase in losses in 1970-71 were mainly as follows:—

	(Rs. in lakhs)
(i) Value of fines taken credit for in 1969-70 excluded for closing stock and written back in 1970-71 . . .	59·22
(ii) Increase in Railway freight for Bailadila ore from Rs. 33·50 to Rs. 35 per tonne	49·32
(iii) Actual depreciation in Baildila Project	89·13 +27·04*
(iv) Extra personnel expenses Wages, Salaries etc. .	35·44
(v) Repair & Maintenance expenses etc. . . .	57·32
TOTAL . .	317·47

13.7. The Committee enquired as to when the Corporation was likely to break even. In a written note, the Corporation as well as the Department of Mines stated that NMDC would make profits when the sale price paid by MMTC was fixed on the FOR basis and provided in it a reasonable return on investment.

From the Annual Report of the Corporation (1971-72) it was seen that the Corporation earned in 1971-72 foreign exchange of Rs. 6 crores from the sale of Kiriburu and Rs. 25.45 crores as a result of export of ore from Bailadila.

C. Earning of foreign exchange

13.8. The total foreign exchange earned by the Company up to 31st March, 1972 amounted to Rs. 14,250 lakhs as under:—

Year	Kiriburu	Bailadila (Rs. in lakhs)
1964-65	53	..
1965-66	295	
1966-67	957	..
1967-68	1064	1262
1968-69 . .	1049	1173
1969-70 .	852	2082
1970-71	946	2368
1971-72	604.4	2545
	5820	8430

*According to Audit this represents actual depreciation showing the year.

13.9. In earning the foreign exchange the two mines (Kiriburu & Bailadila Mines) lost Rs. 1105.80 lakhs upto the end of 1971-72 as under:—

Year		Total losses Kiriburu (Rs. in lakhs)	Total losses Bailadila (Rs. in lakhs)
Upto	1969-70	413·66	137·63
	1970-71	117·46	219·37
	1971-72 (Prov.)	171·89	45·83
	TOTAL	703·01	402·83-1105·84

13.10. It was also stated in the Annual Report; 1971-72 "It is however gratifying to note that notwithstanding the financial difficulties and the fact that production at both the mines was below capaciy, the producion costs of ore in the mechanised mines of the Corporation compare favourably with those in similar lines in the country."

13.11. The Committee desired to know whether the Corporation made any attempt for comparing the cost of export with that in International Mining Companies. In a written reply after evidence, the Corporation stated that this was not done. However, on the basis of a project appraisal of a new mine being developed in Brazil, a comparison was made and the position was as under:

Comparison of cost of production (FOBT COST) among Kiriburu, Bailadila & MBR (BRAZIL) Projects:

	Kiriburu (1970-71)	Bailadila (1970-71)	MBR (Brazil) Projects
R.O.M. Capacity (in million tonnes)	3·3	5·5	12·0
R.O.M. Production (In million tonnes)	2·97	3·5	..
%age of Operation ROM	90%	64%	..
Saleable output capacity (In million tonnes)	1·8 (55% lump recovery)	3·6 (65% lump-recovery)	*10·0
Actual output	1·64	2·2	..
%age of operation Saleable output	91%	61%	

*Includes saleable fines also.

(Rs. per-tonne)

Cost of Production				
A.	1. Mine	8·53	9·73	8·44
	2. Administration expenses	2·75	2·51	1·09
	3. Royalty & Cess/Insurance/Tax	1·56	1·75	1·82
	4. Depreciation	3·95	6·56**	9·38
	5. Interest	0·01	3·79	4·15
	TOTAL—(F.O.R.)	16·80	24·34	24·88
	A			
B.	1. Railway freight (lead in Kms.)	32·00 (770 Kms.)	35·00 (475 Kms.)	19·07 (640 Kms)
	2. Port charges/Terminal	9·00	9·00	2·26
	3. MMTC's Commission	0·75	0·75	
	4. Export duty	6·00	10·50	..
	5. Incidentals	1·75	1·75	
	TOTAL Beyond (B) (F.O.R.)	49·50	57·00	21·33
	Total cost of production (A—B)	66·30	81·34	46·21

13.12. As would be seen from the data in respect of M.B.R. Projects, indicated above, NMDC cost of raising was comparable but the external costs were high.

13.13. From the Annual Report it is also seen that in respect of Kiriburu that "The net residual sales realisation left with the Corporation is totally inadequate to meet its cost expenses. The Government has therefore been approached for a subsidy to the extent of [illegible]0 per cent of export duty paid by the Corporation for Kiriburu ore exports." The Corporation has approached the Government of India several times since April, 1965 for subsidy to the extent of cash losses incurred by it on the export of iron ore to Japan. Against the accumulated loss of Rs. 628.11 lakhs (including Rs. 539.03 lakhs pertaining to Kiriburu Project) upto 31st March, 1969, the Government paid an amount of Rs. 138.42 lakhs on 31st March, 1970 in reimbursement of the cash loss of Kiriburu Project.

**Includes development expenses of Rs. 1·89 also.

13.14. The question of reimbursing the balance of the loss is still under the consideration of the Government.

13.15. During evidence, the Committee enquired whether the financial position of the Corporation during 1971-72 showed any change or improvement. The representative of the Ministry stated as follows:

"Now Kiriburu's position will considerably be improved. Kiriburu may not lose. The losses were on export account. Now, we are switching over to Bokaro and it will certainly not be bad. As far as Bailadila is concerned, I think there would be no loss with increase in production. With the revised position, NMDC must be in the plus. In respect of Donimalai we have still to negotiate the price but I think it will not be a loser. In respect of the two major projects, the financial position is entirely different now. We have also asked them to do the best to reduce the cost of production."

13.16. The Ministry of Steel and Mines (Department of Mines) further clarified the reasons for the increase in cumulative losses. On an average NMDC had been getting only net FOBT residual realisation for ore exports which had been dwindling from year to year as under:—

(Rs. per wet metric tonne)

	Kiriburu			Bailadila		
	Gross FOBT Realisation by MMTC	External Payments	Net residual realisation by NMDC	Gross FOBT realisation by MMTC	External payment	Net residual realisation by NMDC
1969-70	56·94	47·25	9·69	69·67	57·25	12·42
1970-71	56·94	51·25	5·69	69·67	58·75	10·92
1971-72 Upto 12[1971	56·94	51·25	5·69	18·43	2·25	16·18
From Jan., 1972	55·26	51·75	3·51	18·43	2·75	15·68

(ii) While the realisation for Kiriburu had been dwindling with the restriction on production on account of reduction in export commitments (1.5 million tonnes DLT in 1969-70 and 1970-71 and 1.0 m. tonnes D.L.T. in 1971-72), the cost of production had been increasing.

(iii) The Sale prices of ore are fixed externally and with excessive increase in railway freight and other liabilities accumulation of losses becomes inevitable. With FOR arrangements implemented the position would improve provided the arrangement covered both Kiriburu and Bailadila ore exports and NMDC would get a reasonable price providing for adequate return on investment.

(iv) Railway freight for the ore had increased from time to time as under:—

		(Rs. per tonne)
	Kiriburu	*Bailadila*
From 6.6.1966	23.00	30.00 (1967-68)
From 1.4.1968	28.00	33.50
From 1.4.1970	32.00	35.00

(v) Royalty was raised by 50 paise per tonne since December, 1971.

(vi) Devaluation caused a reduced rupee realisation of Rs. 1.68 per tonne for Kiriburu ore.

(vii) F.O.R. arrangements had been implementated adopting an *ad hoc* price of Rs. 18.43 per wet metric tonne for Bailadila only. The price had not been finally decided upon.

D. Contribution to Agencies

13.17. The Corporation contributed Rs. 11513.78 lakhs to the earnings of the following other agencies upto 31st March, 1972:

(Rs. in lakhs)

Year	Railway freight	Port charges	Export duty	Royalty and Cess	MMTC Commission	Total
1964-65	40·84	6·50		3·03	..	50·37
1965-66	237·64	..	..	14·12	..	..
1966-67	396·07	223·58	120·56	29·93	13·91	1032·81
1967-68	567·33	205·23	236·15	41·37	21·85	1071·93
1968-69	1202·33	306·68	309·34	62·63	24·22	1905·20
1969-70	1356·54	394·78	394·38	73·10	31·16	2249·96
1970-71	1618·79	444·56	444·36	83·54	35·26	2626·51
1971-72	1589·00	423·00	446·00	84·00	35·00	2577·00
TOTAL	7008·54	2001·33	1950·79	391·72	161·40	11513·78

13.18. The Committee desired to know whether the Government had taken any positive steps to improve the financial position of the Corporation. The Department of Mines stated that some of the principal steps taken by the Government to improve the financial position of the Corporation were as under:

"(i) Government had agreed that the price to be paid by MMTC to the NMDC should be on an FOR basis with the provision of a reasonable return on investment.

(ii) In respect of Bailadila—14, Government have sanctioned the necessary additional equipment to enable NMDC to achieve the rated capacity.

(iii) Government have authorised NMDC to prepare the necessary plans for utilisaiton of the fines in the form of pellets which will eventually improve the economics of the projects.

(iv) *Government have agreed in principle to reimburse the cash losses suffered by Kiriburu Mine from 1-4-1969.

(v) Government have also issued necessary instructions to the Corporation to curtail its production casts to the extent possible."

13.19. The Committee are unhappy to find the disquieting financial position of the Corporation which has accumulated loss of Rs. 12.7 crores representing 21.5 per cent of the equity capital, at the end of 31-3-72. The loss is mainly on account of a loss of Rs. 801.90 lakhs in Kiriburu and a Rs. 406.08 in Bailadila. The persistant bad performance of the Corporation from 1968-69 to 1971-72 should among other factors, be attributed to the fact that production at Kiriburu and Bailadila was much below the capacity. As may be seen from para 3.23 the Kiriburu mine is in fact operating only to one-half of its capacity while Bailadila Plant operations have not shown substantial improvement. Of the two major mines, Kiriburu accounts for less than 1/4 of the total production of the NMDC but its profitability is entirely dependent upon the off-take of ore and fines by Bokaro Steel Plant and fixation of the sale price therefor.

13.20. On the export side apart from the low level of production in the two mines and consequent reduction in exports, the Committee find that the external payments like Railway freight, Port charges, export duty, commission etc. have also contributed to the loss. The Committee hope that the F.O.R. arrangements now

*At the time of factual verification Audit has pointed out that "the note of discussion by the Secretary, Ministry of Finance (dated 24 July, 1972) indicated that for Kiriburu reimbursement of each lose would be considered and not that the Government had agreed in principle to reimburse such losses."

agreed upon by MMTC as a result of the award of the Finance Secretary would help in improving the financial position of the Corporation.

As the Corporation have now gathered valuable experience in mining of ore, it should be possible to bring down the cost of production by adopting most efficient methods by developing production to the full potential. The Committee need hardly point out that as iron ore constitutes the main raw-material for the steel plants its supply at competitive rates would help the public sector to produce iron and steel at most competitive rates. As pointed out elsewhere in the report there is great scope for increasing export of iron ore to other countries particularly Japan and this can be done on a sustained and long-term basis only if the National Mineral Development Corporation are able to raise the ore at most competitive prices.

13.21. The Committee would like to be informed of the measures taken or proposed to be taken by the National Mineral Development Corporation to increase the efficiency of its production and to reduce its operating and overhead cost.

13.22. The Committee have pointed out elsewhere in the Report that the operational cost as well as overheads of N.M.D.C. particularly in Bailadila and other iron ore projects are excessive. The Committee feel that detailed costing of operations should be done by the Financial Adviser's organisation so as to assist the management in taking timely action to improve performance and effect economies.

E. Internal Audit

13.23. The Committee on Public Undertakings in their 15th Report (4th Lok Sabha—April, 1968) on 'Financial Management in Public Undertakings' recommended that the functions of the Internal Audit should include a critical review of the systems, procedures and the operations as a whole. The Ministry of Finance (Bureau of Public Enterprises) while accepting the above recommendation directed in September, 1968 the Public Enterprises to introduce such a system. The Internal Audit Cell of the Corporation has, however, not conducted so far (December 1969), any appraisal of the performance of the Projects on the above lines.

13.24. The Ministry stated (May, 1970) that "the Internal Audit Unit has since been strengthened and appraisal of the performance of the projects would also be undertaken during 1970-71".

13.25. In a written reply after evidence, the Corporation informed (September, 1972) the Committee that the Internal Audit cells have since been sanctioned for the operating mines at Kiriburu and Bailadila Deposit No. 14. The Internal Audit Party from Head

Office has also been visiting the Projects according to programme drawn up from time to time.

Action for evolving suitable operation standards for production has been initiated and the work is expected to be completed by the end of 1972. Technical appraisal will be taken up immediately thereafter.

