

CHAPTER-IV

## PRIVATE SECTOR

### INTRODUCTION

The Private Sector continued to play a dominant role in augmenting steel availability in the country. Their contribution in finished steel production increased to about 68% in 2003-04 as compared to 45% in 1992-03. Similarly, the private sector is also playing a significant role in the production of pig iron and sponge iron.

### TATA IRON AND STEEL COMPANY LTD. (TISCO)

TATA STEEL, after completion of their four phases of modernization has achieved a production of 3.54 million tonnes of finished steel and 4.22 million tonnes of crude steel in 2003-2004, surpassing all previous records. The performance of TISCO was marked by higher volumes, richer product-mix and considerable achievement in the areas of cost reduction and improvement.

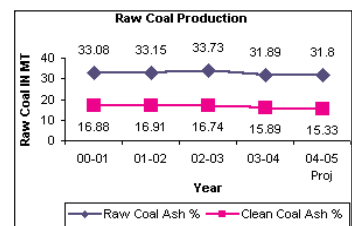
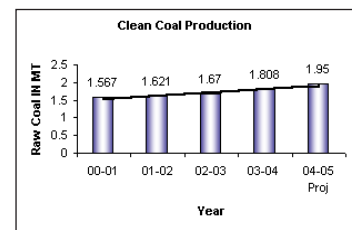
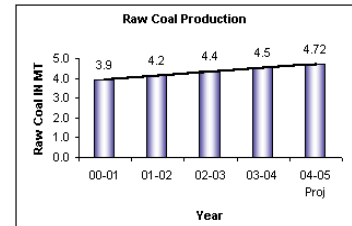
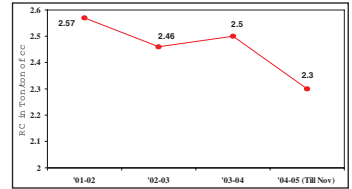
### Production of Clean Coal at 16 % and 15 % Ash for the first time in the history of West Bokaro:

The coal deposits at West Bokaro is that of medium grade with ash around 36%. Beneficiating this coal for reducing Ash is difficult due to presence of large quantity 'Near Gravity Material'. Considering this characteristics, West Bokaro had been producing Clean Coal at 17% ash and setting an yield at 39% till 2002-03. It was felt that in the existing plant, it wouldn't be possible to produce Clean Coal at lower ash without loosing substantially on yield. In Nov-Dec. '02, a Brain Storming Session was organized to explore the possibility of producing clean coal at 16% ash. Accordingly, a trial campaign was conducted at both the Washeries during Jan.-Feb '03. The trials were closely monitored by the operating departments and R&D, JSR. During the trials it was observed that by reducing Ash by 1 % from 17% to 16%, the loss in yield was 5%.

During planning formulation of 03-04, the challenge was taken up by the Division to produce clean coal at 16% ash for supply to Jamshedpur Steel Works while minimizing the loss in yield. The departments, in turn, took up the challenge of bridging the yield gap by launching different initiatives. Stretched target of bridging gap by 3.5% was taken up. Since the high Ash coal reduces the productivity of the Blast Furnace, the challenge was how to reduce the Ash of Clean Coal and at the same time minimize the loss of yield so that the total requirement of coal is met.

### Key initiatives that were launched consisted of :

- Revised mine planning to achieve longer campaign of each seam and to supply raw coal with lesser contamination.
- Yield increase at Washeries by readjusting parameters to produce high yield fraction, use of Flocculant- Coagulant to improve recovery from dewatering Centrifuges, use of Viscosity Modifier to improve DM Cyclone yield.
- Use of Scrolled Evolute Cyclones instead of conventional Dutch State Mine (DSM) Cyclone to increase yield.



All these initiatives helped West Bokaro to produce 18.08 LT of Clean Coal against ABP of 17.00 LT in FY'04 i.e. 106% achievement in clean coal production.

Again in the year 2004-05, in order to optimize the Blast Furnace operation, Clean Coal Ash was reduced further down to 15 % in the month of Aug.'04 after conducting a series of trials in the Washeries. While it continued with the above initiatives while extending the applicability of the same across the plants, the company also adopted additional initiatives as given below:

The Company has been able to reduce the loss of Clean Coal Yield and expect to produce 19.60 Lakh Tonnes of Clean Coal in the year 2004-05 which will be the highest in the history of West Bokaro.

During these initiatives, West Bokaro has demonstrated its capability to redesign processes to meet changing requirement of customer. It has also been able to challenge age-old norms of Washery operation. Flare for innovation and readiness to adopt new technology has helped Division to live up to the challenges.

