

IRON ORE EXPORTS : misconceptions galore

R.K. SHARMA

Secretary General

Federation of Indian Mineral Industries, New Delhi

PROLOGUE

The debate on iron ore exports presently engrossing India is no different to what happens in most parts of the world that host iron ore occurrences. But unlike other countries, in India it is in a different context and in a scenario which organically or inorganically does not give credence to its votaries.

2. None of the steel companies and its loose amalgam Indian Steel Alliance (ISA) (which made its debut in October, 2001) bothered about iron ore exports till February 2004 because it suited them to get iron ore at a throw-away price. Iron ore industry has the inherent capacity to produce more, but exports had dried up thanks to the incapacity of MMTC, the canalizing agency. There was hardly any domestic demand because the existing steel plants had captive mines and the new ones (such as JSP, JSW, Essar, RINL, Grasim, Ispat, etc.) did not wish to have any captive mines because they were getting iron ore virtually at no cost. SAIL had one time thought of handing over its iron ore mines to NMDC at the dawn of this century.

3. The situation changed since February 2004, when Chinese demand started picking up and the iron ore industry started getting additional outlet. The prices zoomed and spot market boomed. The steel industry panicked not because it would not get iron ore (which was in surplus) but because they have now to match their price with export price. Till then the mining companies would often visit the steel mills and plead for their product (iron ore) at a price which will be dictated by them (steel mills) and payments made sporadically at leisurely intervals. Now the steel mills would have to come to the mining companies for iron ore and pay the price dictated by market conditions. This was and is unpalatable to the steel companies.

4. However, what is not understandable and is a mystery : why the integrated steel companies like TISCO and SAIL raised a band wagon against iron ore exports particularly when they were having captive mines? These companies were facing stiff competition from other steel mills who were getting iron ore at throw-away prices which in most cases were much less than the cost of production from their captive

mines. TISCO and SAIL should have been happy since these integrated steel companies would have now been able to offer their products at competitive prices and a chance to increase the production of steel and achieve the economies of scale. Perhaps these companies were led by euphoria of their competitors and joined the bandwagon for stopping iron ore exports.

MISCONCEPTIONS

5. The steel industry has a number of misconceptions, some of which I deal hereunder. I find these misconceptions, whether genuine or make-believe, are borne out of half knowledge and half truth or lack of world-wide view.

- *Limited resources of iron ore : to last only 20-30 years*

6. Indian iron ore resources, mainly haematite, are increasing with intensive mining which has led to more exploration and discovery of resources mainly by non-captive stand-alone mining companies.

Iron Ore Resources and Production Between 1980, 1990 and 2005

Qty.: Million tonnes

Grade	Resources as on 1.1.1980	Production between 1980-1990	Resources as on 1.4.1990	Production between 1990-2000	Resources as on 1.4.2000	Production between 2000-2005	Resources as on 1.4.2005
Haematite	11469	470	12197 (+728)	656	11426 (-771)	532	14630 (+3204)
Magnetite	6095		10590 (+4495)		10682 (+92)		10619 (-63)
Total	17564		22787 (+5223)		22108 (-679)		25249 (+3141)

Figures in parenthesis indicate decrease (-)/increase (+) in resources

Notes: (1) Average annual production : 1980-1990 = 47 MT

1990-2000 = 66 MT

2000-2005 = 106 MT

(2) These resources do not include around 1000 million tones of haematite iron ore recently discovered by DMG, Chattisgarh in Kabirdham district.

(3) The Table does not give a complete picture of India's iron ore resources.

Source: Indian Bureau of Mines, Nagpur

The resources are with a cut-off grade of +55% Fe and only approximate, estimated with sparse and far-between drilling. If cut-off grade is brought down to say 45% Fe (China is mining 25-30% Fe), the resources will simply double. The present cut-off grade 55% Fe was done at a time when steel production was hardly 10-15 MT per annum. Despite steel production having increased to more than 42 MT and

better technologies available to beneficiate low grade ores, the cut-off grade has not been changed thereafter.

7. Even then, the resources have been increasing on an average of 300 MT per annum over last 25 years (between 1980 and 2005) and 600 MT per annum for haematite in last five years (2000-2005) following intensive mining. There is thus reason to believe that with more intensive mining and exploration, more resources will be discovered in times to come. Even if, for arguments sake, no new resources are discovered, which is just not possible, the present reserves would last 100 years at 110 MT steel production and 65 years at 200 MT steel production estimated for 2020.