13.26. The Committee regret to note that in spite of the instructions issued by Ministry of Finance (Bureau of Public Enterprises in September, 1968 in pursuance of the recommendation by the Committee on Public Undertakings in their 15th Report (4th Lok Sabha—April, 1968) on "Financial Management in Public Undertakings" that Internal Audit should include a critical review of the systems, procedures and operations as a whole, the Internal Audit Cell of the Corporation has not so far conducted any appraisal of the performance of the projects. The Committee were informed that only recently the Corporation sanctioned Internal Audit Cells for the operating mines at Kiriburu and Bailadila and action for evolving suitable operation standards for production initiated. The Committee recommend that Internal Audit Cells should be activised to discharge their functions and responsibilities so that the Management can take advantage of the reports of internal audit in setting right the defects in the working of the Corporation.

XIV

CONCLUSION

14.1. The Committee have expressed regret that against the target of 80 million tonnes for export to Japan only about 10.6 million tonnes from Kiriburu and 11.86 million tonnes from Bailadila till 31-3-1972 were exported and a revised agreement was entered into with the Japanese for the balance quantity. The Export from Kiriburu had been stopped and future exports would be made from Bailadila to fulfil the export commitment with Japan. The Committee have stressed that every care should be taken during this transit period to see that whatever commitment is made in respect of the quantity and quality of iron ore to be exported to Japan is honoured in letter and spirit. For this purpose there should be an effective and close coordination of all the agencies concerned namely NMDC, MMTC, Railways, Foreign Trade, etc. so that no bottlenecks are allowed to come in the way of export commitments.

14.2. The Committee felt that proper and adequate attention was not paid at the time of taking vital decision about the machinery and equipment for Kiriburu Project, the man-power required, the assurance of production of lump and fine in proper proportions, disposal of fines, timely mining and shipping of ore with the result that Kiriburu not only failed to achieve the export target and win more orders but has resulted in loss with far reaching adverse effect on the project as a whole.

The Committee found no reason why Government did not take the basic precautions of having an integrated techno-economic detailed study before entering into a firm sale agreement with Japan. The Committee also saw no justification for leaving the work of technological investigation exclusively to I.B.M. without holding them responsible for the results. The Committee felt that the reports submitted by both these bodies should have been critically scrutinised by Government. What surprised the Committee most was that the decision to set up the Project, was taken with the full knowledge of the fact that there was no likelihood of any profit while there was every likelihood of a loss.

14.3. The Committee have found from the actual services rendered by the consultants that the project estimates prepared by them were inadequate and required a good deal of modifications with the result that the revised cost of project exceeded the original estimate by more than three crores of rupees. The Committee also regret to observe that the consultant's report was silent about the disposal of fines.

14.4. The Committee have found that the Kiriburu Project could not attain the rated capacity even in 1971-72. The shortfall in production of lump ore varied from 14 per cent to 22 per cent during the years 1966-67 to 1970-71 and increased to 48 per cent in 1971-72. The Committee have also observed that the shortfall in production during 1971-72 had resulted in an increase in cost of Rs. 1.88 per tonne, and consequently the loss had also increased by Rs. 19.6 lakhs on account of the supplies made to Japan.

The Committee, have found that the production did not follow any set pattern and Committee, therefore, found it difficult to accept the stand of the Corporation that its production was deliberately curtailed on this account. The Committee have strongly recommended that the Corporation should have a coordinated programme of production in consultation with the Ministry of Railways without affecting the production targets.

14.5. The Committee have found that though the Detailed Project Report had envisaged the lump-fine ratio as 60:40 actually the lump fine ratio ranged from 44.47:55.53 to 58.27:41.73 during the six years from 1964-65 to 1969-70. The lump fine ratio in 1970-71 and 1971-72 were, however, 55.16:44.84 and 54.91:49.09 respectively, thus indicating excess generation of fines during 1970-71 and 1971-72. The Committee were informed that from 1964-65 to 1971-72 the total reduction in cost that could have been achieved if the lump recovery had been as envisaged in the Detailed Project Report was of the order of 65.61 lakhs.

The Committee have further observed that 4.88 million tonnes of fines have been accumulated upto 31st Marh, 1972 and so far no value has been assigned to these fines. Though it was decided to dispose of the fines gradually to Bokaro Steel Plant, the fines could not be disposed of as the fines required for Bokaro were of different specifications.

14.6. The Committee note that if the lump recovery as envisaged in the Detailed Project Report had been achieved, there would have been a reduction in cost to the extent of Rs. 65.61 lakhs from 1964-65 to 1971-72 and this constituted a loss to the Corporation. The Committee pointed out that this loss would be further increased by the cost of beneficiation of fines not to speak of the additional cost that may be involved in the acquisition and erection of plant and machinery for such beneficiation.

The Committee have stressed that to a considerable extent the economics of an iron ore plant depends on the commercial utilisation of fines. The Committee have therefore, recommended that the Corporation/Ministry should resolve the differences with Bokaro Steel Limited and arrive at a reasonable settlement of the selling price of the beneficiated fines to Bokaro Steel Limited without any further delay.

14.7. The Committee have found that the Detailed Project Report had recommended a total staff of 750 under different categories for the working of the mines at the rated capacity of 2 million tonnes of sized ore per annum.

The Committee have expressed their regret that the Kiriburu Project had been carrying a large number of surplus staff and this had resulted in an additional expenditure of Rs. 33.76 lakhs from 1966-67 to 1971-72 and had caused an increase of 28 paise in the cost of production per tonne on an average. The Committee have noted that the Management are already seized of the problem and have taken various steps like voluntary retirement scheme, absorption of surplus workers in the new scheme without creating industrial unrest, the Committee have felt that the Management should tackle this problem and find an abiding solution. Meanwhile attempts should be made to deploy the surplus staff in such a way so as to reduce any loss to the project on this score.

14.8. The Committee have found that in NMDC the output per manshift ranged from 3.37 to 4.25 during the period from 1966-67 to 1970-71 compared to a rate of 5.39 based on the strength recommended by the Administrative Staff College and 8.89 indicated in the Detailed Project report.

The Committee viewed with concerned the wide variation between the strength sanctioned by the Management and the strength indicated in the D.P.R. and have suggested that the Management should workout a realistic rate of output per manshift taking into account all the factors and ensure that the rates are adhered to by a stricter supervision and increase production.

14.9. The Committee have observed that the Project Report had envisaged the availability factor of heavy mining machinery as 75 per cent on the basis of two shifts working for 275 days in a year. On the basis of percentage of the utilisation of two types of heavy mining machinery *viz.* dumpers and dozers, the Committee have found that 5 out of 20 dumpers and 3 out of 8 dozers have been acquired in excess of requirements. Though the physical holding of dumpers was 20, two of them were of smaller capacity (viz. 15 tonnes) and hence could not be utilised for production since 1968-69 as they were not of the matching capacity with power shovels. Out of the remaining 18 dumpers three of the Euclid dumpers of 27 tonnes capacity were out of the production line since they met with accidents. The project had thus only 15 dumpers for actual utilisation.

The Committee have failed to understand as to why two dumpers of smaller capacity were at all purchased if they could not be utilised for production purposes, and why these were lying unutilised since 1968-69 and why the dumpers which met with the accidents could not be made serviceable or disposed of to the best advantage of NMDC.

The Committee have strongly recommended that the entire matter of purchase of dumpers should be thoroughly investigated and responsibility fixed for purchase of dumpers not of the required capacity and keeping them unutilised since 1968-69. The Committee have also recommended that the Corporation should immediately take steps to ensure that the surplus dumpers are usefully deployed on their projects taken up by the Corporation or diverted to other public undertakings with the help of Bureau of Public Enterprises.

14.10. The Committee have also found that even the utilisation of the dumpers in the Kiriburu Project is only of the order of 35 to 40 per cent as against the 50 to 60 per cent in other countries and this was mainly because of lack of availability of spares and not very much high standard of maintenance. The Committee have stressed that schedules and norms for repairs and maintenance should be fixed and advance action taken for procurement of spares, etc. The Corporation should ensure that schedules for repairs and maintenance are strictly observed so that greater efficiency in utilisation of the machines may be attained.

14.11. The Committee found that Detailed Project Report envisaged power consumption at Re. 0.073 per tonne. The Committee were also informed that at the existing rate of 14 paise per unit of power the consumption rate should be 86 paise per unit. The Committee expressed regret that such facts were not brought to the notice of the Committee at the appropriate time. The Committee have observed that the actual cost of power consumption per tonne of ore during the years 1969-70, 1970-71 and 1971-72 was much in excess over the revised rate of 86 paise per unit.

The Committee were not satisfied that such excess consumption of water alone should account for the increased cost of power consumption. The Committee have recommended that the Management should carefully analyse the causes for such excess consumption of power and the Management should take steps to instal power meters to a control and have accurate readings for power consumption to identify the causes of excess consumption of power and take suitable remedial measures.

14.12. The Committee have observed that against the FOBT cost of Kiriburu iron ore at Rs. 10.44 per tonne and selling price of Rs. 36.70 envisaged in the Japanese Consulting Institute Report, the FOBT cost has increased from Rs. 61.90 in 1967-68 to Rs. 73.10 in 1971-72 and correspondingly the selling price also increase from Rs. 56.94 in 1967-68 to Rs. 57.29 in 1971-72. The Committee have expressed regret that the loss per tonne has thus increased from Rs. 4.96 per tonne in 1967-68 to Rs. 15.8 per tonne in 1971-72. The Committee, however, have found that among other reasons the increase in cost during 1971-72 was due to low level of production, increase in wage bill and increase in cost of procurement of stores, spares etc. The Committee stressed that the Corporation should endeavour to bring down the mining cost by attaining the rated capacity of production with the maximum efficiency of labour.

The Committee have also observed that so far no value has been allotted to the fines generated and which are transferred to Bokaro Steel Plant. The Committee have strongly urged that Corporation/Government should expedite the settlement of the price of fines which will have a bearing on the cost of production of iron ore.

14.13. The Committee have found that the Government of India decided to divert the Kiriburu Ore to Bokaro Steel Plant in view of the long Railway lead having adverse effect on the profitability of ore of Kiriburu Mine. As the Specifications of ore and fines required by the Bokaro were different from those produced by the Kiriburu Project, the Committee have seen that a Detailed Project Report for Modification and Expansion of the Project was prepared in December, 1965 and after some modifications and revision, sent to Government in November, 1968 for approval.

14.14. The Committee have expressed great concern that even after the decision was taken in 1965 that the production in Kiriburu should be modified so as to meet the requirements of the Bokaro

Steel Plant and Rourkela Steel Plant, the process of investigation, preparation of detailed project reports and sanction took nearly three years from 1965 to 1968. The Committee have felt that such investigations should be carried out with a sense of urgency and in complete coordination with the agencies concerned so as to avoid unnecessary back references.

14.15. The Committee have found that the ratio of lump to fine has been stated to be varying from 44·56 to 55·45. The Committee have pointed out that in such a vital matter there should be precision and certainty for it affects the entire pattern of production the type of equipment required etc. The Committee have hoped that the matter should at least be settled now and leaving no room for doubt. The Committee pointed out that the ratio of lump to fine should be such as would ensure the best utilisation of the iron ore resources of this mine consistent with the technological requirements of Bokaro and other steel plants.

The Committee have observed that NMDC which is already running in losses does not know the final financial implications of the modifications scheme as there is a difference in the sale price claimed by NMDC and the price which Bokaro Steel Plant are prepared to pay. The Committee have expressed anxiety that though the matter was referred to the Government/Bureau of Public Enterprises in December, 1969 even after a lapse of more than three years no final decision has been given in the matter. The Committee have considered that the matter should be settled without further delay so that a clear picture emerges. The Committee have no doubt that in settling the price, it would be ensured that it is equitable and fair to both the NMDC and Bokaro Steel Plant both of which are in public sector and under the same Ministry.

14.16. The Committee have observed that according to original schedule the Kiriburu Modification and Expansion Project was to be completed by the February, 1972 and with this objective orders for plant and machinery were placed with the Heavy Engineering Corporation Limited. The Committee have, however, found that HEC has been changing its delivery schedules from time to time and according to the latest schedule even the critical items necessary for the completion of the project are expected to be delivered some time in March, 1973.

The Committee have not felt happy with the frequent changes in the H.E.C.'s schedules of delivery of the plant and machinery which had upset the completion of the project and commissioning of the plant. The Committee have recommended that the Department of Mines should take up the matter with the Ministry of Heavy Industry to investigate the reasons for delay and take appropriate action to ensure that at least the latest schedules of delivery are firmly adhered to.