### **ISPAT INDUSTRIES LTD.**

Ispat Industries Ltd. (IIL) has set up one of the largest integrated steel plants in the private sector in India at Dolvi in Raigad District, Maharashtra with a capacity to manufacture 3 million tones per annum of hot rolled steel coils (HRC). The Dolvi complex also boasts of an ultra modern blast furnace (setup by a group company Ispat Metalics India Ltd.) capable of producing 2.0 million tones per annum of Hot Metal / Pig Iron and a DRI plant with a capacity of 1.6 million tones per annum. Further, the complex envisages adding 110 MW captive power plant (which will use the BF gas) by the year 2005.

The integrated steel plant is using the converter cum electric arc furnace route (CONARC process) for producing steel. In this project, IIL have uniquely combined the usage of hot metal and DRI (sponge iron) in the electric arc furnace for production of liquid steel for the first time in India. For casting and rolling of liquid steel, IIL have the state-of-the art technology called compact strip production (CSP) process, which is installed for the first time in India and produces high quality and specifically very thin gauges of HRC. IIL's products are well accepted in international markets.

### **ESSAR STEEL LTD.**

Essar is a state of the art 2.4 metric tonnes per annum hot rolled steel coils plant suited at Hazira, Gujarat. It is India's first integrated Steel plant to receive both the ISO 9002 & ISO 14001 certifications.

Availability of the world's best and latest equipment and high levels of automation has ensured a niche position for Essar's high quality products not only within the country but also on a global front. Essar Steel Ltd is the single largest exporter of Flat products in the country with major exports spanning the globe viz., Far East, Southeast, Middle East, China, Europe and Africa.

The modifications carried out have benefited the company in terms of increase in productivity, reduction in cost & improvement in quality of the product.

Technological changes and process improvements.

### **JINDAL VIJAYANAGAR STEEL LTD.**

Jindal Vijayanagar Steel Ltd. (JVSL) is 1.6 mtpa hot rolled coils capacity, integrated steel plant based on Corex Process of oxygen ironmaking. The process route is Iron Ore Benefication Plant - Pellet Plant - Corex - BOF - CCP - HSM. The production facilities include 1.5 mtpa iron ore Benefication unit, 4.2 mtpa Pellet Plant, two Corex units 0.8 mtpa each, 2x130 t converters, two slab casters and hot strip mill with state of art coil box technology. JVSL has tied up with Euro Ikon Iron & Steel Pvt. Ltd. (EIIISPL) for setting up 0.9 mtpa blast furnace and with Euro Coke and Energy Pvt. Ltd. (ECEPL) for 0.62 mtpa Coke Ovens which become operational on 19.08.2004 and 22.11.04 respectively.

**FINANCIAL PERFORMANCE : MAJOR PRIVATE SECTOR PLANTS**

The financial performances of leading private steel plants - Essar Steel, Ispat Industries, Jindal Vijayanagar Steel Ltd. and Tata Steel for 2002-03 and 2003-04 are given below. Figures in brackets indicate Net Loss.

Unit : Rs. Crore

Company/Net Profit (Loss)	2002-03	2003-04
Tata Iron & Steel Co. Ltd.	1012.31	1746.22
Essar Steel Ltd.	1.51*	59.99
Jindal Vijaynagar Steel Ltd.	(110.67)	528.68
Ispat Industries Ltd.	82.83	44.32

Note that for Essar Steel, the financial year ended 31st March 2003 was a six month period in which the company closed its financial accounts. The earlier period ending 30th September 2002 was an 18 month period which the company had adopted.

During the current fiscal 2004-05 (April-September), the data for these company is given below.

- i) **TATA STEEL** has posted at 130.6% rise in net profit at Rs. 929.59 crore in the second quarter to September 2004, compared with Rs. 403.10 crore in the year-ago quarter. The company's net profit for the first six months was Rs. 1675.08 crore, an increase of 150% over the corresponding period of last year.
- ii) **ESSAR STEEL** has reported a net profit at Rs. 69.39 crore for the quarter ended 30th September 2004, compared with a net loss of Rs 26.54 crore, reported in the corresponding quarter of the previous year.
- iii) **ISPAT INDUSTRIES** has posted a net profit of Rs. 77.47 crore for the second quarter of the fiscal ended 30th September 2004 against a net loss of Rs. 21.24 crore a year ago. for the six months ended September 30th 2004, Ispat Industries has posted a PAT of Rs. 31.85 crore compared to a net loss of Rs. 10.34 crore for the corresponding period last year.
- iv) **JINDAL VIJAYNAGAR STEEL LTD.** has reported a 247% increase in its second quarter net profit to Rs. 81.11 crore from Rs. 23.41 crore in the year-ago quarter. For the six months ended 30th September 2004, JVSL posted a net profit of Rs. 136 crore.