8. Australian experience supports the above contention . In 1960, the total known iron ore resources were estimated to be about 400 MT and no exports allowed. Exports were allowed in 1966 which led to more intensive mining and discovery of more resources. The production and exports between 1966 – 2004 were reported to be 3955 MT. Despite this volume of production and exports, iron ore resources are now estimated to be 40,000 MT (USGS: Mineral Commodity Summaries , January 2006)

9. **Position in Karnataka :** A great deal of misconception is being deliberately generated about the resources of Bellary-Hospet sector in Karnataka. GSI estimate of iron ore resources in Karnataka is only upto 40 meters depth whereas the proved depth persistence in Bellary-Hospet is upto 200 meters and as such the reserves may prove to be to the tune of 3000 million tonnes. Further, the low grade reserves of BHQ/BIF amenable to beneficiation have not been taken into account.

Following table brings out the present and future projections of steel/sponge iron plants in Tamil Nadu, Karnataka, Andhra Pradesh, Goa and Maharashtra and the present iron ore resources (assuming there is no addition to them in future).

Steel plants and their requirements of iron ore and reserve position in B-H Sector (Karnataka)

State	Name	Liquid metal prod.	Iron ore requirements	Million tones per annum	
				Remarks	
Tamil Nadu	I - STEEL PLANTS SISCOL(85% is of iron ore requirement is of fines + pellet form and	0.40	0.64	0.54	Fines+Pellets
				0.10	lumps

	15% remaining is of calibrated lump ore)				
Karnataka	KIRLOSKAR FIL	0.325	0.520		
	KALYANI FIL	0.400	0.640		
	UNIMETAL	0.200	0.320		
	JSW(90% of iron ore requirement is of fines form and 10% remaining is of calibrated lump ore)	4.00	6.40	5.76	Fines
				0.64	Lumps
Andhra Pradesh	MIDWEST	0.110	0.176		
	LANCO	0.300	0.480		
	SATHVAHANA	0.180	0.288		
	SJK Steel	0.300	0.480		
Goa	SESA GOA	0.200	0.320		
	APARANT IRON & STEEL	0.180	0.288		
Maharashtra	TATA METALIKS	0.250	0.400		
Sub-Total-I Steel Plants		6.845	10.952		
Sub-Total-II Sponge Iron Plants		0.600	0.960		
TOTAL Steel/Sponge Iron Capacity		7.445	11.912		
(a) Present reserves of hematite ore in B-H sector : 1150 Million Tonnes					
(b) Number of years reserve will last assuming no addition to reserves : 97 Years					
(c) Number of years reserves will last if these reserves are 3000 MT : 250 Years					

- **Status of high-grade reserves – +65%Fe constitute only 8.7% of the total. Lower the iron grade, higher the requirements of energy and ore for steel making.**

10. Steel plants world-wide utilize 62 to 62.5% Fe as blast furnace feed. It is only in India, some steel plants having captive leases and almost all sponge iron plants use +65% Fe. In the case of sponge iron ore plants, they also require closely sized ore (6mm-18mm) which generates lot of fines. To get one tonne of calibrated lump ore (CLO), one has to process 2–2.5 tonnes of lumps rendering the balance as fines. Further, the upgradation of iron content is minimal : upto 85% iron (saleable product) as against 65%Fe feed, an addition of only 20% Fe. It is a moot question whether the prime ore of +65% Fe should be utilized for a product which is intermediary and a substitute for scarp? Most of the sponge iron ore plants are fly-by-night operators, observing minimal environmental safeguards, which has led

public demonstrations in places where they operate. I feel, it is a calamity and against conservation to utilize the prime ore of +65% Fe for an intermediate product where value addition is minimal.

- ***Mining of magnetite resources vis-a-vis Supreme Court judgement in Kudremukh Iron Ore Co.(KIOCL) case.***

11. Supreme Court's decision was in the case of KIOCL only. I believe KIOCL lost the case because of its casualness. It had good environmental records and except of bursting of slurry-pipeline which created environmental problems affecting near-by areas which was not immediately fixed, an issue was created by NGOs resulting in Supreme Court giving adverse decision.

12. This does not in any way prevent mining of magnetite deposits in Karnataka or its Western ghats particularly when magnetite mining is flourishing in and around Goa where enough environmental precautions are being taken (SAIL has recently been granted Rowghat which is one of the four or five most environmentally fragile areas in the country).

13. Although use of magnetite ore in iron making consumes less energy than use of haematite ore due to exothermic reactions, the steel industry avoids it because use of magnetite iron ore involves cost in beneficiation. Further, as magnetite deposits are not being mined intensively and as KIOCL has closed down its operations, resources of magnetite have not increased.