14.17. The Committee have expressed that the proposal for installation of a Beneficiation Plant was initially deferred by the Management although this was envisaged in the Project Report some time in August, 1969. The Committee also found that the Board of Corporation had aproved the scheme in August, 1972 and the plant is expected to be commissioned by November, 1974. The Committee have observed that the deferment of the decision initially and taking a decision after 3 years has not only delayed disposal of fines to Bokaro Steel Plant but would affect ultimately the capital expenditure of the project. The Committee have strongly urged that at least now the Corporation should take suitable steps to ensure that the target date i.e. November, 1974, for the commissioning of the Plant is adhered to.

14.18. The Committee have found that on account of inadequate provisions/change in specifications an expenditure of Rs. 473.68 lakhs was incurred by management over and above the provision made in the Detailed Project Report. They have also observed that a committee of directors of the National Mineral Development Corporation had raised a number of points about this additional expenditure.

The Committee of Directors had also desired that the matter should be reviewed further thoroughly.

The Committee were informed that subsequently the matter was gone into by the Financial Adviser of the Bailadila Iron Ore Project and his report is with the Government. The Committee have regretted the Government that all aspects of the matter should be gone into as purchase of machinery in excess of requirement or creation of unbalanced excess capacity in certain sections have adverse effect of a recurring nature on the cost of production. The Committee were informed that it is already costing the NMDC Rs. 0.28 per tonne by way of additional cost at the rated capacity of 4 million tonnes per annum. The Committee have regretted the Government to thoroughly probe the matter and fix responsibility including those of collaborators and of officers who were entrusted with the task of scrutinising the details before placing firm orders for machinery and equipment. The Committee should be informed of the action taken within the next three months.

14.19. The Committee have observed that imbalance in the designing of the mines and plant has created excess capacity at a cost of Rs. 170 lakhs resulting in increased cost of production at 28 paise per tonne. The Committee have observed that the Technical Committee (constituted in June, 1970) had held that a single line of crusher was in a position to treat enough ore to produce 4 million tonnes of sized ore per annum. The chief of Iron ore was, however, of the opinion that while crushing, conveying and loading schemes could handle 6 million tonnes of run-of-mine as against 5.5 million tonnes provided in the project report the mine and Screening Sections were vulnerable points holding a capacity below that envisaged in the project reforms. The Committee have also found that a Technical Committee appointed by NMDC in June, 1970 observed that because of the low lump recovery, it would be necessary for the Corporation to excavate 6.6. million tonnes as against 5.5 million tonnes envisaged in the project report and to achieve this target, additional machinery at an estimated cost of Rs. 2.06 crores would be necessary. The Committee have expressed great concern at the lack of proper planning and designing of the capacities of the machinery which had not only cost the exchequre Rs. 170 lakhs more but also increased the cost of production. The Committee have felt no justification for this costly lapse where a single line of crusher could have handled the entire production of the mine. The Committee have, therefore, recommended that this matter should be probed into by the Government and responsibility for the lapses fixed.

14.20. The Committee have found that the original estimates approved by the Government for Rs. 15.75 crores in 1964 had undergone revision during the course of construction of the project; first in December, 1968 for Rs. 25.21 crores and again in September, 1971 for Rs. 29.70 crores and the Revised Estimates submitted to Government in November, 1971. The Committee have also observed that the excess over the original estimates had been examined first by a Committee of Directors and later by the Financial Adviser of the Project and their reports also submitted to Government in January, 1970 and September, 1970 respectively. The Committee have expressed regret that these Reports are still under the consideration of Government alongwith the Revised Estimates. The Committee have however, found that Government had been releasing funds on the basis of Budget provision much in excess of the sanctioned estimate as without approval of the Cabinet as required under the instructions issued by the Bureau of Public Enterprises, Ministry of Finance.

The Committee have taken a serious view of this lapse and have strongly urged that the revised estimates should be gone into and sanction of the competent authority issued. The Committee have also suggested that Government/Corporation should review its mechanism of expenditure control to obviate recurrance.

14.21. The Committee have expressed dissatisfaction that the production in Bailadila even after four years of commissioning of the plant has been below the original target of 4 million tonnes. Further, the percentage of lump ore recovered does not exceed 65 per cent as compared to 75 per cent envisaged in the Project Report. The Committee have not accepted the plea that the DIR did not provide adequately for waste mining and the bench of required length as specified in the DPR could not be developed during construction due to non-availability of electric supply in time. The net result of all these factors has been that not only Bailadila has failed to achieve the targetted production and meet in full the commitments for exports, but the cost of production has been much higher as compared to the original estimates and even Kiriburu mines, which had been developed earlier for similar exports to Japan. The Committee have found that NMDC are now considering a proposal to utilise the fines by pelletisation with or without beneficiation and stress that the matter should be gone into most carefully having regard to the economics of the project.

The Committee would like the Management to increase recovery of lump ore and enhance efficiency in production in order to improve the economics of the project.

The Committee have found that as compared to the project estimate of Rs. 6.14 per tonne for operating cost, the actual cost in Bailadila in 1971-72 was Rs. 12.48 per tonne, an increase of more than 100 per cent. The Committee, therefore, have failed to understand as to why Bailadila which was developed later than Kiriburu should have a higher operating cost. In fact, gaining from the experience of Kiriburu, it should have been possible to effect substantial reduction in the operating cost. The Committee have recommended that Government/NMDC should examine the matter in depth and take concerted measures to bring about reduction in the operating cost by improving efficiency and effecting economics in management.

The Committee have also suggested that both NMDC and MMTC should arrive at an early settlement of the price as this has intimate effect on the financial position of the Corporation.

14.22. The Committee have found that a decision was taken to execute the Bailadila Deposit No. 5 in two phases, the first phase with production of 2 million tonnes and the second phase for 4 million tonnes, to match the handling capacity of Vizag. Port. The Project feasibility report was examined in August, 1968 and it was found that mine would remain a losing venture for all time to come, and that the project would be losing at the rate of Rs. 2.55 per tonne, on the basis of the price to be received in respect of the supplies from Vizag. Outer Harbour and that the price for the supply to the Japanese Steel Mills was firm for 10 years.

The Committee have failed to understand as to how an investment decision on a Project with a capital outlay of more than Rs. 38 crores had been taken even with the full knowledge of the fact that it would be a losing venture for all times.

The Committee recommended that Government should carefully analyse the various componenets of cost and take concerted measures to ensure that the cost of production and transport charged do not exceed the sale price which is fixed with reference to the international conditions.

14.23. The Committee have found that the revised estimates submitted to Government was in excess of original estimates by about 33 per cent and the excesses are mainly under Plant and Machinery, Civil and structural work, Establishment expenses, etc. The Committee have desired that Government should carefully go into the reasons for the excesses before the revised estimates are approved.

14.24. The Committee have found that the original target date for completion of project was December, 1973 and the trial runs were to commence in early 1974 to synchronise with the completion of Vizag. outer Harbour. The Committee have expressed regret for delay in the completion of the Bailadila No. 5 Project which is likely to be commissioned towards the end of 1974 only. The Committee have observed that even this target is subject to completion of the tunnel work entrusted to NPCC by March, 1974 and delivery schedule of plant and machinery by the Heavy Engineering Corporation Ltd. in July|August, 1973.

The Committee have reviewed with concern that even the present anticipation for completion of the Bailadila No. 5 Project cannot be adhered to unless the sister.public undertakings are geared up to fulfil their constractual obligations to NMDC and adhere to their time schedules as otherwise the facilities provided by Vizag. Outer Harbour would perhaps remain unutilised.

The Committee have stressed that Government/Public Undertakings should realise that once a contractual commitment is made with a foreign party, Government should ensure through concerted measures that the commitments are honoured so as to generate and sustain the confidence with the foreign parties. The Committee recommended that Government/Corporation that, with their experience of mining in the other projects should use the latest technology and equipments so as to achieve production at an economic cost so that the prices may be competitive.

14.25. The Committee have observed that the actual production of diamonds from the two mines *viz.* Ramkheria and Majhgawan fell short of the original targets during the period from 1968-69 to 1971-72. Although the overall percentage of shortfall of production in the two Projects together showed a declining trend from 44.8 per cent in 1968-69 to 14.10 per cent in 1971-72, the actual performance in Majhagawan exceeded the targets and the performance of the Ramkheria mine fell very much below the targets. The Committee were informed during evidence that "NMDC proposes that it should be closed down and Majhagawan expanded".

The Committee have found that though the Ramkheria mine was taken up for exploitation on the basis of further prospecting and exploratory works done in consultation with the Foreign Consultants and the IBM it could not attain the targetted capacity, and the performance is only about one-fourth of the target. The Committee have therefore, felt that even the further exploratory and prospective works were not done with the necessary care and caution with the result that the project is losing heavily. The Committee have not been impressed with the statement of the Ministry that "one deposit counterbalances the other". The Committee have taken a serious view of the undue haste with which the mine was taken up for exploitation without a thorough and careful techno-economic study of the project resulting in an infructuous expenditure. The Committee strongly recommended that the entire matter should be thoroughly investigated by the Government as to the quantum of the loss and the responsibility for such costly lapses be also fixed.

14.26. The Committee have found that in accordance with the policy objective of Government, to import rough diamonds from abroad to counter, to the extent possible, squeeze by foreign monopolistic suppliers on the Indian Trade, and to provide at least small quantities of rough diamonds to the Indian cutting and polishng trade at reasonable prices, the NMDC was nominated as the canalising agency for the import of rough diamonds to the extent of 10 per cent of the import replenishment. The Committee have observed that NMDC imported diamonds so that the Corporation may secure primary source in addition to the normal source and started importing rough diamonds from Ghana and German Democratic Republic, about Rs. 10 lakhs from Ghana and 15 lakhs from Germany.

The Committee have also found that NMDC in order to meet the demands of canalization and to ensure steady supplies entered into arrangements with a leading London firm for the import of rough diamonds on consignment basis, and this transaction yielded a profit of about Rs. 5.6 lakhs wiping off completely the loss sustained.

14.27. The Committee have failed to understand the rationale of canalising the import of rough diamonds through the NMDC who are primarily concerned with exploration and development of minerals. The Committee are also distressed to note that before appointing the NMDC as the canalising agency for import trade, Government have not issued specific guide lines in regard to the particular quality of rough diamonds to be imported keeping in view the demands of trade and requirements of the country but simply left the matter entirely in the hands of the Corporation with the result that the transaction has not only ended in a loss of Rs. 5.16 lakhs but the specific objective with which this task was undertaken was not fulfilled.

The Committee would strongly urge the entire deal should be thoroughly investigated and responsibility for such costly lapses fixed. The Committee were now informed that the import and export of diamonds done by the NMDC has since been transferred to the MMTC. The Committee hope that the MMTC would ensure that such costly lapses do not recur and imports of rough diamonds are made in consultation with consumers.

14.28. The Committee regretted to note that the cost per carat during 1969-70 and 1970-71 increased to 88 per cent and 99 per cent of the estimated cost based on the revised targets of 14000 and 20000 carats respectively, although these were expected to be much less during these years. The Committee recommend that the Corporation should spare no pains to improve their production performance in Panna and ensure that the cost of production comparses favourably with international market prices.

14.29. The Committee have expressed regret that Government had taken two years to approve the DPR of Donimalai Iron Ore Plant although they had communicated their approval in principle as early as January, 1969. The Committee have observed that on account of the delay in the sanction of estimates, not only has the cost of project increased but the completion of the project has also been delayed by three years even the revised estimates approved by the Board in August, 1972 are still awaiting sanction by Government. So far no decision has been taken on the techno-economic feasibility report prepared by M/s. Dastur & Co. on beneficiation and pelletisation on Donimalai Iron Ore submitted by Corporation to Government in June, 1972.

The Committee have stressed that Government should not rush to take an investment decision on the project unless and until a thorough and critical analysis of the techno-economic feasibility report is made and Government are satisfied that the project would be financially viable.

14.30. The Committee note that though the techno-economic studies were completed as early as in March, 1970, it had taken one full year for the Corporation to prepare the detailed project report. The Committee, would, however, strike a note of caution that Government should undertake a careful and thorough evaluation of the technology and economics of transporting the concentrates of pellet feed through a pipeline in slurry form and exporting them in large slurry carriers before a long terms sales agreement is considered.

The Committee need hardly stress that Government should learn a lesson from their past experience and ensure that the short comings which adversely affected the operation of the other Projects do not recur.

Needless to emphasise that the execution of this project should synchronise with the development of the hinterland of Mangalore which is being developed as a major port. Since this mine ore is for export purposes, the Committee need hardly point out that there should be close co-ordination with the Mangalore Port authorities from the very beginning so that the requisite facilities are developed in time.

14.31. The Committee noted that in May, 1971, the Government had decided to transfer the Rock Phosphate operations of Mussooree to the newly formed Company *viz.*, Pyrites, Phosphates and Chemicals, Ltd. The NMDC closed down the Project from 15-6-71.