**ELECTRIC ARC FURNACE UNITS**

- (i) **Status** (on the basis of base-line Survey Report and the production returns submitted to Office of Joint Plant Committee)

Status	Number	Capacity (in tonnes)
Commissioned Units	190	14095270
Closed Units	153	6025860
Working Units	37	8069410

**(ii) Production**

(In '000 tonnes)

Category	2001-02	2002-03	2003-04	Apr-Dec. '04 (Prov.)
Mild Steel	965.2	1652.2	3473.1	1847.0
Medium/High Carbon Steel	1025.4	874.6	909.5	785.0
Alloy Steel	689.2	793.6	622.2	483.0
Stainless Steel	471.5	594.0	666.8	485.0
Others (incl.) castings	171.4	313.4	342.8	66.0
Total Reported	3322.7	4227.8	6014.4	3666.0
Total Estimated	960.0	960.1	170.7	1381.0
<b>Grand Total</b>	<b>4282.7</b>	<b>5187.9</b>	<b>6185.1</b>	<b>5047.0</b>

## 2. RE-ROLLING UNITS

### (i) Status

Status	Number	Capacity (in tonnes)
Commissioned Units	1901	24885447
Closed Units	684	10077460
Working Units	1217	14807987

### (ii) Production

Production of Hot Rolled Long Product manufacturing units (presently reporting their production to the office of the Joint Plant Committee) during the last three years and current year is as under:—

Category	(In '000 tonnes)			
	2001-02	2002-03	2003-04	Apr-Dec. '04 (Prov.)
Bars/Roads (Incl. Squares)	2403.7	2670.0	1269.4	2775.0
Wire Rods	776.2	719.7	567.5	750.0
Structural	929.3	901.5	2357.2	973.5
Hoops	7.6	20.4	12.4	22.5
Special Section	214.0	136.5	115.0	142.5
Slabs/Plates	605.5	582.3	92.2	600.0
Total Reported	4936.3	5030.4	4413.7	5227.5
Total Estimated	1730.1	2173.5	6464.9	2272.5
<b>Grand Total</b>	<b>6666.4</b>	<b>7203.9</b>	<b>10878.6</b>	<b>7500.0</b>

## 3. STEEL WIRE DRAWING UNITS

### (i) Status

Status	Number	Capacity (in tonnes)
Commissioned Units	100	1475750
Closed Units	74	973165
Working Units	26	502585

### (ii) Production

Production of Steel Wire Drawing Units (presently reporting their production to the Office of the Joint Plant Committee) during the last three years and current year is as under:—

Category	(In '000 tonnes)			
	2001-02	2002-03	2003-04	Apr-Dec. '04 (Prov.)
Mild Steel	115.8	141.8	148.4	124.5
Medium/High Carbon Steel	200.7	157.3	167.1	141.7
Alloy Steel	10.2	12.7	10.0	8.8
Stainless Steel	10.7	11.4	12.5	11.0
Others	21.0	39.2	35.9	36.6
Total Reported	358.5	362.4	373.9	321.6
Total Estimated	25.5	3.3	10.2	3.4
<b>Grand Total</b>	<b>384.0</b>	<b>365.7</b>	<b>384.1</b>	<b>325.0</b>

## 4. HOT ROLLED STEEL SHEETS/STRIPS/PLATES UNITS

### (i) Status

Status	Number	Capacity (in tonnes)
Commissioned Units	13	7027500
Closed Units	5	262500
Working Units	8	6765000

### (ii) Production

Production of Hot Rolled Steel Sheets (presently reporting their production to the Office of the Joint Plant Committee) during the last three years and current year is as under:—

(In '000 tonnes)

Category	2001-02	2002-03	2003-04	Apr-Dec. '04 (Prov.)
Hot Rolled Steel Sheets/Strips	3963.8	5090.0	5846.6	4300.0
Plates	246.2	205.0	248.9	275.0
Total Reported	4210.0	5295.0	6133.5	4575.0

## 5. COLD ROLLED STEEL SHEETS/STRIPS UNITS

### (i) Status

Status	Number	Capacity (in tonnes)
Commissioned Units	89	5829924
Closed Units	36	805191
Working Units	53	5024733

### (ii) Production

Production of Cold Rolled Steel Sheets/Strips Units (presently reporting their production to the Office of the Joint Plant Committee) during the last three years and current year is as under:—