- ***Low capita availability of iron ore in India : 20 tonnes as against 1990 tonnes in Australia and 347 tonnes in Brazil .***

14. It is wrong to compare a densely populated country with sparsely populated countries. Further, availability of iron ore is not a prime condition for setting up steel plants. Japan, South Korea, Western Europe do not have iron ore or other raw materials and yet have a flourishing steel industry. On the other hand, India has all the raw materials except adequate coking coal and yet it does not have a flourishing steel industry. In the case of Australia where although the country has all the raw materials for steel and exports them, it does not have flourishing steel industry. In fact, it is the domestic demand for steel which is a prime mover for a vibrant steel industry. Moreover all the iron ore deposits have not been fully explored scientifically because of low domestic demand as the steel production in the country is inching up only slowly so much so that in 2006-07, based on seven

monthly production (April-October 2006), it is likely to be only about 43.5 MT as against 41.66 MT in 2005-06, an increase of only 4%.

- **China, Russia, USA, Ukraine, Kazakhstan do not allow exports of ore.**

15. Nature is not equally bountiful to all nations in all commodities; if a country is deficient in one commodity, others are in surplus. This is the basis for international trade. However, the iron ore resources in these countries (northern hemisphere) are comparatively of low grade and the demand is not that high for such grades. None-the-less, there is still international trade for iron ore even in these countries:

Qt: Million tonnes

Countries	2003			2004			2005		
	Production	Exports	Imports	Production	Exports	Imports	Production	Exports	Imports
Kazakhstan	17.3	10.8	---	18.7	11.3	---	16.5	9.9	---
Russia	91.8	17.8	10.1	97.0	19.3	10.4	96.8	20.1	9.7
Ukraine	62.5	20.2	7.6	65.6	18.1	3.3	68.6	19.6	3.0
USA	48.5	6.8	12.6	54.7	8.4	11.8	54.5	11.8	13.0

Notes :India imported about 1.3 MT of pellets and Australia 1.5 MT of iron ore in 2005. Import- Export is part of international trade

Source: The Iron Ore Market, 2005-07 (UNCTAD)

16. Russia supplies 25% of energy needs of Western Europe and Middle East exports bulk of production of its crude oil world-wide. China exports lots of minerals such as magnesite, molybdenum, met. Coke, tungsten, etc. and imports iron ore, bauxite/alumina and some quantity of coking coal (from Australia)

- **Captive source of raw materials – a pre-requisite for sustainable steel business :**
 - **Most of the best-in-class steel producers have captive sources of iron ore: Severstal (Russia) Tata Steel (India), Anshan steel (China) and Mittal Steel.**
 - **Mineral-rich nations provide their domestic steel companies captive leases of ore/coal to make their industry globally competitive : Russia, Kazakhstan, China.**
 - **To off-set the deficiency of coking-coal and high power cost.**

17. This is to deliberately mislead the authorities as well as public. The companies listed above are not the only world-class steel companies. Japanese, South Korean and European steel companies who import iron ore and other raw materials for steel, have been conveniently left out. World's steel industry has developed *not* by having captive mining leases for raw materials but by purchasing the same in open competitive market from the non-captive mines which led to the development of an efficient steel industry as well as an efficient mining (resource) industry, independent of each other. Tata Steel, despite having captive mines of all raw materials for steel and consequently being the cheapest producer of steel in the world, produced only 4.73 MT of steel in 2005-06 after being 100 years in steel business.

18. Captive mines generate inefficiency, wastage of resources (ISA has claimed conversion ratio from ore to steel as 2:1 as against world average of 1.5-1.6:1) and are an indirect subsidy (they get iron ore at transfer price of US\$ 5-10 per tonne as against market price of US\$50 per tonne) by the State without any benefit to steel consumers who get steel at more than the international price. The profits which should go to a resource industry (stand-alone non-captive miners) to be ploughed back in exploration and mine development and discovery of more resources, are diverted to steel companies who grab it without any benefit to the steel consumers. Steel companies therefore rob the profit which should go to resource industry as well as the steel users who get steel more than the international price. Does not therefore this sound to reason to have a Steel Regulator to monitor prices of steel to provide succour to users of steel and consumers of final products?

19. In India, captive leasing is a colonial hangover. In CIS and China there is a concept of *controlled mining* where iron ore [and other raw material(s)] is available at market price (and not at transfer price as in the case in India) and control is exercised by participation in equity and long-term contracts. There is no concept of captive mine anywhere in the world as it exists in India. World position of controlled/captive mines is as under:

	<u>%age</u>
(a) Traditional market economies including India (captive)	12
(b) CIS countries	12
(c) China (major steel companies)	6

(Source: The Iron Ore Market 2005-07 – UNCTAD)

20. Further, captive mining generates inefficiency, wasteful and selective mining. There is hardly any expenditure on exploration. For example, TISCO is reported to have confined its exploration to +63%

Fe iron ore in Noamundi and + 65% iron ore in Joda East , Katamati and Khandabanda. In other areas such as Mahudi, Sarabil, Bamebari, etc. there is hardly any reported exploration activity or it is minimal. In SAIL, there has virtually been no reported systematic exploration although they are sitting on huge deposits in its various lease holds. There is therefore no multiplier effect and the difference in extraction price and market price is absorbed by diseconomies and inefficiency within the steel industry.

