



PRODUCTION OF STEEL & IRON ORE REQUIRMENTS

Crude steel production

National Steel Policy announced in 2005 envisaged steel production of 65 MT in 2011-12 and 110 MT in 2019-20. Buoyed by the world steel production, basically in China, the Ministry of Steel assumed the same buoyancy in India and subsequently projected the steel production at 80 MT in 2011-12, 120 MT in 2015-16 and 180-200 MT by 2019-20. We are not sure whether this level of assumption for steel production will materialize with the current level of gloom, financial meltdown and slackening of demand, but let us deal with the things as they are. An idea of crude steel production in the last more than two years can be had from the following table :

Production of Crude Steel

	2006-07	2007-08	Apr-Feb'09 (Prov.)	Apr-Feb'08	(in 000'tonnes) % incr./decr.
A. Primary Producers					
SAIL	13506 (26.58)	13962 (25.92)	12234 (24.55)	12733 (25.97)	-4.08
TISCO	5174 (10.18)	5013 (9.31)	5095 (10.22)	4544 (9.26)	12.21
RINL	3497 (6.88)	3129 (5.81)	2750 (5.52)	2864 (5.84)	-4.0
Sub Total (A) :	22177	22104	20079	20141	-0.3
B. Secondary Producers					
EAF Units (Including Corex-BOF/ MBF-EOF)	13250 (26.07)	14820 (27.52)	13800 (27.69)	13483 (27.50)	2.4
IF Units	15390 (30.29)	16933 (31.44)	15950 (32.00)	15405 (31.42)	3.5
Sub Total (B) :	28640	31753	29750	28888	3.0
Total Crude Steel Production (A+B)	50817 (9.41)**	53857 (5.98)**	49829	49029	1.6
C. Sponge Iron Units	18.35 (23.74)**	18.50 (0.82)**			
Source: JPC Bulletin Note : * Figures in parenthesis indicate percentage to total production of crude steel ** Percentage increase over last year.					

Looking to the last year's trend, crude steel production in 2008-09 is likely to be around 54.50 million tonnes.



Iron ore requirements

2. **Domestic demand:** From the above table, it will be observed that in 2007-08, SAIL and TISCO contributed 35.23% to the total crude steel production and obtained all requirements of iron ore from their captive mines. RINL, contributing 5.81% to total crude steel production, is linked to Bailadila mines of NMDC. Induction Furnace (IF) units, contributing 31.44% to the total crude steel production, do not use iron ore and consume only scrap and sponge iron. Therefore only EAF and sponge iron units depend on non-captive sources such as NMDC and stand-alone miners. In 2007-08 the scenario that emerged, after excluding SAIL and TATA is as under:

Qty. in million tonnes		
Units	Production	Iron ore requirements
EAF Units	14.82	23.71
Sponge Iron Units	18.50	29.60
Total:		53.31

Note: Assuming no scrap is being used.
For producing one tonne of crude steel, 1.6 tonnes of iron ore consumption has been assumed.

If we add iron ore requirements of RINL of about 5.00MT (3.13 MT x 1.6 tonnes), the total iron ore requirements from non-captive mines work out to 58.31MT or about 60MT. Out of the total requirements of about 60 MT, NMDC supplied about 24 MT in domestic market to RINL, Essar Steel, JSW, Ispat and Vikram Ispat and more than 40 small and medium steel plants, mostly situated in Chhattisgarh.



3. Supply – side: The total requirements of iron ore (figures rounded) from captive and non-captive sources in 2007-08 was thus as under :

		(in million tones)
<u>Demand:</u>	Captive mines of SAIL and TISCO	36.00
	Non-captive stand-alone mines	<u>60.00</u>
	Total	= <u>96.00*</u>
<u>Supply:</u>	As against this, the availability of iron ore during 2007-08 was :	
	Estimated production during 2007-08 (IBM)	206
	Stocks as on 01.04.2007 (lumps 13.44 MT and fines 30.49 MT)	44
		<u>250</u>
	Less exports during 2007-08 (approx)	104
		<u>146</u>

4. Even after meeting domestic requirements of about 96 MT, we are still left with a surplus 50 MT (146-96MT) iron ore. Even if we assume the same level of mine-head stocks as on 01.04.2008 i.e. 44 MT (as it was on 01.04.2007), we are still having a net surplus of 6 MT (50-44MT). **In 2008-09, the Ministry of Mines has estimated iron ore production of 220 million tonnes. With only marginal increase in steel production (through EAF route) and exports remaining same as in 2007-08 or 104–105 million tonnes there is no possibility of any short supply in domestic market in 2008-09.**

5. It is however important to note that all steel plants, present or prospective, will have captive iron ore mines as per all the MOUs signed with various state governments. Hence there is no question of any short-fall in the supply of iron ore.