The Committee would strongly urge that Government P.P. & C. should take immediate steps to examine the economics of the projct carefully and initiate further action for exploiting the mine, as otherwise the expenditure of more than 57 lakhs incurred by NMDC may become infructuous. The Committee would like to be kept informed of the action taken in the matter.

14.32. The Committee expressed the hope that in view of the export commitment to Japan from the Bailadila Sector, the work on Bailadila—Deposit No. 4 would be accelerated.

14.33. Since the work of import and trade of diamonds has now been entrusted to MMTC, the Committee saw no justification for the continuance of that office at Bombay. The Committee expressed the hope that with the transfer of the functions of this office to M.M.T.C., the personnel of this office would also be simultaneously transferred along with the work.

14.34. The Committee have found that the Management reporting system at present followed by the Corporation is still in the evolutionary stage. The Committee have suggested that the procedures may be streamlined and the reporting system organised in a systematic manner so that the system really enables the top management to have an overall control on the different wings as well as the aspects of the working of the organisation.

14.35. The Committee have noted that the closing balance of the stores in respect of Bailadila, Kiriburu and Panna Diamond projects as on 31-3-72 represented 27.06, 33.19 and 17.15 months consumption of the stores and the inventory level showed an increasing trend in all the projects from 1969-70 to 1971-72. The Committee, however have felt that with the experience of working of the project, the NMDC should not have found it difficult to fix realistic norms of level of inventory separately for indigenous and imported items of stores and spares so as not to overburden the inventory.

The Committee have also noted that the purchases in Bailadila and Panna Diamond Project were in excess of the years' consumption during 1970-71 and 1969-70 and 1970-71 respectively, thus further adding to the inventory of stores.

The Committee have stressed that accummulation of inventory and excessive purchases result in unnecessary blocking of capital with consequential expenditure on storage, loss of interest, etc.

14.36. The Committee have observed that an "Inventory Control Committee" constituted by the Bureau of Public Enterprises had made certain recommendations regarding procedures of purchase and inventory control. The Secretaries Committee on Public Sector Enterprises which considered that report decided that the Bureau of Public Enterprises should further review the inventory position in regard to NMDC's projects.

The Committee have urged that the Government|Bureau of Public Enterprises should complete the review without delay and fix suitable norms for the stores spares consistent with the needs of production and development works of NMDC.

The Committee have strongly recommended that a thorough review of all the items of stocks should be undertaken half-yearly and action taken to reduce the inventory levels to avoid unnecessary accumulation of stores.

14.37. The Committee have noted that in the Bailadila, Kiriburu and Panna Diamond Projects, stores of the value of Rs. 137.69 lakhs did not move for more than two years as on 31-3-71 and stores of value of Rs. 227.98 lakhs did not move for more than one year as on 31-3-71. The Committee have also found that Rs. 23.06 lakhs worth of stores including spares and construction and special parts are awaiting disposal as on 31-3-72. The very fact that more than Rs. 3 crores worth of stores are not moving for over 2 years only proves that sufficient care was not exercised before ordering purchases.

14.38. The Committee have felt concerned that, on the one hand, the Corporation is carrying heavy inventory of stores and a large amount of surplus stores are accumulated, common equipments like shovel remain unutilised for want of spares for repairs.

The Committee have desired the Corporation to undertake a thorough review of similar cases of Plant and Machinery which may be lying unutilised for want of spares or repairs of which may be uneconomical so that the Corporation may take immediate measures to bring them in working order or take action for their disposal to other undertakings.

The Committee have suggested that the Inventory Control Committee on NMDC should also critically examine this aspect and suggest ways and means for adequate provisioning of spares and stores so that the machinery in the Corporation may not at any time remain unutilised on the plea of want of spares and production affected on this account.

14.39. The Committee have noted that on the expiry of the contract for transport of cement from Jaimul-Dhumtari to Kirindul at 21.5 paise per ton mile and from Jaimul-Dhumtari to Bansi at 19 paise per ton|mile, on 31-3-66 two contracts were entered into at the rate of 27 paise per ton/mile on the basis of tenders invited from local firms across the table and after negotiation with the parties without associating the contractor on the plea of his poor performance. Though these contracts were required to be reviewed after three months, instead of reviewing them and inviting fresh tenders, the earlier contracts were extended upto 31-3-67. It was only in April, 1967 that tenders were again invited when the rates obtained were 19.36 p. and 19.63 p. per tonne|mile respectively. The Committee have regretted that non-invitation of tenders and failure to conduct the review from time to time has resulted in an avoidable extra expenditure of Rs. 2.4 lakhs to the Corporation.

The Committee have taken a serious view of the irregularities in the case and urge that Government should probe into them and take action against those responsible for the lapses.

14.40. The Committee have observed that the sale of iron ore to Japanese Steel Mills in terms of agreement entered with them for the development of Kiriburu and Bailadila Mines is being made by the NMDC through the MMTC.

The Committee have also learnt that the question of price payable by MMTC in respect of ores exported through it, has been for long under dispute and it was only in October, 1971 that the Finance Secretary had given award about the fair price payable by MMTC. Though the MMTC had accepted the award, the NMDC had been making further representations on the award. The Committee were also informed that the matter was still under negotiation between the two Corporations. The Committee have stressed that in the interest of improving the financial position of the Corporation, an early settlement of the price should be arrived at.

14.41. The Committee were unhappy to find the disquieting financial position of the Corporation which has accumulated a loss of Rs. 12.7 crores representing 21.5 per cent of the equity capital, at the end of 31-3-72. The loss is mainly on account of a loss of Rs. 801.90 lakhs in Kiriburu and Rs. 406.08 in Bailadila. The persistant bad performance of the Corporation from 1968-69 to 1971-72 should among other factors, be attributed to the fact that production at Kiriburu and Bailadila was much below the capacity.

The profitability of Kiriburu is entirely dependent upon the off-take of ore and fines by Bokaro Steel Plant and fixation of the sale price therefor.

14.42. As the Corporation have now gathered valuable experience in mining of ore, it should be possible to bring down the cost of production by adopting most efficient methods by developing production to the full potential. The Committee have pointed out that as iron ore constitutes the main raw-material for the steel plants its supply at competitive rates would help the public sector to produce iron and steel at most competitive rates. As pointed out elsewhere in the report there is great scope for increasing export of iron ore to other countries particularly Japan and this can be done on a sustained and long-term basis only if the National Mineral Development Corporation are able to raise the ore at most competitive prices.

The Committee have desired to be informed of the measures taken or proposed to be taken by the National Mineral Development Corporation to increase the efficiency of its production and to reduce its operating and overhead cost.

14.43. The Committee have pointed out that the operational cost as well as overheads of N.M.D.C. particularly in Bailadila and other iron ore projects are excessive. The Committee have felt that detailed costing of operations should be done by the Financial Adviser's organisation so as to assist the management in taking timely action to improve performance and effect economies.

14.44. The Committee have found that only recently the Corporation sanctioned Internal Audit Cells for the operating mines at Kiriburu and Bailadila and action for evolving suitable operation standards for production initiated. The Committee have recommended that Internal Audit Cells should be activised to discharge their functions and responsibilities expeditiously so that the Management can take advantage of the reports of internal audit in setting right the defects in the working of the Corporation.

NEW DELHI;
April 24, 1973
Vaisakha 4, 1985 (*S*)

AMRIT NAHATA,
Chairman,
Committee on Public Undertakings.

APPENDIX I

(*Vide* para 4·9)

Statement showing the details of the order placed on M/s. Heavy Engineering Corporation for Kiriburu Expansion

Serial No.	Description of Equipment	Quantity	As per letter of intent dated 25-4-1969	Delivery dates indicate by HRC					
				Quotation dated 25-5-69	In Feb. 1970	By Telex on 7-5-1971	By Mr.* Jagota's letter Dated 29-5-71	As per letter dated 7-7-71	As per record note of discussions held on 22-6-72 with the H.E.C.
1	Secondary Cone Crusher KCD 2200	1	June, 71	Oct., 71 (20 months from the date of firm order with adv.)	Oct. 71	June, 72	June, 72 (Motor Aug., 72)	Mech. equipment June, 1972	Aug./Sept., 72. ——— **Nov./Dec., 1972.
2	Tertiary Cone Crusher	1	Do.		Do.	Do.	Aug., 72	Motor Aug., 72	July/Aug., 72.
3	Bucket Wheel Reclaimer	1	Do.		Dec., 71	Middle of 74	Aug. ,72	Oct./Nov., 72	Nov., 72 to Jan., 73.
4	Stacker	1	Do.		Do.	Do.	Do.		
5	Wagon Loader	1	Do.		Do.	Do.	Sept., 72 (to be completely imported from Demag)	July, 1972 Ex-works Germany(as per letter dated 24-1-72 delivery Oct., 72. Ex-works Germany)	To be shipped Ex-Germany October, 1972.

*Subject to verification by the Audit.

**According to the latest schedule intimated by the Deptt. of Mines in Nov., 1972.

APPENDIX II

(*Vide* para 6·29)

Statement showing the sanctioned Estimates, Revised Estimates and reasons for variation of Bailadila Iron Ore Project, Deposit No. 5.

(Rs. in lakhs)

Item No.	Particulars	Sanctioned Estimate	Revised Estimate	Excess (+)	Saving (—)	Reasons for variation
1	2	3	4	5	6	7
I.	Preliminary expenses, prospecting and bench preparation etc.	114·50	165·50	51·00		At the time of submitting the DPR, plans for bench preparation had not been worked out in detail and it was tentatively estimated that excavation involved will be about Rs. 12·5 lakh tonnes. Detailed assessment has shown that the excavation will be of the order of 22 lakh tonnes. Rate for excavation has also gone up from Rs. 4/- per tonne to Rs. 4·50 per tonne. Hence the increase.
II.	Land compensation and Mining Lease	3·00	9·00	6·00		Original provision was on the assumption of a rate of Rs. 200 per acre of land. Rate actually being paid is Rs. 1000 per acre for Bacheli and Rs. 500 per acre for Hilltop.
III.	*Plant and Machinery*					
	(*i*) Equipment (Mining)	895·83	1103·65	207·82		(*i*) General price increase since the preparation of DPR.
	(*ii*) Plant (Ore Treatment and loading)	1066·18	1217·87	151·69		(*ii*) Increase in the number of equipment based on actual experience.

IV.	Civil & Structural Works	890·43	1311·88	421·45	..	(i) Increase in quantities of various items of work due to site conditions and different heights of conveyors; etc. (ii) General increase in prices since the preparation of DPR ; (iii) Location of the township at two places for facility of operations *i.e.* at Hilltop and Bacheli against Bacheli only as provided in the DPR; and (iv) tapping two sources of water supply in place of one contemplated in the DPR
V.	Establishment Expenses	100·00	200·00	100·00	..	Excess is attributable to extension of the construction period and rise in wages.
	(i) Consultancy Charges	..	100·00	100·00	..	Originally included under Item III—Plan Machinery Equipment, but is being shown now separately.
VI.	Railway Siding	45·00	120·00	75·00	..	Original provision was on *ad hoc* basis, Details have since been worked out in consultation with Railways who have indicated that the proportionate share of expenses to be borne by NMDC is expected to be Rs. 112·00 lakhs. In addition, a sum of Rs. 8·00 lakhs will be required for other facilities like oil storage and goods siding etc.
VII.	Head Office Expenses	25·00	50·00	25·00	..	Excess is due to extension of the construction period, rise in wages and increased cost of the project.

1	2	3	4	5	6	7
VIII.	Spare parts (initial)	188·00	250·00	62·00		Due to increase in the cost of Plant and Equipment, the estimated cost of spares has also increased.
IX.	Interset during construction	243·00	141·00	..	102·00	Saving is due to change in the mode of calculation. Earlier provision was based on half of the capital (excluding contingencies) for half of the construction period. Now the calculations have been done on the basis of phasing of capital expenditure and the latest instructions of Govt. that township expenditure will be met from equity.
X.	Contingencies	107·74	140·07	32·33		Provision of contingencies roughly at 3% of the increased cost of the project.
XI.	Future Escalation		115·00	115·00	..	No provision was made in the DPR. This has been considered necessary to take care of any unforeseen escalations.
	Less Credits for					
	(*i*) Ore produced in bench preparation	26·00	48·00	22·00	..	
	(*ii*) Surplus equipment at the end of construction	..	6·00	6·00	..	

	(*iii*) Credit for township at Bhansi	..	1·00	1·00	..
	Net Total	3652·68	4868·97	1318·29	102·00
XII.	Deferred Revenue Expenditure on II Phase of Tailing Dam		145·00		..

APPENDIX III

(*Vide* para 12·16)

Statement showing outstanding dues from MMTC as on 31-7-1972.