21. As regards off-setting the deficiency of coking coal and high power cost, it deserves to be pointed out that Japan, South Korea and EU import all the raw materials (including energy materials) at market price and make quality steel at competitive rates. In fact, captive mines to Indian steel industry has put the industry in an permanent animated oxygen tent from which it will not come out in the foreseeable future. Buying iron ore and coke/gas at competitive rates would have persuaded Indian steel mills to optimise efficiency and promote R&D as in the case of Japan, South Korea, China and EU.

22. The moot question before this august gathering is whether we should promote inefficient steel industry by giving them captive mines or develop separate independent activities i.e. mining and steel making respectively which would contribute more to GDP rather than as one being subservient to the other?

- **Conserving iron ore and ban on exports**

23. Almost all the increase in iron ore production is because of demand from China and has come from existing non-captive stand-alone mines which were either closed as in Chitradurga-Shimoga (Karnataka) and Redi (Maharashtra) areas or were not operating optimally in Bellary-Hospet, Eastern sector and Goa. These mines contribute 77% to the total iron ore production. Exports are mostly fines (84%) which have no market in India. Further, 83% of our exports are for China and consist of fines only.

24. The question that arises now : if all steel plants — past, present (Hoda Committee) and future (MOUs with State Governments) — have captive mines what will non-captive stand-alone mines do to have economic outlet : export or close down? *Alternately, I would suggest : do not give captive mines to any steel plant till present production capacity is fully utilized!*

25. The whole game plan of steel industry seems to be :

- have captive mines but ban exports for reasons which are ostensibly non-tangible e.g. scarcity of resources which in fact is not there.
- if exports are banned, stand-alone mines will operate at marginal level which will encourage steel companies to grab resources (mines) at throw away prices and manage in such a way that no resources are left for new steel plant(s) leading to oligarchy in steel sector.

- **Greater value addition – 10-15 times – in steel making.**

26. It is not a question of steel vs. mining; it is captive mining vs. non-captive mining. Both the ores – mined in captive and non-captive mines – go for steel making only. TISCO and SAIL have captive mines for all raw materials required for steel making. TISCO is cheapest producer of steel. Who stopped TISCO and SAIL to produce more steel and export? However, their performance is dismal : TISCO produced 4.73 MT in 2005-06 despite being 100 years in steel making and SAIL 13.33 MT from its six plants, despite being 50 years in steel making.

27. Value addition and captive mining are two separate issues:
- value is created at mining stage
 - value is added in steel making

By treating iron ore mining and steel making as two distinct activities and promoting both, combined value would be higher than what would be obtained by making one activity subservient to the other.

- **Payment of excise and VAT : Rs.4000/- per tonne by steel industry**

28. Iron ore mined in captive and/or non-captive mines goes for steel making and pays the same level of taxes and royalties **except** that in the non-captive mines, service tax (12.24%) and CST (4%) are payable which are not modvatable. When iron ore (whether from captive or non-captive mines) gets converted into steel, it pays taxes on steel. It is wrong to compare taxes on raw materials with taxes on finished product i.e. steel : ISA compares the incomparables.

- **Permanent employment : 5-10 times – with a longer value chain, supported by the following table:**

	<u>Employment</u> (000')
Steel	2000
Iron ore mining	140
One million additional steel provides employment	13
One million addition iron ore provides employment	1.2

(Basis of calculation not provided; nor is it mentioned whether employment in iron ore mines covers both captive and non-captive or only non-captive mines)

29. Independent comparison of employment in iron ore mines is not understandable particularly when iron ore, whether mined in captive or non-captive, goes into steel making and the whole chain starts right from prospecting, discovery, mining, beneficiation and conversion into steel. No single operation can be thought of without the other – either forward or backward.

30. Employment figures quoted for iron ore mines at 1.40 lakhs workers are for 2003-04. In 2004-05 it increased to 1.69 lakhs workers. Both these figures relate to direct employment in mines : indirect employment in incidental and ancillary activities related to mining is about 1.5 million workers.

31. If we take employment of 2 million workers in steel industry in 2003-04 (the figures taken for iron ore mines) for 34.25 MT of crude steel production, *the least one can say is that Indian steel is highly inefficient and should be closed down because it is a drain on country's economy and to the users of steel.*

32. Let us see the comparison with other steel mills in the world:

	Crude steel Production(MT)	Employment (000')
Arcelor Mittal (2006)	130.00	320
Nippon Steel (2006)	31.67	5
Posco (2005)	30.55	19
Baosteel	25.00	90
Corus (2005)	18.00	47
India (2003-04)	34.25]	2000
(2005-06)	41.66]	

It is better to import steel than to promote inefficient domestic steel which does not provide any relief to the miners and thousands of steel users and consequently to millions of consumers of final products. A steel user would like to buy the best quality of steel at the cheapest competitive price, whether produced in India or imported from abroad. Same applies to consumers of final products.