(In '000 tonnes)

Category	2001-02	2002-03	2003-04	Apr-Dec. '04 (Prov.)
Mild Steel	2623.2	2862.4	3084.7	2124.0
Medium Carbon Steel	144.2	70.2	67.5	45.5
High Carbon Steel	—	—	—	—
Alloy Steel	0.4	0.5	0.5	0.4
Stainless Steel	89.2	169.6	197.0	93.6
Others	235.3	129.8	535.1	366.5
Total Reported	3092.2	3232.5	3885.8	2630.0
Total Estimated	172.7	141.7	124.4	45.0
<b>Grand Total</b>	<b>3264.9</b>	<b>3374.2</b>	<b>4010.2</b>	<b>2675.0</b>

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Medium Carbon Steel	144.2	70.2	67.5	45.5
High Carbon Steel	—	—	—	—
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## 6. GP/GC, PVC/VINYLE COATED SHEETS/STRIPS UNITS

### (i) Status

Status	Number	Capacity (in tonnes)
Commissioned Units	16	2604750
Closed Units	1	43750
Working Units	15	2561000

### (ii) Production

Production of GP/GC Sheets/Strips Units (presently reporting their production to the Office of the Joint Plant Committee) during the last three years and current year is as under:—

(In '000 tonnes)				
Category	2001-02	2002-03	2003-04	Apr-Dec. '04 (Prov.)
GP/GC Sheets/Strips (incl. Colour Coated)	1835.7	2124.0	2561.0	1875.0
Total Reported	1835.7	2124.0	2561.0	1875.0

## 7. TIN PLATE UNITS

### (i) Status

Status	Number	Capacity (in tonnes)
Commissioned Units	3	171638
Closed Units	2	61638
Working Units	1	110000

### (ii) Production

Production of Tin Plate Units during the last three years and current year is as under:—

(In '000 tonnes)				
Category	2001-02	2002-03	2003-04	Apr-Dec. '04 (Prov.)
Oil Can Size	102.4	108.0	123.5	96.0
Non Oil Can Size	—	—	—	—
Total Reported	102.4	108.0	123.5	96.0

## PIG IRON INDUSTRY

Pig Iron is one of the basic raw materials required by the foundry and casting industry for manufacture of various types of castings for the engineering sector. M/s Usha Martin Industries Limited, M/s Jindal Steel & Power Ltd. & M/s Ispat Industries Ltd have integrated the Mini Blast Furnace (MBF) and is using the hot metal in the charge-mix directly for the manufacture of steel through Electric Arc Furnace. M/s Hospet Steel, a joint venture of Kalyani and Mukund and M/s Southern Iron & Steel Co. Ltd have integrated their MBF with Energy Optimising Furnace for manufacture of steel. The excess hot metal produced by them supplements the pig iron production. Besides, MBF, a COREX Plant (alternate to conventional MBF/BF) alongwith down-stream steel making through Basic Oxygen Furnace (BOF) which has been commissioned in Karnataka by Jindal Vijaynagar Steel Ltd, also supplements the production of pig iron.

The production of pig iron during the last 5 years are given in the following table:—

(In million tonnes)

Segment	2000-01	2001-02	2002-03	2003-04	Apr-Dec.'04
Private/Sec	2.434	3.055*	4.178*	2.798	1.725
Prodrs	(72%)	(75%)	(79%)	(74%)	(82%)

(\*) includes hot metal production of the secondary producers namely Ispat Metallics, Usha Martin, JSPL, Kalyani-Hospet, SISCOIL etc.

**NB.:** The figures within brackets indicate the percentage contribution by the respective sectors. Production data in respect of Private/Secondary Sector upto December 2004 has been reported to the level of 82%.

The pig iron industry has been facing unprecedented problem of increasing cost of production due to the price rise of imported metallurgical coke. To provide the relief to the industry, Government reduced import duty on metallurgical coke.

### SPONGE IRON UNITS

India is the world's largest producer of Sponge Iron. It is estimated that presently there are 90 sponge iron units working in the country having a capacity of 9.98 million tonnes per annum. Out of this, there are 87 coal based units with a capacity of 3.88 million tonnes per annum. There are 3 gas based units covering a capacity of 6.10 million tonnes per annum.

The production of sponge iron units, which are reporting their production during the last three years and current year is given as under:-

(In '000 tonnes)

Category	2001-02	2002-03	2003-04	2004-05 Apr-Dec. '04
Total Reported	5443.0	6908.4	7287.3	6030.0
Total Estimated	—	—	798.1	1170.0
Grand Total	5443.0	6908.4	8085.4	7200.0