BAILADILA

Year	Despatch Moneys		Shipment dues	Freight Account	Total
	In F.E.$.	In Rupees			
1967-68	1,529·52	11,471·40			11,471·40
1968-69	7,213·88	54,104·10		..	54,104·10
1969-70	12,992·51	97,443·83		..	97,443·83
1970-71	(—) 961·55	(—)7,211·63	..	37,594·64	30,383·01
1971-72			66,72,729·40		66,72,729·40
1972-73	..	..	1,16,39,237·33	..	1,16,39,237·33
		1,55,807·70	1,83,11,966·73	37,594·64	1,85,05,369·07

Statement showing outstanding dues from MMTC as on 31-3-72.

KIRIBURU

Year	In F.E.$.	In Rupees	Final Payment	Freight rebate	Freight Account	Total
1	2	3	4	5	6	7
1966-67	8,448·45	63,363·30	..	..	..	63,363·38
1967-68	21,348·87	160,116·53		..	..	160,116·53
1968-69	8,122·07	60,915·53		7,08,147·69	..	769,063·22
1969-70	13,312·07	99,840·53		..	..	99,840·53
1970-71	(—)2,045·77	(—) 15,343·28		..	8,608·13	6,735·15
1971-72	14,715·02	110,362·65	..	495·04	..	110,857·69
1972-73	(—)1,523·61	(—)11,427·07	32,986·26	25,786·00	..	47,345·19
		467,828·27	32,986·26	7,34,428·73	8,608·13	12,43,851·07

APPENDIX IV

Summary of conclusions/recommendations of the Committee on Public Undertakings contained in the Report

S. No.	Reference to paragraph No. in the Report	Summary of conclusion/ recommendation
1	2	3
1	2.18	The Committee regret to note that against the target of 80 million tonnes for export to Japan only about 10.6 million tonnes from Kiriburu and 11.86 million tonnes from Bailadila till 31-3-72 were exported and a revised agreement was entered into with the Japanese for the balance quantity. The Committee were also informed that the export from Kiriburu had been stopped and that future exports would be from Bailadila. The Committee are not convinced about the reasons adduced for non-fulfilment of the export targets *viz.*, the fines generated were more than anticipated, the lumps were not of the requisite grade and quality envisaged by IBM, that rail transport was not available in time and that Japanese ships had not kept up the schedule. The Committee feel that after a commitment was made with Japan, there should have been integrated planning and implementation to ensure that the export target was achieved. The Committee feel that the steps now taken for despatch of ore to Japan at the level of Cabinet Secretary should have been taken many years earlier. At any rate now that it has been decided that the export commitment with Japan would be diverted to Bailadila the Committee need hardly stress that every care should be

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1	2	3
		taken during this transit period to see that whatever commitment is made in respect of the quantity and quality of iron ore to be exported to Japan is honoured in letter and spirit. For this purpose the Committee would suggest that there should be an effective and close coordination of all the agencies concerned namely NMDC, MMTC Railways, Ministry of Foreign Trade, etc. so that no bottlenecks are allowed to come in the way of export commitments.
2	3.19 and 3.20	The Committee note that selection of site for the Kiriburu Project was done in 1958 by a working group consisting of representatives of the Geological Survey of India, Indian Bureau of Mines, Government of Orissa and the Ministry of Finance and Civil Engineer and on the basis of the report submitted by the IBM (now part of the Geological Survey of India) after detailed drilling and geological investigations. The Committee note that the Report of IBM furnished geological data such as resources, lump fine ratio, analysis of lump fine etc. but gave no indication about the profitability of the Project.
		The Committee on Public Undertakings had in their 11th Report (1967-68) already observed that the nature of the geological strata was not correctly worked out in the I.B.M. Scheme. This resulted in an excess generation of fines and affected the whole economics of Kiriburu Project to a large extent, besides necessitating the purchase of extra machinery. In reply, the Government had stated "in the case of projects taken up by the NMDC subsequently, the Corporation had been associating itself with the Geological Survey of India at the prospecting stage with a view to obviating the possibility of insufficient interpretation of geological strata."

1	2	3
3	3.21	**While the Committee appreciate the idea of taking up the development of Kiriburu iron ore mines in the interest of developing the economy of this backward area, they feel that the objective has not been fully served as proper and adequate attention was not paid at the time of taking vital decisions about the machinery and equipment for Kiriburu Project, the man-power required, the assurance of production of lump and fine in proper proporations, disposal of fines, timely mining and shipping of ore with the result that Kiriburu not only failed to achieve the export target and win more orders but has resulted in loss with far-reaching adverse effect on the project as a whole.** The Committee see no reason why Government did not take the basic precautions of having an integrated techno-economic detailed study before entering into a firm sale agreement with Japan. They can see no justification for leaving the work of technological investigation exclusively to IBM without holding them responsible for the results which have accrued after the project was brought into production with the Japanese consultancy firm for not giving accurate advice either about purchase of equipment or about the cost of production. It is obvious that the reports submitted by both these bodies should have been critically scrutinised by Government. What surprises the Committee most is that the decision to set up the Project, was taken with the full knowledge of the fact that there was no likelihood of any profit while there was every likelihood of a loss. The Committee hope that such costly lapses would not recur in future.
4	3.22	**The Committee regret to note from the actual services rendered by the consultants that the project estimates prepared by them were inadequate and required a good deal of modifications**

1	2	3
		with the result that the revised cost of project exceeded the original estimate by more than three crores of rupees. The Committee also regret to observe that the Consultant's report was silent about the disposal of fines. The Committee further note that the Japanese Consulting Institute were *inter alia* responsible for the performance of the plant erected in accordance with their design, were to complete the performance test for a period of two months either immediately after erection of the Plant or as soon as they desired them to be done. Although the installation was completed in August, 1963 and the period of consultancy was extended till 4th October, 1965, Committee were informed that the stipulated tests were not completed even during this extended period. The Committee are constrained to observe that the additional expenditure of Rs. 2.26 lakhs incurred on account of extension of the consultancy period thus proved to be infructuous. The Committee hope that with the setting up of an agreement scrutinising cell in the Corporation, care will be taken to see that agreements, bonds etc. will in future be properly scrutinised keeping in view the instruction issued by the BPE in this regard.
5	3.34 and 3.35	The Committee regret to note that the Kiriburu Project could not attain the rated capacity even in 1971-72. The shortfall in production of lump ore varied from 14 per cent to 22 per cent during the years 1966-67 to 1970-71 and increased to 48 per cent in 1971-72. Even on the basis of run-of-mine handled, the short fall in production ranged from 10 per cent to 19 per cent during the period from 1966-67 to 1971-72. The Committee also regret to observe that the shortfall in production during 1971-72 has resul-

1	2	3
		ted in an increase in cost of Rs. 1.88 per tonne and consequently the loss has also increased by Rs. 19.6 lakhs on account of the supplies made to Japan.
		According to the Corporation the production had to be restricted due to the inadequate availability of shipping and railway facilities. The Committee, however, find that the production did not follow any set pattern. The Committee, therefore, find it difficult to accept the stand of the Corporation that its production was deliberately curtailed on this account. The Committee strongly recommend that the Corporation should have a coordinated programme of production in consultation with the Ministry of Railways without affecting the production targets.
6	3.48	The Committee note that though the Detailed Project Report had envisaged the lump-fine ratio as 60:40 actually the lump fine ratio ranged from 44.47:55.53 to 58.27:41.73 during the six years from 1964-65 to 1969-70. The lump fine ratio in 1970-71 and 1971-72 were, however, 55.16:44.84 and 54.91:49.09 respectively, thus indicating excess generation of fines during 1970-71 and 1971-72. The Committee were informed that from 1964-65 to 1971-72 the total reduction in cost that could have been achieved if the lump recovery had been envisaged in the Detailed Project Report was of the order of Rs. 65.61 lakhs.
7	3.49	The Committee note that 4.88 million tonnes of fines have been accumulated upto 31-3-72 and so far no value has been assigned to these fines. Though it was decided to dispose of the fines gradually to Bokaro Steel Plant, the fines could not be disposed of as the fines required for Bokaro were of different specifications. The Corporation, therefore, decided to beneficiate the

1	2	3
		lump fines to suit the requirements of Bokaro at a cost of Rs. 5.00 tonne (approximately).
8	3.50	The Committee note that if the lump recovery as envisaged in the Detailed Project Report had been achieved, there would have been a reduction in cost to the extent of Rs. 65.61 lakhs from 1964-65 to 1971-72 and this constituted a loss to the Corporation. The Committee need hardly point out that this loss would be further increased by the cost of beneficiation of fines not to speak of the additional cost that may be involved in the acquisition and erection of plant and machinery for such beneficiation. The Committee need hardly stress that to a considerable extent the economics of an iron ore plant depends on the commerical utilisation of fines.
9	3.51	The Committee, therefore, recommend that the Corporation|Ministry should resolve the differences with Bokaro Steel Limited and arrive at a reasonable settlement of the selling price of the beneficiated fines to Bokaro Steel Limited without any further delay.
10	3.66	The Committee note that the Detailed Project Report had recommended a total staff of 750 under different categories for the working of the mines at the rated capacity of 2 million tonnes of sized ore per annum Subsequently, at the instance of the Management, the R. N. Singh Committee in 1964 and the Administrative Staff College in 1967 studied the staff position and recommended the suitable staff strength. The Committee find that the strength fixed by the Administrative Staff College in 1967 was higher than that fixed by the R. N. Singh Committee in 1964 as the former had taken into account the change in the lump fine ratio and its effect on the optput per man shift.

1	2	3
		The Committee regret to obsreve that even on the basis of revised strength as fixed by the Administrative Staff College, the Kiriburu Project had been carrying a large number of surplus staff and this had resulted in an additional expenditure of Rs. 33.76 lakhs from 1966-67 to 1971-72 and had caused an increase of 28 paise in the cost of production per tonne on an average. The Committee note that the Management are already seized of the problem and have taken various steps like voluntary retirement scheme, absorption of surplus workers in the new scheme without creating industrial unrest, the Committee feel that the Management should tackle this problem and find an abiding solution. Meanwhile attempts should be made to deploy the surplus staff in such a way so as to reduce any loss to the project on this score.
11	3.67	The Committee note that in NMDC the output per manshift ranged from 3.37 to 4.25 during the period from 1966-67 to 1970-71 compared to a rate of 5.39 based on the strength recommended by the Administrative Staff College and 8.89 indicated in the Detailed Project Report. The Committee were informed that the Detailed Project Report was based on a staff of 750 men for recovery of 2 million tonnes of lump ore and this had turned out to be unrealistic in actual practice. According to the Management, the sanctioned strength was 1370 for an output of 1.8 million tonnes only. The Committee were assured that the position is expected to improve with the removal of the constraints on production with increase in supplies to Bokaro.
		The Committee view with concern the wide variation between the strength sactioned by the Management and the strength indicated in the D.P.R. and suggest that the Management should

1	2	3
		work-out a realistic rate of output per manshift. taking into account all the factors and ensure that the rates are adhered to by a stricter supervision and increase production.
12	3.78 and 3.79	The Committee note that the Project Report had envisaged the availability factor of heavy mining machinery as 75 per cent on the basis of two shifts working for 275 days in a year. The Committee find that the percentage of machine shifts actually utilised for production to the total machine shifts theoretitically available for production was 64.3 per cent in the case of dumpers and 48.9 per cent in the case of dozers during 1968-69. On the basis of percentage of the utilisation of two types of heavy mining machinery *viz.*, dumpers and dozers, the Committee find that 5 out of 20 dumpers and 3 out of 8 dozers have been acquired in excess of requirements. The Committee were informed that "though the physical holding of dumpers was 20, two of them were of smaller capacity (iv. 15 tonnes) and hence could not be utilised for production since 1968-69 as they were not of the matching capacity with power shovels. Out of the remaining 18 dumpers three of Euclid dumpers of 27 tonnes capacity were out of the production line since they met with accidents, two on 4-9-1969 and one on 7-12-69 and had been rendered unserviceable. The project had thus only 15 dumpers for actual utilisation. The Committee are at a loss to understand as to why two dumpers of smaller capacity were at all purchased if they could not be utilised for production purposes, and why these were lying unutilised since 1968-69 and why the dumpers which met with the accidents could not be made serviceable or disposed of to the best advantage of NMDC.

