Chapter – 1
Introduction

Industry Profile

1.1 The production of iron ore in India is through captive mines (owned and operated by individual steel plants both in public and private sectors mainly for their own use) as well as non-captive mines (for domestic consumption and exports). The total production of iron ore in the Country during 2010-11 was 208.11 million tonnes (MT). In the non-captive segment, major companies in the public sector are NMDC Limited (Production: 25.16 MT), Orissa Mining Corporation (Production: 5.34 MT) and Mysore Minerals Limited (Production capacity: 6.14 MT). With production of 25.16 MT, NMDC Limited (the Company) contributed around 12 *per cent* of the total iron ore production in India in 2010-11. During 2011-12, the Company produced 27.26 MT representing around 16 *per cent* of the total iron ore production of the Country which stood at 169.66 MT. NMDC catered to 21 *per cent* of domestic iron ore demand in 2010-11 and 23 *per cent* in 2011-12.

1.2 India is one of the leading producers of iron ore in the world and stands fourth in the list of world iron ore producers. Out of a total estimated iron ore production of 2,730 MT in the world in 2011, India produced 169.66 MT which represents 6 *per cent* of total world production. Subsequent to ban on mining operations in Bellary, Tumkur and Chitradurga districts of Karnataka in July/ August 2011 by the Hon'ble Supreme Court, the production of iron ore in Karnataka came down from 37.88 MT in 2010-11 to 13.27 MT in 2011-12. As of April 2012, the mining of iron ore in Karnataka was permitted only by NMDC.

NMDC, a major player with a capacity of 32 MTPA, produces high quality iron ore through its five mines.

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NMDC mainly caters to domestic demand. Though NMDC's share in the Country's total production was 16 *per cent* in 2011-12, it fulfilled 23 *per cent* of domestic iron ore demand.

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NMDC earned a profit before tax of ₹ 10,760 crore on an income of ₹ 13,278 crore in 2011-12.

Company Profile

1.3 NMDC was incorporated in November 1958 with the main objective of exploring and exploiting the mineral resources in the Country. The Company started its operations with a production capacity of 2 MT of iron ore and has now grown up to a capacity of 32 million tonnes per annum (MTPA) of Run of Mine[1]. The Company has been in profits from 1989-90 onwards. In 2011-12, it earned a profit (before tax) of ₹ 10,759.70 crore on an income of ₹ 13,278.38 crore. Production and sale of iron ore is the main activity of the Company constituting about 99 *per cent* (₹ 11,167.56 crore) of the turnover during 2011-12 while about

[1] *Run of Mine is the ore extracted after segregation of waste. It is further crushed and screened to obtain saleable products viz., Lump Ore, Direct Reduction Calibrated Lump Ore, Fines etc.*

one *per cent* (₹ 101.17 crore) was through sale of diamonds and sponge iron. The Company was granted Navratna status in 2008.

1.4 The Company undertakes iron ore mining operations mainly through five open cast mines located at **Kirandul** and **Bacheli** (two mines each) in Dantewada district in Chhattisgarh and one at **Donimalai** in the district of Bellary in Karnataka with an installed capacity of 12, 13 and 7 MTPA respectively. The Company produces various sizes of saleable iron ore products[2]. The Iron (Fe) content in the iron ore in all these mines generally varies between 64 and 67 *per cent*. As of March 2012, the customer base of the Company consisted of 27 steel making customers, 65 sponge iron customers and six long term foreign customers The Company sells its ore mainly through Long Term Agreements (LTAs) with domestic and international buyers. A small quantity (about five *per cent*) is also sold through domestic and international spot market.

Fig 1: Excavating iron ore from open cut mines

1.5 Iron ore is mined by drilling and blasting after removal of the overburden, *i.e.*, top soil. The ore is loaded into dumpers through excavators and transported to a stationary crushing plant. The crushed ore is screened into different sizes in the screening plant and is carried through conveyor belt to the respective stock yards. Thereafter, the ore is transported through rail, slurry pipeline and by road to the designated places of customers. Exports are made through MMTC Limited, a canalizing agency, from Visakhapatnam and Chennai ports.