- **Foreign Exchange earnings : 12-15 times**

33. To make steel for export, one has to add the input costs of coking coal, other raw materials like ferro-alloys, chromite, manganese, limestone, refractories, etc. as well as plant and machineries, power and labour cost. After adding all these costs what will be net the realization is a case worth-studying.

34. It is not understood who stopped the steel plants like TISCO (cheapest producer of steel in the world and 100 years in steel business) and SAIL (50 years in steel business), who have captive mines for all raw material to export steel? Unfortunate fact is that India, slowly and gradually, is becoming a net importer of steel.

35. **CONCLUSION** : As far steel industry is concerned, there are no misconceptions. In fact, it is a pre-meditated well-orchestrated conception : clamour for ban on exports despite captive mines, domestic prices will depress to the level even below the prices existing before Chinese demand (since production has increased many fold), mines will close (resulting in unemployment of more than one million workers engaged directly and indirectly) and as they close, steel mills will grab the mines (resources) at throw-away prices, resulting in cornering of resources by the existing few steel companies which will lead to oligarchy and block future steel expansion.

PUTTING RECORDS STRAIGHT : CASE FOR EXPORTS

Production and consumption of iron ore

36. All the steel plants such as TISCO and other steel companies such as Bhilai, Durgapur, Rourkela, Bokaro, IISCO and Vivesvarya Iron and Steel (before SAIL was formed as a holding company) were given captive mines. The mines in non-captive sector in Bailadila, Eastern sector, Bellary-Hospet and Tumkur-Chitradurga sectors in Karnataka, Redi area in Maharashtra were developed only for export. Goa was already exporting iron ore at the time of its liberation in 1961. The MOUs signed by the Governments of Orissa, Jharkhand and

Chhattisgarh have also assured prospective steel companies captive iron ore mines. Hoda Committee also assured to such steel companies as did not have mines as on 1.07.2006 captive mines taking into view their present and prospective requirements. The question that arises now: *what will stand-alone non-captive iron ore mines do with their production when they contribute more than 77% to the total production of iron ore in the country and the domestic steel industry is not willing to pay the market price? The only way is to export to make the best of the present-day international market, particularly in China.*

Production : public vs private and captive vs non-captive mines

Qty. Million tones

Sector	2003-04			2004-05			2005-06(p)		
	Captive	Non-Captive	Total	Captive	Non-Captive	Total	Captive	Non-Captive	Total
Public Sector	23.43 (40.72)	34.11 (59.28)	57.54 (100)	NA	NA	57.03	NA	NA	58.81
Private Sector	10.06 (15.41)	55.24 (84.59)	65.30 (100)	NA	NA	88.91	NA	NA	95.63
Total	33.49 (27.26)	89.35 (72.74)	122.84 (100)	35.20 (24.12)	110.74 (75.88)	145.94 (100)	35.08 (22.71)	119.36 (77.29)	154.44 (100)

Figures in paranthesis indicate the %age contribution of captive and non-captive by public and private sectors respectively in the total production.

Note: p - provisional figures

Source: Indian Bureau of Mines, Nagpur

37. The increase in production has been due to demand from China which resulted in opening up of closed mines in Chitradurga-Thumkur in Karnataka and Redi area in Maharashtra, optimum utilization of production capacities in Bellary-Hospet, Eastern sector and Goa. The ports such as Karwar, Bellikeri, Reddi, Kakinada, Haldia which were closed following the drying up of exports were opened up and capacities at Chennai, Goa, New Mangalore, Paradeep and Visakhapatnam optimally utilized.

38. Another characteristic of iron ore mining is that 60-61% of production is in the form of fines at the time of mining itself (Annexure - I). Another 10-12% becomes fines at the time of converting it into sized ore (CLO), handling at mines, railway stations and ports. In other words 70-72% of the total production is fines.

39. Fines can be utilised either by *sintering* or *pelletisation*.

- *Sintering* can be near the steel plants since sinters, if subjected to handling, degenerate into

finer. Since steel plants have captive mines, they utilise fines produced from their own mines.

- *Pelletisation* involves cost. An economic size pellet plant of 1 million tonnes would cost about Rs.400-500 crores which is beyond the capacity of most of the stand-alone non-captive mines.
- There is not much demand for pellets in India and exports are cyclical: Mandovi and Chowgule pellet plants were closed because of cost of production is more than the export price.
- Even TATAs are reported to have scrapped their pellet plant.

