

IRON ORE



# Indian Minerals Yearbook 2012

(Part- III : Mineral Reviews)

**51<sup>st</sup> Edition**

**IRON ORE**

**(FINAL RELEASE)**

**GOVERNMENT OF INDIA  
MINISTRY OF MINES  
INDIAN BUREAU OF MINES**

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Iron & steel is the driving force behind industrial development in a country. The vitality of the iron & steel industry largely influences its economic status. The mining of iron ore, an essential raw material for Iron & Steel Industry is arguably of prime importance among all mining activities undertaken by any country. With the total resources of over 28.52 billion tonnes of hematite ( $\text{Fe}_2\text{O}_3$ ) and magnetite ( $\text{Fe}_3\text{O}_4$ ), India is among the leading producers as well as exporters of iron ore in the world.

## RESOURCES

Hematite and magnetite are the most important iron ores in India. About 59% hematite ore deposits are found in the Eastern Sector. About 92% magnetite ore deposits occur in Southern Sector, especially in Karnataka. Of these, hematite is considered to be superior because of its higher grade. Indian deposits of hematite belong to the Precambrian Iron Ore Series and the ore is within banded iron ore formations occurring as massive, laminated, friable and also in powdery form.

As per UNFC system, the total resources of hematite as on 1.4.2010 are estimated at 17,882 million tonnes of which 8,093 million tonnes (45%) are under 'reserves' category and the balance 9,789 million tonnes (55%) are under 'remaining resources' category. By grades, lumps constitute about 56% followed by fines (21%), lumps with fines (13%) and the remaining 10% are black iron ore, unclassified, not-known and other grades. Major resources of hematite are located in Odisha - 5,930 million tonnes (33%), Jharkhand - 4,597 million tonnes (26%), Chhattisgarh - 3,292 million tonnes (18%), Karnataka - 2,159 million tonnes (12%) and Goa - 927 million tonnes (5%). The balance resources of hematite are spread in Andhra Pradesh, Assam, Bihar, Madhya Pradesh, Maharashtra, Meghalaya, Rajasthan and Uttar Pradesh (Table -1).

Magnetite is another principal iron ore that also occurs in the form of oxide, either in igneous or metamorphosed banded magnetite-silica formation, possibly of sedimentary origin. As per UNFC system, the total resources of magnetite as on 1.4. 2010 are estimated at 10,644 million tonnes of which 'reserves' constitute a mere 22 million tonnes while 10,622 million tonnes are placed under 'remaining resources'. Classification on the basis of grades shows 21% resources are of metallurgical grade while 79%

resources belong to unclassified, not-known and other grades. The resources of coal washery and foundry grades constitute meagre proportions. India's 97% magnetite resources are located in four states, namely, Karnataka - 7,802 million tonnes (73%) followed by Andhra Pradesh - 1,464 million tonnes (14%), Rajasthan - 527 million tonnes and Tamil Nadu - 507 million tonnes (5% each). Assam, Bihar, Goa, Jharkhand, Kerala, Maharashtra, Meghalaya, Nagaland and Odisha together account for the remaining 3% resources (Table-2).

## EXPLORATION & DEVELOPMENT

In 2011-12, GSI, State Directorates of Chhattisgarh, Odisha and Rajasthan, NMDC, Mysore Minerals Ltd and CMDC conducted exploration for iron ore. Details of exploration activities carried out by various agencies in 2011-12 are furnished in Table-3.

## PRODUCTION, STOCKS & PRICES

The production of iron ore constituting lumps, fines and concentrates was at 167 million tonnes in the year 2011-12, showing decrease of about 19% as compared to that in the preceding year, mainly on account of suspension of mining operation in Karnataka due to Hon'ble Supreme Court's order.

There were 294 reporting mines in 2011-12 as against 336 in the previous year. Among them, 34 mines were in the public sector and 260 in private sector. Besides, production of iron ore was reported as an associated minerals by 24 mines in 2011-12. The contribution of public sector to the total production was about 33.3% as against 29% in the preceding year. The remaining 66.7% of the total production in 2011-12 was from private sector. Among 34 public sector mines, 13 mines (5 in Chhattisgarh, 4 in Odisha, 2 each in Jharkhand and Karnataka) each producing more than one million tonnes annually accounted for 93.4% of the total output in public sector and 31.1% of the total production in the country during 2011-12. Out of 260 iron ore mines and 24 associated mines in private sector, 30 iron ore mines (17 in Odisha, 9 in Goa, and 4 in Jharkhand) each producing more than one million tonnes annually accounted for about 67.2% of the total output of private sector and about 44.8% of the total iron ore production. Thus, 43 iron ore mines,

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each producing more than one million tonnes of iron ore annually, contributed about 75.9% of the total output in 2011-12. Out of 26 captive iron ore mines in the country, 13 were in the public sector and the remaining 13 in private sector. The production of captive mines in the public sector was 22.6 million tonnes or 40.6% of the sectoral output in 2011-12. On the other hand, production of captive mines in private sector was 20.2 million tonnes or 18.1% of the output in private sector.