Organizational Set Up

1.6 The Company is headed by the Chairman-cum-Managing Director (CMD) who is assisted by five Functional Directors for Production, Technical, Commercial, Finance and Personnel. There were two Government of India Nominee Directors and six to eight

[2] *Iron ore fines (size less than 6 mm) are created as a result of mining, crushing and processing the larger pieces of ore. The iron ore fines have first to be processed into what is called sinter, otherwise it will effectively smother the air flow in the blast furnace. Iron ore Lump (size 10 mm to 40 mm) is preferred as when it is fed into a blast furnace for steel making, its particle size allows oxygen or air to circulate around the raw materials and melt them efficiently. This is the reason, Lump ore commands more price than the Fines. Direct Reduction Calibrated Lump Ore (size 10 mm – 40 mm) is a high quality Lump Ore, ordinarily priced at a premium over Lump Ore, which is taken out from the Crusher after the first screening is completed wherein the contaminants such as Alumina and Silica are removed from the iron ore feed.*

independent Directors on the Board of the Company. The mines are headed by Executive Directors/ General Managers who report to Director (Production)/ Director (Commercial) for day to day operations.

Scope of Audit

1.7 The Performance Audit covers the activities of the Company from 2005-06 to 2011-12. Detailed data relating to Production, Evacuation and Sale of iron ore for the years 2005-06 to 2009-10 were examined and analyzed in Audit.

1.8 All the mines of the Company, i.e., four mines in Chhattisgarh (two mines in Kirandul and two mines in Bacheli) and one mine in Karnataka (Donimalai) along with the Regional/ Liaison offices at Vizag and Chennai and Corporate Office at Hyderabad were covered in audit. In addition, implementation of development of two new mines (Kumaraswamy Deposit at Donimalai, Karnataka and Deposit 11B at Bailadila, Chhattisgarh) was also reviewed.

1.9 Out of a total of 27 steel making customers, 19 customers who had placed sale orders of ₹ 5 crore and above on the Company were selected for the review. In addition, 27 sponge iron customers were selected randomly. We also reviewed exports made to all the six long term customers. The total value of sales made to these customers selected in Audit was ₹ 25,700.08 crore representing 94 *per cent* of the total sales during 2005-10. In addition to this, we also reviewed price fixation mechanism and minutes of 63 Board meetings held between April 2005 and March 2012.

Performance Audit of NMDC focuses on four areas –
(a) production including capacity expansion of iron ore, (b) evacuation facilities, (c) sales, and (d) monitoring of high risk areas by Board of Directors.

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Audit sample included all five operational mines, two mines under development and 52 (out of 118) customers representing 94 *per cent* sales. In addition, price fixation mechanism and minutes of 63 Board meetings held between April 2005 and March 2012 were also reviewed.

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The final chapter provides a summary of Audit recommendations for further improvement in Company's performance.

1.10 The Entry Conference was held in May 2010. Audit examined the relevant records based on which preliminary observations were issued to the Management and the replies of the Management wherever received, were considered while drawing audit conclusions which have been discussed in the subsequent chapters. An Exit Conference was held in September 2010 with the Management to discuss the audit findings with the Management and the report was finalized and issued to the Ministry of Steel, Government of India in February 2011. The response of the Ministry of Steel was received in May 2011.

1.11 While the report was being finalized, new facts relating to Karnataka mines came into light and required fresh examination in Audit. The review was redrafted and again issued to the Management. The Management's views were taken on the audit observations post Lokayukta Report. Management furnished its views in January 2012. The report was updated to include the issues up to 2011-12 and was re-issued to the Ministry in July 2012. Meanwhile, the updated report was discussed with the Management in another exit conference held in July 2012. The response of the Ministry to the updated report was received on 23 July 2012 and has been appropriately incorporated while finalizing this report.

Audit Objectives

1.12 The main objectives of the Performance Audit were to assess whether the:

- Production was in line with the installed capacity;
- Capacity expansion projects were executed within envisaged costs and timeframes;
- Evacuation facilities were commensurate with the installed production capacity;
- Company's price fixation methodology ensured optimum revenue from sales; and
- Company effectively monitored the high risk areas of operations such as project development.

Audit Criteria

1.13 Audit was carried out using the following criteria:

- Corporate Plan, Installed Capacity and Annual Plans;
- Board Agenda and Minutes;
- Expansion schemes envisaged;
- Ganeshan Committee Report;
- International spot prices of iron ore; and
- Sale contracts with customers.

Acknowledgement

1.14 Audit acknowledges the cooperation and assistance extended by the Management at various stages of Performance Audit.

Audit findings

1.15 The Performance Audit revealed certain areas and issues which need to be addressed by the Management to optimize the results of operations. The audit findings are discussed in four chapters as detailed below.

Chapter 2: highlights shortfall in production and delays in implementation of the new projects impacting the production plans of the Company;

Chapter 3: flags the bottlenecks in the Evacuation facilities for iron ore;

Chapter 4: discusses the Pricing and Sales issues; and

Chapter 5: brings out inadequacies in the Governance.

Chapter 6: gives the audit conclusions and recommendations.