40. If fines are not evacuated from the mines:

- production of lumps will suffer.
- create environmental hazards and pollute water in rivers/rivulets and affect agricultural fields.

41. An idea of domestic production of crude steel, iron ore consumption and exports over the last five years can be seen from the following table:

Consumption of iron ore by steel mills

	(000 tonnes)				
	2001-02	2002-03	2003-04	2004-05	2005-06
Steel					
(A) Main producers	17762	18982	20012	20015	21694
(B) Secondary producers	10202	11461	14236	18471	19966
TOTAL	27964	30443	34248	38486	41660
Iron Ore					
Production	86226	99072	122838	145942	154436
Consumption (e)					
Captive	23483	24988	26348	26261	28894
Non-Captive	14230	15948	18626	21889	23629
Total	37713	40936	44974	48150	52523
Exports	41640	48020	62570	78145	89277
Surplus	6873	10116	15294	19647	12636

Source: 1. Joint Plant Committee, Kolkata - for steel production
 2. Indian Bureau of Mines, Nagpur – for iron ore production
 3. MMTC Ltd., New Delhi – for iron ore exports

It will be observed that even after meeting domestic requirements of iron ore and exports, there is still a surplus at the end of each year. An idea of stockpile at the mine-heads can be had from the following table:

Stockpile

Qty.: Million tonnes

AS ON	LUMPS	FINES	TOTAL
31.3.2002	4.113	26.670	30.783
31.3.2003	5.243	26.391	31.634
31.3.2004	5.843	26.631	32.474
31.3.2005	8.793	25.918	34.711

Source: Indian Bureau of Mines, Nagpur

Note: In addition iron ore is lying at railway stations, in transit and ports

42. A notable feature of the above table is that the stockpile of lumps is steadily increasing year after year. This belies the contention of steel industry that they are not getting lumps for their requirements. Over and above stock-pile, 60-70 MT fines are lying at Gua mines of IISCO, 8-10 MT at Kalta and Bolani mines of SAIL, and 25-30 MT at Noamundi and Joda mines of Tata Steel. IBM should be asked to make an evaluation of the fines lying at TISCO and SAIL mines. These and other steel plants should be asked to beneficiate their fines and use them in their steel plants. No further expansion in production capacity be allowed till these fines are utilized.

Exports

43. To say therefore that exports are or have been at the cost of domestic industry is far from truth. Since almost the entire increase in production of iron ore is export-led, exports did not have any adverse impact on the domestic supply. Moreover, since 84% of exports are fines, not required in domestic market, it helped in increasing the production of lumps for internal requirements. An idea of composition, grade-wise and country-wise exports can be had from the following tables:

Composition of Exports - Lumps/Fines

Qty. Million tonnes

	2003-04			2004-05			2005-06(p)		
	Qty.	Qty.	Qty.	Qty.	Qty.	Qty.	Qty.	Qty.	Qty.
	Fines	Lumps	Total	Fines	Lumps	Total	Fines	Lumps	Total
Total	49.12 (78.50)	13.45 (21.50)	62.57 (100)	64.60 (82.67)	13.54 (17.33)	78.14 (100)	74.97 (83.99)	14.30 (16.01)	89.27 (100)

Note: Figures in parenthesis indicate the percentage to the total exports.

Pellets included in lumps and concentrates in fines.

Source: GMOEA, KIOCL, NMDC, MMTS ROS/PRIVATE MINEOWNERS

44. Most of the MOUs signed by Governments of Orissa, Jharkhand and Chhattisgarh for steel making are through sponge iron route,

which does not utilize iron ore fines or sinters. The fines will therefore be always surplus to the domestic requirements, even for the steel companies unless they set up pelletisation or sinter plants and use them in their plants and control or regulate excess production of iron ore to that extent.

Grade-wise Exports

Qty: Million tonnes

Grade	2004-05				2005-06(P)			
	Prod.	Exports	% of prod.	Balance	Prod.	Exports	% of prod.	Balance
62% Fe and below	24	23.77	100	0.23	27	31.94	118	(-)4.94
62% Fe and above	119	54.37	46	64.63	128	57.33	45	70.67
Total	143	78.14	55	64.86	155	89.27	58	65.73

Note: (1) Pellets included in lumps and concentrates in fines

Source: GMOEA, KIOCL, NMDC, MMTS ROS/PRIVATE MINEOWNERS

Assuming domestic steel plants consume +62%Fe, there was still a surplus of:

- 16.48 MT (64.63-48.15 MT actually consumed) in 2004-05
- 18.45 MT (70.67-52.22 MT actually consumed) in 2005-06