1	2	3
		The Committee strongly recommend that the entire matter of purchase of dumpers should be thoroughly investigated and responsibility fixed for purchase of dumpers not of the required capacity and keeping them un-utilised since 1968-69. The Committee also recommend that the Corporation should immediately take steps to ensure that the surplus dumpers are usefully deployed on other projects taken up by the Corporation or diverted to other public undertakings with the help of Bureau of Public Enterprises.
13	3.80	The Committee regret to note that even the utilisation of the dumpers in the Kiriburu Project in only of the order of 35 to 40 per cent as against the 50 to 60 per cent in other countries and this was mainly because of lack of availability of spares and not very much high standard of maintenance. The Committee need hardly stress that schedules and norms for repairs and maintenace should be fixed and advance action taken for procurement of spares etc. The Corporation should ensure that schedules for repairs and maintenance are strictly observed so that greater efficiency in utilisation of the machines may be attained.
14.	3.91 and 3.92	The Committee note that Detailed Project Report envisaged power consumption at Re. 0.073 per tonne. According to the Management this rate does not represent the cost of power consumption but the cost of power division in the maintenance section and the cost of power consumption should be 60 paise per tonne. The Committee regret to note that such facts were not brought to the notice of the Committee at the appropriate time. The Committee were also informed that at the existing rate of 14 paise per unit of power the consumption rate should be 86 paise per unit. The Committee regret to note that the actual cost of power consumption

per tonne of ore during the years 1969-70, 1970-71 and 1971-72 was much in excess over the revised rate of 86 paise per unit.

The Committee note that the quantity of water consumption has increased from 8 cubic metre per minute to 10 cubic metre per minute. The Committee were informed that project estimate envisaged wet operations only for 4 months while in actual practice wet operations are to be conducted throughout the year.

3.92. The Committee, however, are not quite convinced that such excess consumption of water alone should account for the increased cost of power consumption. The Committee recommend that the Management should carefully analyse the causes for such excess consumption of power and the Management should take steps to instal power meters to control and have accurate readings for power consumption to identify the causes of excess consumption of power and take suitable remedial measures.

15. 3.102 The Committee find that against the FOBT cost of Kiriburu iron ore at Rs. 10.44 per tonne and selling price of Rs. 36.70 envisaged in the Japanese Consulting Institute Report, the FOBT cost has increased from Rs. 61.90 in 1967-68 to Rs. 73.10 in 1971-72 and correspondingly the selling price also increased from Rs. 56.94 in 1967-68 to Rs. 57.29 in 1971-72. The Committee regret to note that the loss per tonne has thus increased from Rs. 4.96 per tonne in 1967-68 to Rs. 15.8 per tonne in 1971-72. The Committee however find that among other reasons the increase in cost during 1971-72 was due to low level of production increase in wage bill and

1	2	3
		increase in cost of procurement of stores, spares etc. The Committee need hardly stress that the Corporation should endeavour to bring down the mining cost by attaining the rated capacity of production with the maximum efficiency of labour.
16.	3.103	The Committee also note that so far no value has been allotted to the fines generated and which are transferred to Bokaro Steel Plant. The Committee strongly urge that the Corporation|Government should expedite the settlement of the price of iron ore of fines which will have a bearing on the cost of production. of iron ore.
17.	4.18	The Committee find that the Government of India decided to divert the Kiribpuru Ore to Bokaro Steel Plant in view of the long Railway lead having adverse effect on the profitability of ore of Kiriburu Mine. As the Specifications of ore and fines required by the Bokaro were different from those produced by the Kiriburu Project, the Committee find that a Detailed Project Report for Modification and Expansion of the Project was prepared in December, 1965 and after some modifications and revision, sent to Government in November, 1968 for approval.
		The Committee are greatly concerned to note that even after the decision was taken in 1965 that the production in Kiriburu should be modified so as to meet the requirements of the Bokaro Steel Plant and Rourkela Steel Plant, the process of investigation, preparation of detailed project reports and sanction took nearly three years from 1965 to 1968. The Committee feel that such investigations should be carried out with a sense of urgency and in complete coordination with the agencies concerned so as to avoid unnecessary back references.

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18.	4.19	The Committee are greatly concerned to find that the ratio of lump to fine has been stated to be varying from 44:56 to 55:45. The Committee need hardly point out that in such a vital matter there should be precision and certainty for it affects the entire pattern of production, the type of equipment required etc. The Committee hope that the matter has at least now been settled leaving no room for doubt. The Committee need hardly point out that the ratio of lump to fine should be such as would ensure the best utilisation of the iron ore resources of this mine consistent with the technological requirements of Bokaro and other steel plants.
19.	4.20	The Committee are greatly concerned to note that NMDC which is already running in losses does not know the final financial implications of the modification scheme as there is a difference in the sale price claimed by NMDC and the price which Bokaro Steel Plant are prepared to pay. The difference has arisen chiefly on account of the method of calculating depreciation and return on equity capital investment. The Committee are surprised that though the matter was referred to the Government/Bureau of Public Enterprises in December 1969 even after a lapse of more than three years no final decision has been given in the matter. The Committee consider that the matter should be settled without further delay so that a clear picture emerges. The Committee have no doubt that in settling the price, it would be ensured that it is equitable and fair to both the NMDC and Bokaro Steel Plant both of which are in public sector and under the same Ministry.
20.	4.21 and 4.22	The Committee note that according to the original schedule the Kiriburu Modification and Expansion Project was to be completed by

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		February, 1972 and with this objective orders for plant and machinery were placed with the Heavy Engineering Corporation Ltd. The Committee, however, find that HEC has been changing its delivery schedules from time to time and according to the latest schedule even the critical items necessary for the completion of the project are expected to be delivered some time in March, 1973. As the delay in supply of the plant and machinery by HEC has put off the schedule of commissioning of the Kiriburu Modification and Expansion Plant, the project was expected to be completed in November, 1973. The Committee, however, find from the Annual Report for 1971-72 that there had been further delay of about four months in the delivery of crusher and mobile equipment and the completion of the project would be further delayed till January, 1974. The Committee are not at all happy with the frequent changes in the H.E.C.'s schedules of delivery of the plant and machinery which had upset the completion of the project and commissioning of the plant. The Committee would like that the Department of Mines to take up the matter with the Ministry of Heavy Industry, investigate the reasons for delay and take appropriate action ensure that at least the latest schedules of delivery are firmly adhered to.
21.	4.26	The Committee regret to note that the proposal for installation of a Benefication Plant was initially deferred by the Management although this was envisaged in the Project Report some time in August, 1969. The Committee also note that the Board of the Corporation had approved the scheme in August, 1972 and the plant is expected to be commissioned by November, 1974. The Committee regret to observe that the deferment of the decision initially and

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		taking a decision after 3 years has not only delayed disposal of fines to Bokaro Steel Plant but would affect ultimately the capital expenditure of the project.
		The Committee strongly urge that at least now the Corporation should take suitable steps to ensure that the target date *i.e.* November, 1974, for the commissioning of the Plant is adhered to.
22.	5.28 and 5.29	The Committee note that on account of inadequate provisions/change in specifications an expenditure of Rs. 473,68 lakhs was incurred by management over above the provision made in the Detailed Project Report. They also note that a committee of directors of the National Mineral Development Corporation had raised a number of points about this additional expenditure incurred including the following:— (1) whether there has been an over-designing of capacity by the acquisition of a larger number of equipment than originally planned. (2) whether additional purchases have been made with the approval of the competent authority. (3) whether changes in the specifications had been made after examination of the relevant factors by appropriate technical authority; and (4) what is the increase in cost on account of each of the above factors. The Committee of the Board of Directors had also desired that the matter should be reviewed further thoroughly. The Committee are given to understand that subsequently the matter was gone into by the

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		Financial Adviser of the Bailadila Iron Ore Project and his report is with the Government. The Committee would like to impress on Government that all aspects of the matter should be gone into as purchase of machinery in excess of requirement or creation of unbalanced excess capacity in certain sections have adverse effect of a recurring nature on the cost of production. The Committee are informed that it is already costing the NMDC Rs. 0.28 per tonne by way of additional cost at the rated capacity of 4 million tonnes per annum. The Committee would like Government to thoroughly probe the matter and fix responsibility including those of collaborators and of officers who were entrusted with the task of scrutinising the details before placing firm orders for machinery and equipment. The Committee would like to be informed of the action taken within the next three months.
23.	5.30	The Committee regret to note that imbalance in the designing of the mines and plant has created excess capacity at a cost of Rs. 170 lakhs resulting in increased cost of production at 28 paise per tonne. The Committee note that the Technical Committee (constituted in June, 1970) had held that a single line of crusher was in a position to treat enough ore to produce 4 million tonnes of sized ore per annum. The Chief of Iron Ore was, however, of the opinion that while crushing, conveying and loading section could handle 6 million tonnes of run of mine as against 5.5 million tonnes provided in the project report. The mine and screening sections were vulnerable points holding a capacity below that envisaged in the project report. The Committee were informed that one of the reasons for the imbalance was low lump recovery. The Committee also find that a technical committee appointed by NMDC in June,

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		1970 found that because of the low lump recovery, it would be necessary for the Corporation to excavate 6.6 million tonnes as against 5.5 million tonnes envisaged in the project report and to achieve this target, additional machinery at an estimated cost of 2.06 crores would be necessary. During evidence the Chairman, NMDC also admitted that there was over designing in the crusher capacity and one crusher was stand-by. Moreover, they had to increase the production from 5.5 million tonnes to 6.5 million tonnes. The Committee are shocked at the lack of proper planning and designing of the capacities of the machinery which had not only cost the exchequer Rs. 170 lakhs more but also increased the cost of production. The Committee see no justification for this costly lapse where a single line of crusher could have handled the entire production of the mine. The Committee, therefore, recommend that this matter should be probed into by the Government and responsibility for the lapses fixed.
24.	5.37	The Committee find that the original estimates approved by the Government for Rs. 15.75 crores in 1964 had under gone revision during the course of construction of the project; first in December, 1968 for Rs. 25.21 crores and again in September, 1971 for Rs. 29.70 crores and the Revised Estimates submitted to Government in November, 1971. The Committee also note that the excesses over the original estimates had been examined first by a Committee of Directors and later by the Financial Advisor of the Project and their reports also submitted to Government in January, 1970 and September, 1970 respectively. The Committee regret to note that these Reports are still under the consideration of Government alongwith the Revised Estimates. The Committee however find that Government had been

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		releasing funds on the basis of Budget provision much in excess of the sanctioned estimate without approval of the Cabinet as required under the instructions issued by the Bureau of Public Enterprises, Ministry of Finance. The Committee take a serious view of this lapse and strongly urge that the revised estimates should be gone into and sanction of the competent authority issued. The extent of revision and its implications on the economics of the Project should be specifically examined. The Committee would also like Government Corporation to review its mechanism of expenditure control to obviate recurrence.
25.	5.56 and 5.57	The Committee are distressed to find that the production in Bailadila even after four years of commissioning of the plant has been below the original target of 4 million tonnes. Further, the percentage of lump ore recovered does not exceed 65 per cent as compared to 75 per cent envisaged in the Project Report. The Committee cannot accept the plea that the DPR did not provided adequately for waste mining and the bench of required length as specified in the DPR could not be developed during construction due to non-availability of electric supply in time. The net result of all these factors has been that not only Bailadila has failed to achieve the targetted production and meet in full the commitments for export, but the cost of production has been much higher as compared to the original estimates and even Kiriburu mines, which had been developed earlier for similar exports to Japan. The Committee note that NMDC are now considering a proposal to utilise the fines by pelletisation with or without benefication and stress that the matter should be gone into most carefully having regard to the economics of the project.

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		The Committee would like the Management to spare no pains to inrease recovery of lump ore and enhance efficiency in production in order to improve the economics of the project.
26.	5.62	The Committee note that the Board of Directors in October, 1967 fixed the staff strength of the Bailadila Project at 800 on the Kiriburu Mines staffing pattern. Later in January, 1968 the Administrative Staff College, Hyderabad conducted a study of the requirements of the staff for the project and suggested a strength of 1173. As this study made by the Staff College "did not take into account adequately the staff requirements of certain departments like the Maintenance Department and three shifts working in the loading plant, the Board of Directors fixed the staff strength at 1546" in the light of experience gained in the working of the mine since April, 1968 and phased increase in the level of output". The Committee, however, note that the present strength of the project is 1691 about 10 per cent in excess of the strength approved by the Board after a comprehensive study.
		The Committee regret to note that inspite of the excess staff, the output per-man-shift is less than the budgeted output from 1968-69 to 1971-72 except for one year. The Committee, therefore, recommend that concerted efforts should be made to improve the efficiency and maximise output so that the output per-man-shift may increase consistent with the staff employed.
27.	5.69 and 5.70	The Committee find that as compared to the project estimate of Rs. 6.14 per tonne for operating cost, the actual cost in Bailadila in 1971-72 was Rs. 12.48 per tonne, an increase of more than 100 per cent. It is pertinent to recall that the operating cost in Kiriburu—an

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		older mine developed earlier for export to Japan—is only Rs. 9.66 per tonne. The Committee therefore are unable to appreciate why Bailadila which was developed later than Kiriburu should have a higher operating cost. In fact, gaining from the experience of Kiriburu, it should have been possible to effect substantial reduction in the operating cost. The Committee would like Government/NMDC to examine the matter in depth and take concerted measures to bring about reduction in the operating cost by improving efficiency and effecting economics in management. The Committee would also like that both NMDC and MMTC should arrive at an early settlement of the price as this has intimate effect on the financial position of the Corporation.
28.	6.31 and 6.32	The Committee note that a decision was taken to execute the Bailadila Deposit No. 5 in two phases, the first phase with production of 2 million tonnes and the second phase for 4 million tonnes, to match the handling capacity of Vizag. Port. Thereafter with the scheme for expansion of the Vizag. Harbour, it was decided that it would be economical to develop a mine with a capacity of 4 million tonnes of sized ore. The Project feasibility report was examined in August, 1968 and it was found that mine would remain a losing venture for all time to come, and that the project would be losing at the rate of Rs. 2.55 per tonne, on the basis of the price to be received in respect of the supplies from Vizag Outer Harbour and that the price for the supply to the Japanese Steel Mills was firm for 10 years. The Committee were informed that the revised decision was taken after taking into account the development and the associated infra-structure of railway and port facilities and the interest of the Japanese Steel Mills.