6. However, if there is any contingency (such as strike or lay-off or any natural calamity) and there is a shortage in supply by captive mines, the non-captive mines will always be filling in the gap (as there is already a surplus available even after meeting domestic demand and exports). Further, assuming the captive mines are not available for one reason or the other past, experience shows that

* In their background note for Committee of Secretaries (COS), the Ministry of Steel had estimated that “out of total consumption of 85 million tones of iron in India during 2007-08, 37 million tonnes (44%) was out of captive sources (such as the case of SAIL and TATA Steel), 24 million tonnes (28%) was supplied by NMDC (on long term basis) and the remaining 24 million tonnes (28%) was supplied by open market mostly on spot basis.”



- production in non-captive mines will definitely increase.
- If market price is ensured by domestic steel industry, exports will taper off to that extent.
- exports are attractive as on date because of inadequate domestic demand for fines.

7. If non-captive stand-alone iron ore mines are ensured long-term contracts with market price negotiated each year, as is the international practice, Indian steel industry will never face shortage of iron ore. This will also ensure intense exploration and more new discovery of resources.

8. **Conclusions:** This leads us to the following conclusions:

- Availability of iron ore was and is not an issue, as the domestic production of iron ore is sufficient to meet demand.
- Secondary steel producers require closely sized lumps (CLO) which generate fines.
- In addition, at the time of mining 60% of the ore comes as fines and balance 40% as lumps (including big boulders). Thus, in the total production of iron ore 70-72% are fines either at the time of mining or while crushing into CLO or handling (loading/unloading) operations at mines, railway stations or at ports.
- In order that mining operations continue uninterrupted to provide lumps to domestic industry, fines should be evacuated from the mines to provide space for freshly mined out iron ore.
- Domestic secondary units (except ESSAR and JSW who procure their major requirements from NMDC and only a small quantity from stand-alone mines in Bellary-Hospet sector), require only lumps (CLO), making fines surplus.
- ***Many of the domestic steel companies are themselves exporting fines directly from their surplus production procurement or selling in domestic market which ultimately is exported through middle-men/traders.***
- Since fines are surplus and not required in domestic market, the only outlet so far is exports.
- When domestic steel companies switch over to the use of fines (either as pellets or sinter) and domestic requirements from non-captive mines increase, exports will gradually taper down.



SUM-UP

9. No shortage of raw materials : India is comfortably placed with respect to the resources and production capacity of all the raw materials required for the domestic steel industry. It is the price and logistics which will determine the supply of raw materials. Under any condition, the domestic steel industry can never face shortage of supply of the essential raw materials provided the cost factor is accepted by both the seller and buyer. Besides all grades of iron ore are not demanded by the domestic industry; therefore the export market has to be maintained and developed to provide cushion against fluctuations in domestic and/ or international demand and prices.

10. Expeditious clearance under Forest (Conservation) Act 1980 : Another important aspect to be considered is that most of the iron ore mines are in forests. Many of the mines have closed or stopped working because of non-clearance under Forest (Conservation) Act, 1980. In a large number of cases, where clearance under FCA has been granted, the area of the mining lease has been reduced and the lessees asked to keep their workings confined to broken-up areas. Further, the State Forest departments do not process application for years despite Supreme Court directions that they should send applications to Ministry of Environment and Forests within two weeks of the receipt of the proposals. Unless the Government of India takes a serious view, no new mine will come up and country's natural resources will remain buried under forests with no benefit to society or the country. It is also necessary that State Governments take a positive view and forward proposals for diversion of forest land at least in the case of renewal of mining leases.