45. Over the last five years, China has been our main buyer. Exports to other countries have more or less stabilized:

Country-wise Exports

Quantity: Million tonnes

Country	2001-02	2002-03	2003-04	2004-05	2005-06(p)
China	19.22 (46.16)	26.27 (54.71)	42.06 (67.22)	60.46 (77.37)	74.13 (83.04)
Japan	15.62 (37.51)	15.75 (32.80)	13.10 (20.93)	10.91 (13.96)	10.33 (11.57)
South Korea	3.00 (7.20)	2.41 (5.02)	2.14 (3.42)	2.17 (2.78)	1.32 (1.48)
Taiwan	0.43 (1.03)	0.58 (1.20)	0.88 (1.41)	0.57 (0.73)	0.14 (0.16)
Europe	1.81 (4.35)	2.04 (4.25)	2.47 (3.95)	2.82 (3.61)	2.10 (2.35)
Others	1.56 (3.75)	0.97 (2.02)	1.92 (3.07)	1.21 (1.55)	1.25 (1.40)

Total	41.64 (100)	48.02 (100)	62.57 (100)	78.14 (100)	89.27 (100)
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Note: p : provisional figures

Source: GMOEA, KIOCL, NMDC, MMTC ROS/PRIVATE MINEOWNERS

Figures in paranthesis indicate the %age to the total exports

46. As mentioned, increase in production has been due to Chinese demand for iron ore. However, due to scare created by ISA from time to time, Indian exports are mostly spot, leaving long-term contracts with Brazil and Australia. These two and other countries have expansion plans for creating additional capacity to the extent of 340 M.T. between now and 2008, out of which 225 M.T. falls in “certain” category. (Iron Ore Market 2005-07 – UNCTAD). Once this capacity is on stream, spot market will suddenly evaporate. Since domestic steel plants have or will have captive mines, they won't require ore from non-captive sources. The result will be that stand-alone non-captive mines will be left in the lurch, leaving them exposed to the take-over bids by steel companies.

47. **Benefits of exports :** Apart from acting as a cushion against fluctuations in domestic demand, they have provided many benefits to the economy and the regions where these mines operate. Some of the benefits are :

- Most of the exports are from stand-alone non-captive mines providing direct and indirect employment to more than one million people in back-ward and tribal areas.
- Ports like Chennai, Haldia, Paradeep, Goa, Visakhapatnam, Karwar, Bellikeri, Redi, Kakinada were developed as iron ore ports.
- Many railway lines such as KK, DKB and doubling of line from Hospet to Chennai and to Goa were for iron ore exports only.
- The mining industry have set up Hassan-Mangalore railway line as a stakeholder alongwith Ministry of Railways and Government of Karnataka linking the hinterland to the coast in Karnataka. This is the only direct rail link.
- Creation of deep water berth in Mangalore by the mining industry in 2000 making it an all weather port in Karnataka.

- Railways move more than 45 million tonnes of iron ore cargo for exports with a revenue of more than Rs.3000 crores per annum. Railway freight on iron ore meant for export is more than on domestic movement.
- Revenue of more than Rs. 1500 crores per annum to the ports.
- Increase in the production of trucks and other vehicles for movement of ore and earth moving equipments for mining.
- Contribution from mining industry to State/Central exchequers in the form of royalty, VAT and corporate taxes.
- Contribution to exchequer by way of service tax which is not modvatable in case of non-captive mining.
- Local areas levies and welfare cess.
- Payment of compensatory afforestation charges, net present value (NPV), etc. for development, regeneration and restoration of forests.

48. **Regulation of Exports** : Consequences of regulation of iron ore exports will be disastrous not only for the industry but to the country as well as the regions where the mines operate. Some of them are:

- Since all steel plants – past, present and future – have or would have captive mines, the question is who will buy ore from non-captive mines in India except in emergencies like strikes or other natural calamities?
- Regulation of exports will result in closure of large number of mines.
- Unemployment of more than one million persons engaged directly and indirectly.
- Disturbance in socio-economic fabric in backward and tribal areas creating naxalite problems.

- Many mines have gone deep. If stopped, these will be flooded during rainy season and the deposits will be lost for ever.
- Production of lumps will suffer if fines are not evacuated.
- If regulation of exports happens, the strategy of steel plants to grab non-captive mines will succeed. They will have monopoly conditions and will not let new steel plants come in India.
- Steel plants will get select iron ore at depressed prices while keeping their captive mines in tact.
- Nobody to gain except few steel plants.]
- Country will suffer not only foreign exchange earnings but its place as an important and reliable iron ore exporter. Australia and Brazil will be the net gainers.
- All the infrastructure developed for exports will become infructuous.
- Regulation of exports on one hand and seeking mines of coking coal, iron ore, copper, etc. in Australia, Canada, South Africa, Bolivia, etc. goes against the very concept of free trade which other countries may not relish.
- Limiting the market by imposing restrictions on exports will send the message that neither large scale global resource miners nor the specialized international junior prospecting companies are welcome to invest in India as they will not be able to reap the fruits of their venture type investments.
- Absence of FDI in exploration is a real loss because it is not possible to invest on a scale needed for future expansion. Hence new finds will be hard to come by and the “non renewable scarce resource” argument can become a self fulfilling prophery.