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		The Committee are at a loss to understand as to how an investment decision on a Project with a capital outlay of more than Rs. 38 crores had been taken even with the full knowledge of the fact that it would be a losing venture. for all times.
		The Committee would like that Government should carefully analyse the various components of cost and take concerted measures to ensure that the cost of production and transport charges do not exceed the sale price which is fixed with reference to the international conditions. In fact with experience and large production, it should be possible for the Corporation to reduce the cost of production and increase the margin of profit so that it may act as an incentive for developing more mining areas, stepping up the exports and wining more foreign exchange.
29.	6.33	The Committee note that the revised estimates submitted to Government is in excess of original estimates by about 33 percent and the excesses are mainly under Plant and Machinery, Civil and structural work. Establishment expenses, consultancy charges, and provision for future escalation. The Committee desire that Government should carefully go into the reasons for the excesses before the revised estimates are approved as any undue excess in the project cost is bound to affect adversly the financial viability of the project.
30.	6.34 and 6.35	The Committee note that the original target date for completion of project was December, 1973 and the trial runs were to commence in early 1974 to synchronise with the completion of Vizag. Outer Harboua. While the Committee were informed that the Outer Harbour at Vizag. is likely to be completed by May, 1974, the Committee regret to note the delay in the

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		completion of the Bailadila No. 5 Project. According to the present indication, the project is likely to be commissioned towards the end of 1974 only. The Committee were informed that even this target is subject to completion of the tunnel work entrusted to NPCC by March, 1974 and delivery schedule of plant and machinery by the Heavy Engineering Corporation Ltd. and MAMC on whom orders were placed even as early as March, 1969 being adhered to. The Committee were also informed that HEC would be able to complete the supply only in July|August, 1973.
		The Committee view with concern that even the present anticipation for completion of the Bailadila No. 5 Project cannot be adhered to unless the sister public undertakings are geared up to fulfil their contractual obligations to NMDC and adhere to their time schedules as otherwise the facilities provided by Vizag. Outer Harbour would perhaps remain unutilised.
		The Committee need hardly stress that Government|Public Undertakings should realise that once a contractual commitment is made with a foreign party, Government should ensure through concerted measures that the commitments are honoured so as to generate and sustain the confidence with the foreign parties. The Committee would also like Government|Corporation that, with their experience of mining in the other projects, they should use the latest technology and equipments so as to achieve production at an economic cost so that the prices may be competitive.
31.	6.46	The Committee regret to note that the work of construction of jeepable road as part of the road from Bailadila deposit No. 5 to deposit No. 14 through Galli Nallaha was undertaken departmentally and tenders were invited in

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		March, 1968 even without a sanctioned estimate for the work inspite of instructions from the Head Office that the estimate should be got approved from them as also from Government. The issue was re-examined in March, 1969 and it was concluded that a permanent road from Bacheli to deposit No. 5 would be of better functional utility and economical and therefore the idea to make the road from Bailadila No. 5 to Bailadila No. 14 was abandoned after already incurring an expenditure of Rs. 1.45 lakhs. Although the Corporation had sought to justify their action stating that but for this road, construction of HT line would be delayed and the road serves useful purposes, the Committee are not convinced as to why the General Manager of the Project should not have followed the prescribed procedure of taking prior sanction of estimates before incurring any expenditure on the road. The Committee feel that the explanation of the General Manager that he treated the letter communicating the approval of the draft NIT in January, 1968 as approval to the estimates, would seem to be an after thought. It is surprising that even after the headquarters had asked (in March, 1968) the General Manager, the basis of preparation of the estimate, the General Manager persisted in saying that the headquarters has already vetted the papers long ago.
		From a note received from the Ministry, the Committee note that it was decided by the NMDC to drop the construction of the above road as it would have served no useful purpose in the changed circumstances of the project and a Kutcha Road was required upto Galli Nullah for carrying out detailed survey for dam and laying of H.T. line. Therefore, the question of any approval of the work by the Board or the Government did not arise As the Kutcha

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		Road was required in any case, its construction cannot be considered as irregular. The Committee are not satisfied with the justification for the road as given by undertaking|Ministry and feel convinced that had adequate care and caution been exercised in planning, the expenditure of Rs. 1.45 lakhs incurred on the road could have been avoided.
32.	7.20 and 7.21	The Committee note that the actual production of diamonds from the two mines *viz.* Ramkheria and Majhgawan fell short of the original targets during the period from 1968-69 to 1971-72. Although the overall percentage of shortfall of production in the two Projects together showed a declining trend from 44.8 per cent in 1968-69 to 14.10 per cent in 1971-72, the actual performance in Majhagawan exceeded the targets and the performance of the Ramkheria mine fell very much below the targets. As admitted by the representative of Department of Mines during evidence, "the result is one deposit counterbalances the poor performance of the other. NMDC proposes that it should be closed down and Majhgawan expanded." The Committee regret to find that though the Ramkheria mine was taken up for exploitation on the basis of further prospecting and exploratory works done in consultation with the Foreign Consultants and the IBM it could not attain the targetted capacity and the performance is only about one-fourth of the target. The Committee, therefore, feel that even the further exploratory and prospective works were not done with the necessary care and caution with the result that the project is losing heavily. The Committee are not impressed with the statement of the Ministry that "one deposit counterbalances the other". The Committee take a serious view of the undue haste with

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		which the mine was taken up for exploitation without a thorough and careful techno-economic study of the project resulting in an infructuous expenditure.
		The Committee strongly recommend that the entire matter should be thoroughly investigated by the Government as to the quantum of the loss and the responsibility for such costly lapses be also fixed.
33.	7.36 and 7.37	The Committee note that in accordance with the policy objective of Government, to import rough diamonds from abroad to counter, to the extent possible, squeeze by foreign monopolistic suppliers on the Indian Trade, and to provide at least small quantities of rough diamonds to the Indian cutting and polishing trade at reasonable prices, the NMDC was nominated as the canalising agency for the import of rough diamonds to the extent of 10 per cent of the import replenishment. NMDC imported diamonds so that the Corporation may secure primary source in addition to the normal source and started importing rough diamonds from Ghana and German Democratic Republic—about Rs. 10 lakhs from Ghana and Rs. 15 lakhs from Germany. The Committee were informed that the basic assumption in making purchase from Ghana was that Indian diamond trade would extend cooperation to NMDC in buying the rough diamonds procured from Ghana. This assumption did not however, materialise as the trade immediately after purchase protested against Government policy to enter the diamond trade with the result that the bulk of he imported diamonds had to be disposed of abroad and the whole transaction ended in a loss of more than Rs. 5.16 lakhs, after taking into account interest on capital to the extent of Rs. 4.36 lakhs and refund of customs duty. The Committee were also informed that

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		the entire stock of diamonds imported from Ghana had since been disposed of.
		The Committee also note that NMDC in order to meet the demands of canalization and to ensure steady supplies entered into arrangements with a leading London firm for the import of rough diamonds on consignment basis, and this transaction yielded a profit of about Rs. 5.6 lakhs wiping off completely the loss sustained in the Ghana deal.
34.	7.37	The Committee are not able to understand the rationale of canalising the import of rough diamonds through the NMDC who are primarily concerned with exploration and development of minerals. The Committee are also distressed to note that before appointing the NMDC as the canalising agency for import trade, Government have not issued specific guidelines in regard to the particular quality of rough diamonds to be imported keeping in view the demands of trade and requirements of the country but simply left the matter entirely in the hands of the Corporation with the result that the transaction has not only ended in a loss of Rs. 5.16 lakhs but the specific objective with which this task was undertaken was not fulfilled.
		The Committee would strongly urge that the entire deal should be thoroughly investigated and responsibilities for such costly lapses fixed. The Committee were now informed that the import and export of diamonds done by the NMDC has since been transferred to the MMTC. The Committee hope that the MMTC would ensure that such costly lapses do not recur and imports of rough diamonds are made in consultation with consumers.
35.	7.43.	The Committee note that the actual cost of production of diamond per carat during 1968-69 was 127.5 per cent of the estimated cost based on

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		original target produtcion of 16000 carats for that year and 86.9 per cent of the revised cost based on revised target of 9000 carats.
		The Committee regret to note that the cost per carat during 1969-70 and 1970-71 increased to 88 per cent and 99 per cent of the estimated cost based on the revised targets of 14000 and 20000 carats respectively.
		The Committee recommend that the Corporation should spare no pains to improve their production performance in Panna and ensure that the cost of production compares favourably with international market prices.
36.	8.17 and 8.18	The Committee note that while framing the Detailed Project Report, it was anticipated that Government's sanction would be received by December, 1968 and the Project would go into full production by 1973-74. The Committee regret to note that Government had taken two years to approve the DPR although they had communicated their approval in principle as early as January, 1969. The Committee also regret to observe that on account of the delay in the sanction of estimates, not only has the cost of project increased but the completion of the project has also been delayed by three years.
		The Committee further observe that even the revised estimates approved by the Board in August, 1972 are still awaiting sanction by Govrnment.
37.	8.19 and 8.20	The Committee also regret to add that so far no decision has been taken on the techno-economic feasibility report prepared by M|s. Dastur and Co. on beneficiation and pelletisation on Donimalai Iron Ore submitted by Corporation to Government in June, 1972.
		The Committee need hardly stress that Government should not rush to take an investment decision on the project unless and until a

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		thorough and critical analysis of the techno-economic feasibility report is made and Government are satisfied that the project would be financially viable.
38	9.11.	The Committee note that though the techno-economic studies were completed as early as in March, 1970, it had taken one full year for the Corporation to prepare the detailed project report. During this period expenditure was incurred on 'care and maintenance basis' and this was agreed to be shared with the foreign collaborators till investment decision was taken by Government, in the same ratio as originally accepted for the period from June, 1970 to March, 1971 subsequently extended upto December, 1971. The collaborators declined to share any expenditure on 'care and maintenance' beyond December, 1971 and therefore 'care and maintenance' establishment was practically closed from May, 1972.
		The Committee were informed (March, 1973) that Government have accorded investment decision in principle subject however, to a long terms sales contract for a substantial quantity of the annual production. The Committee would, however, strike a note of caution that Government should undertake a careful and thorough evaluation of the technology and economics of transporting the concentrate of pellet feed through a pipeline in slurry form and exporting them in large slurry carriers before a long term sales agreement is considered.
		The Committee need hardly stress that Government should learn a lesson from their past experience and ensure that the short comings which adversely affected the operation of the other projects do not recur.
39.	9.12.	Needless to emphasise that the execution of this project should synchronise with the

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		development of the hinterland of Mangalore which is being developed as a major port. Since this mine ore is for export purposes, the Committee need hardly point out that there should be close co-ordination with the Mangalore Port authorities from the very beginning so that the requisite facilities are developed in time.
40.	9.19.	The Committee note that NMDC commenced the investigations of Mussoorie Rock Phosphate as early as October, 1968. Although the techno-economic studies were expected to be ready by October, 1969 and the Detailed Project Report by December, 1969, the techno-economic feasibility report had not been prepared by April, 1970. The Committee find that only the first stage of exploration operations of the project had so far been completed and the Ministry had agreed to give extension of time for the feasibility report upto December, 1971. The Committee note that in May, 1971, the Government had decided to transfer these operatio ns to the newly formed Company *viz.*, Pyrites, Phosphates and Chemicals Ltd. The NMDC closed down the Project from 15-6-1971. The Committee would strongly urge that Government/P. P. & C., should take immediate steps to examine the economics of the Project carefully and initiate further action for exploiting the mine, as otherwise the expenditure of more than Rs. 47 lakhs incurred by NMDC may become infructuous. The Committee would like to be kept informed of the action taken in the matter.
41.	9.23.	The Committee hope that in view of the export commitment to Japan from the Bailadila Sector, the work on Bailadila—Deposit No. 4 would be accelerated.
42.	9.25.	The Committee would like Government to take up the development of the Meghahataburu