DEVELOP WORLD CLASS IRON ORE MINES

49. In India, captive leasing is a colonial hangover. Steel plants in Japan, South Korea, EU and China do not have captive mines. They

ensure supplies through equity participation and long-term contracts with mining companies. World-wide experience shows that steel plants having captive mines indulge in profligacy, leading to higher cost of production and no benefit to steel users as well as consumers of finished products. It distorts market and breeds inefficiency. Experience in India shows that the steel companies who have captive mines do not invest enough in the development and exploration in the mines since they have more areas and resources where selective mining is often resorted. Lower grades of ore and fines are not fully utilized since the beneficiation involves cost.

50. Looking to the experience of steel making and looking to the world-wide example of Australia, Brazil, South Africa and others, it is necessary to promote and develop world-class iron ore resource industry which will develop resources in a proper, scientific and sustainable manner and cater to the requirements of all consumers. There are many advantages:

- world class iron ore mining operations will generate more wealth and infrastructure in mining areas, situated in backward and tribal areas.
- selective mining will stop, prolonging the life of the resources.
- provide uniform grade of iron ore at competitive rates.
- exploration with modern techniques to intensify, leading to the discovery of more resources.
- zero waste mining providing iron ore as per requirements of users.
- facilitate R&D work in mine related areas leading to
 - development of expertise in various disciplines of mining and equipments required therefore.
 - export of expertise abroad as in the case of Western Australia which exports A\$ 2 billion worth of R&D services and equipments world-wide.

Conclusion:

- No captive mines to any steel plants
- it breeds inefficiency
- inter-sectoral subsidy absorbed either in inefficiency in steel plants or absorption of extra profits by them

- no benefit to steel consumers or to society who use finished products.

EPILOGUE

51. Never in the history of human civilization has there been any shortage of minerals and metals. Technology goes on evolving itself to take care of the finiteness of the resources and the variations in tenor, grade, physical or chemical properties of the ore during the course of mining. Mineral resources, I may add, are infinitely finite. On the other hand, whenever there is any tinkering with market mechanism, synthetic substitutes have taken over natural products, rendering them redundant.

52. 5% of the earth crust, which has a continental depth of 0-75 kms, contains iron. There has not been and in fact can never be any shortage of iron ore : if there is shortage in one country, it is made good by abundance in other countries (including e.g. India). This is what international trade is all about!

53. ISA is in business politics; we are in serious mining activity. Ours are facts; theirs are assumptions — to the extent of going into the realm of astrology.

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Annexure-I

STATE-WISE PRODUCTION : RATIO OF LUMPS, FINES AND CONCENTRATES

Quantity : '000 tonnes

	2003-04				2004-05				2005-06(p)			
	Lumps	Fines	Conc.	Total	Lumps	Fines	Conc.	Total	Lumps	Fines	Conc.	Total
Chhattisgarh	10707 (46)	12654 (54)	—	23361 (100)	10342 (45)	12776 (55)	—	23118 (100)	11301 (46)	13449 (54)	—	24750 (100)
Goa	3891 (19)	15246 (75)	1109 (6)	20246 (100)	4243 (19)	17526 (77)	903 (4)	22672 (100)	4328 (18)	18445 (78)	971 (4)	23744 (100)
Jharkhand	6486 (44)	8196 (56)	—	14682 (100)	7538 (45)	9181 (55)	—	16719 (100)	6675 (38)	10760 (62)	—	17435 (100)
Karnataka	8902 (28)	17643 (56)	5090 (16)	31635 (100)	12288 (32)	21324 (56)	4350 (12)	37962 (100)	11332 (33)	19415 (58)	2922 (9)	33669 (100)
Orissa	18573 (59)	12715 (41)	—	31288 (100)	22884 (55)	18866 (45)	—	41750 (100)	27777 (56)	22103 (44)	—	49880 (100)
Others	401 (25)	1225 (75)	—	1626 (100)	857 (23)	2864 (77)	—	3721 (100)	1230 (25)	3728 (75)	—	4958 (100)
ALL INDIA TOTAL	48960 (40)	67679 (55)	6199 (5)	122838 (100)	58152 (40)	82537 (56)	5253 (4)	145942 (100)	62643 (41)	87900 (57)	3893 (2)	154436 (100)

SOURCE: Indian Bureau of Mines, Nagpur

Figures in paranthesis indicate the %age contribution of lumps, fines and concentrates respectively in the total production

Note: p - provisional figures