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		Project only after careful exploratory studies and assessment of the economics of the project to ensure supply of ore of appropriate quality and specification to Bokaro Steel Plant.
43.	10.5.	The Committee note that there is an office of the Commercial Manager of the Corporation at Bombay in charge of the imports and sales of diamonds. Since the work of import and trade of diamonds has now been entrusted to MMTC, the Committee see no justification for the continuance of that office at Bombay. The Committee hope that with the transfer of the functions of this office to MMTC, the personnel of this office would also be simultaneously transferred along with the work.
44.	10.10.	The Committee find that the Management reporting system at present followed by the Corporation is still stated to be in the evolutionery stage. The Committee suggest that the procedures may be streamlined and the reporting system organised in a systematic manner so that the system really enables the top management to have an overall control on the different wings as well as the aspects of the working of the organisation.
45.	10.25.	The Committee note that though a decision was taken by the Government of India towards the end of 1962 to shift the Headquarters of the Corporation, the Government had been changing their decisions from time to time and it was only after 9 years that a final decision has been taken to shift the headquarters to Hyderabad. The Committee are constrained to observe that these frequent changes in the decision had not only led to creation of assets worth rupees more than 11 lakhs at Faridabad but has resulted in additional expenditure on the shifting of the offices, rents of buildings at Hyderabad etc. In the opinion of the Committee, the headquarters of

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		the Corporation should have been located centrally so that all the projects undertaken by it are easily accessible for supervision and effective control over their execution.
		The Committee also recommend that the Corporation should take timely action for the disposal of the property at Faridabad in the best public interest to obviate the recurring expenses on staff deputed to look rfter the property and on its maintenance.
46.	11.11.	The Committee note that the stock of stores and spares parts of NMDC as on 31-3-1972 represented 157.1 months' consumption for production and development as compared to 78.3 months in 1970-71 and 53.9 months in 1969-70. The Committee also note that the closing balance of the stores in respect of Bailadila, Kiriburu and Panna Diamond projects as on 31-3-1972 represented 27.06, 33.19 and 17.15 months consumption of the stores and the inventory level showed an increasing trend in all the projects from 1969-70 to 1971-72. The Committee feel that with the experience of working of the project, the NMDC should not have found it difficult to fix realistic norms of levels of inventory separately for indigenous and imported items of stores and spares so as not to overburden the inventory.
47.	11.12	The Committee also note that the purchases in Bailadila and Panna Diamond Projects were in excess of the years' consumption during 1970-71 and 1969-70 and 1970-71 respectively, thus further adding to the inventory of stores. With the introduction of data processing system it should be possible for NMDC to have ready information of stock levels, consumption etc., so that purchases may be made on realistic basis. The Committee need hardly stress that accummulation of inventory and exessive purhases result in unneessary blocking of capital with consequential expenditure on storage, loss of interest etc.

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48.	11.13 and 11.14	The Committee were informed that an "Inventory Control Committee" was constituted by the Bureau of Public Enterprises. That Committee in its report submitted in January, 1972 had made certain recommendations regarding procedures of purchase and inventory control The Secretaries Committee on Public Sector Enterprises which considered that report in May, 1972 decided that the Bureau of Public Enterprises should further review the inventory position in regard to NMDC's projects. The Committee would like the Government/Bureau of Public Enterprises should complete the review without delay and fix suitable norms for the stores and spares consistent with the needs of production and development works of NMDC. The Committee were informed that stocks of about 70 per cent in the usage value were only being subject to thorough control and review. The Committee strongly urge that a thorough review of all the items of stocks should be undertaken half-yearly and action taken to reduce the inventory levels to avoid unnecessary accumulation of stores.
49.	11.25.	The Committee note that in the Bailadila, Kiriburu and Panna Diamond Projects, stores of the value of Rs. 137.69 lakhs did not move for more than two years as on 31-3-1971 and stores of Value of Rs. 227.98 lakhs did not move for more than one year as on 31-3-1971. The Committee also note that Rs. 23.6 lakhs worth of stores including spares and construction and special parts are awaiting disposal as on 31-3-1972. The very fact that more than Rs. 3 crores worth of stores are not moving for over one/two years only proves that sufficient care was not exercised before ordering purchases. The Committee were informed that periodical reviews are undertaken by the Storeholder to indentify non-moving and obsolete spares, lists are prepared and circulated

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		to Sister Projects or the items are transferred to other projects. The Committee are strongly of the view that the review of stores should not be left to the storeholder but should be conducted systematically by an independent store officer/stock verification officer so that a systematic analysis of all the slow-moving/non-moving items is undertaken and items surplus to requirements are identified and timely action taken for their transfer to other projects, public undertakings where they could be more usefully utilised instead of allowing them to become obsolete to be ultimately written off as a loss. The Committee also find that the shovel received by the Panna Diamond Project from Bailadila in January, 1968 on the plea of urgency for removal of over burden could not be utilised for want of certain repairs and had ultimately to be returned in May, 1969 to Bailadila without any use after more than 15 months. Even after the shovel was received back at Bailadila it could not be put to use and had to be declared as surplus. The Committee are not convinced about the plea of urgency for the transfer of equipment from Bailadila. The Committee fail to understand as to why the Corporation could not have verified the condition of the shovel even before it was transferred to Panna, and why it had taken more than 15 months for Panna Project to return it to Bailadila. The Committee would like that this should be investigated in detail and report furnished to them. The Committee feel concerned that, on the one hand, the Corporation is carrying heavy inventory of stores and a large amount of surplus stores are accumulated on the other hand. Common equipments like shovel remain unutilised for want of spares for repairs.

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		The Committee would like the Corporation to undertake a thorough review of similar cases of Plant and Machinery which may be lying unutilised for want of spares or repairs of which may be uneconomical so that the Corporation may take immediate measures to bring them in working order or take action for their disposal to other Undertakings. The Committee suggest that the Inventory Control Committee on NMDC should also critically examine this aspect and suggest ways and means for adequate provisioning of spares and stores so that the machinery in the Corporation may not at any time remain unutilised on the plea of want of spares and production affected on this account.
50	11.31.	The Committee regret to note that because of the failure of the Corporation in not initially obtaining the prior sanction|release of foreign exchange and the procedural delays in obtaining the various clearance thereafter, the Corporation suffered a loss of Rs. 1.06 lakhs in the transaction. The Committee are not convinced of the justification for the delay in this case. The Committee need hardly stress that the Corporation should have taken advance action for the settlement of formalities and secured sanction for foreign exchange in time. The Committee hope the Corporation would ensure that such delays do not recur in future.
51	11.37	The Committee note that on the expiry of the contract for transport of cement from Jaimul-Dhumtari to Kirindul at 21.5 paise per ton mile and from Jaimul-Dhumtari to Bansi at 19 paise per ton/mile, on 31-3-1966 two contracts were entered into at the rate of 27 paise per ton/mile on the basis of tenders invited from local firms across the table and after negotiation with the parties without associating the earlier contractor

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		on he plea of his poor performance. Though these contracts were required to be reviewed after three months, instad of rviewing them and inviting fresh tenders, the earlier contracts were extended upto 31-3-1967. It was only in April, 1967 that tenders were again invited when the rates obtained were 19.36 p. and 19.63 p. per tone/mile respectively. The Committee regret to not that non-invitation of tenders and failure to conduct the review from time to time has resulted in an avoidable extra expenditure of Rs 2.4 lakhs to the Corporation. The Committee are also at a loss to understand as to why no action was taken against earlier contractor for his poor performance. Apart from this, the Committee find that General Manager had been giving extension to the contracts in consultation with the head-office without obtaining the approval of the Board as prescribed under the rules. And it was only as late as December, 1967 that *ex-post-facto* approval of the Board was obtained, the Committee take a serious view of the irregularities in the case and urge that Government should probe into them and take action against those responsible for the lapses.
52.	12.17.	The Committee note that the sale of iron ore to Japanese Steel Mlls in terms of agreement entered with them for the devlopmnt of Kiriburu and Bailadila Mines is being made by the NMDC through the MMTC. In paragraph 77 of their 11th Report, the Committee suggested that the Corporation should work out its costs of exporting the ore independently and if the cost did not work out to be more than the commission paid to the MMTC it might be economical for the Corporation to take over the work from the MMTC. This aspect was examined by the NMDC in 1969 and it came to the conclusion

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		that if the funds to the extent of Rs. 2.3 crores were made available to the Corporation, it need not pay to the MMTC the element of the service charges representing "Finance obligations" excepting over-head expenses. The Committee find that already NMDC has paid Rs. 1.61 crores as commission charges to MMTC upto 1971-72. The Committee were informed that it was the policy of Government to canalise all export of iron ore through a separate trade agency which, in this case, was MMTC and so long as the NMDC was paid a fair price inclusive of adequate return on investment it should be advantageous to keep the trading activities with MMTC. The Committee also find that the question of price payable by MMTC in respect of ores exported through it, has been for long under dispute and it was only in October, 1971 that the Finance Secretary had given award about the fair price payable by MMTC, according to which the Corporation would be selling the Bailadila ore to MMTC on a FOR Vizag. Port bass w.e.f., 1-4-1971 and the existing price formula for Kiriburu ore may continue for 1971-72. Though the MMTC had accepted the award, the Committee find that NMDC had been making further representations on the award. The Committee were also informed that the matter was still under negotiation between the two Corporations. The Committee need hardly stress that in the interest of improving the financial position of the Corporation, an early settlement of the price should be arrived at.
53	13.19.	The Committee are unhappy to find the disquieting financial position of the Corporation which has accumulated a loss of Rs. 12.7 crores representing 21.5 per cent of the equity capital, at the end of 31-3-1972. The loss is mainly on account of loss of Rs. 801.90 lakhs in Kiriburu and a Rs. 406.08 in Bailadila. The Persistant had per-

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		formance of the Corporation from 1968-69 to 1971-72 should among other factors, be attributed to the fact that production at Kiriburu and Bailadila was much below the capacity. As may be seen from para 3.23 the Kiriburu mine is in fact operating only to one half of its capacity while Bailadila Plant operations have not shown substantial improvement Of the two major mines, Kiriburu accounts for less than 1/4 of the total production of the NMDC but its profitability is entirely dependent upon the off-take of ore and fines by Bokaro Steel Plant and fixation of the sale price therefor.
54	13.20. and 13.21.	On the export side apart from the low level of production in the two mines and consequent reduction in exports, the Committee find that the external payments like Railway freight Port charges, export duty, commission etc., have also contributed to the loss. The Committee hope that the F.O.R., arrangements now agreed upon by MMTC as a result of the award of the Finance Secretary would help in improving the financial position of the Corporation. As the Corporation have now gathered valuable experience in mining of ore. it should be possible to bring down the cost of production by adopting most efficient methods by developing production to the full potential. The Committee need hardly point out that as iron ore constitutes the main raw-material for the steel plants its supply at competitive rates would help the public sector to produce iron and steel at most competitive rates. As pointed out elsewhere in the report there is great scope for increasing export of iron or to other countries particularly Japan and this can be done on a substained and long-term basis only if the National Mineral Development Corporation are able to raise the ore at most competitive prices.

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		The Committee would like to be informed of the measures taken or proposed to be taken by the National Mineral Development Corporation to increase the efficiency of its production and to reduce its operating and overhead cost.
55.	13.22.	The Committee have pointed out elsewhere in the Report that the operational cost as well as overheads of N.M.D.C., particularly in Bailadila and other iron ore projects are excessive. The Committee feel that detailed costing of operations should be done by the Financial Adviser's organisation so as to assist the management in taking timely action to improve performance and effect economies.
56.	13.26.	The Committee regret to note that in spite of the instructions issued by Ministry of Finance (Bureau of Public Enterprises) in September, 1968 in pursuance of the recommendation by the Committee on Public Undertakings in their 15th Report (4th Lok Sabha—April, 1968) on "Financial Management in Public Undertakings" that Internal Audit should include a critical review of the system, procedures and operations as a whole, the Internal Audit Cell of the Corporation has not so far conducted any appraisal of the performance of the projects. The Committee were informed that only recently the Corporation sanctioned Internal Audit Cells for the operating mines at Kriburu and Bailadila and action for evolving suitable operation standards for production initiated. The Committee recommend that Internal Audit Cells should be activised to discharge their functions and responsibilities so that the Management can take advantage of the reports of internal audit in seting right the defects in the working of the Corporation.

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