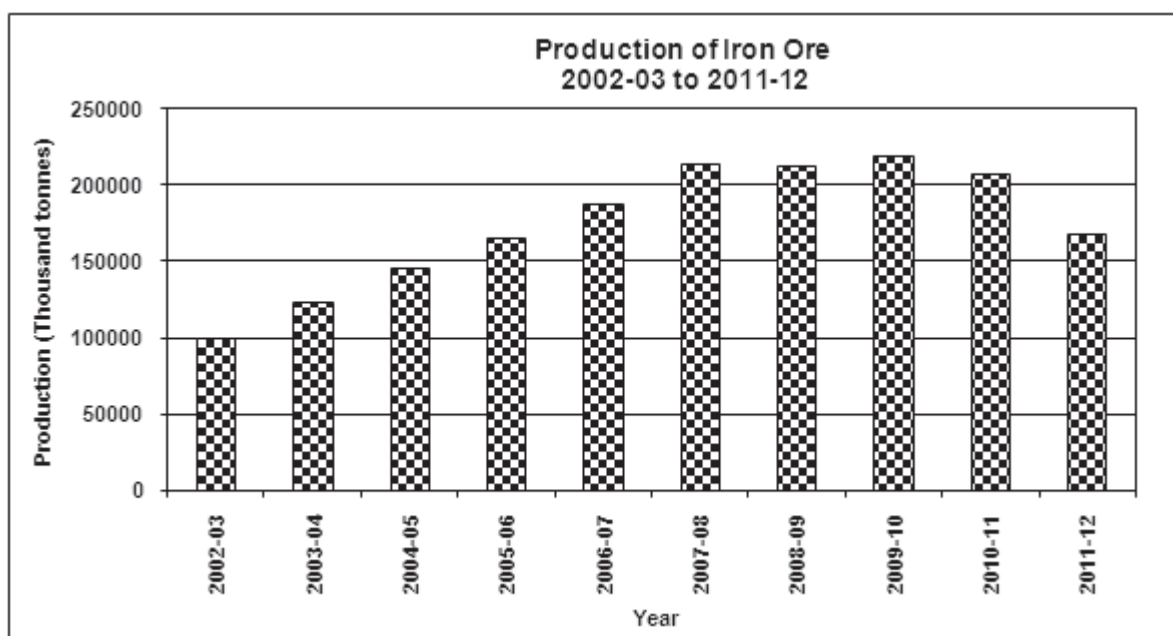
Gradewise analysis of the current year's output reveals that, out of total output of 167.3 million tonnes, iron ore lumps constituted 62.7 million tonnes (about 37.5%), fines 104.2 million tonnes (about 62.3%) and concentrates 0.4 million tonnes (about 0.2%) of the total output of iron ore. In lumps, 19.7 million tonnes (31.4%) was of grade 65% Fe and above, about 25.3 million tonnes (40.3%) of grade 62% to below 65% Fe, 4.1 million tonnes (6.6%) was of grade 60% to below 62% Fe, 3 million tonnes (4.8%) was of grade 58% to below 60% Fe, about 3 million tonnes (4.7%) was of grade 55% to below 58% Fe, and the rest 7.6 million tonnes (about 12.2%) of the production was of grade below 55% Fe. In the case of iron ore fines, 14.6 million tonnes (14.0%) of the production was of grade 65% Fe and above, 41 million tonnes (39.4%) of grade 62% to below 65% Fe, 18.9 million tonnes (18.2%) of grade 60% to below 62% Fe, about 6 million tonnes (5.8%) of grade 58% to below 60% Fe, 7.7 million tonnes (7.4%) of grade 55% to below 58% Fe, and the balance 16.0 million tonnes (about 15.2%) of grade below 55% Fe.

Among the states, Odisha recorded the highest production of 67.0 million tonnes (about 40.1%) of the country's production in 2011-12. Goa was at the second place with a production of 33.4 million tonnes (19.9%) of the total production followed by Chhattisgarh 30.5 million tonnes (18.2%), Jharkhand 18.9 million tonnes (11.3%) and Karnataka 13.2 million tonnes (7.9%). The remaining 2.6% production was reported from Andhra Pradesh, Madhya Pradesh, Maharashtra and Rajasthan (Tables - 4 to 7).

In the year 2011-12, a total of 126.4 million tonnes of iron ore was despatched for exports and internal consumption as against 149.02 million tonnes in the previous year. Out of this, 29.1 million tonnes of iron ore was despatched for exports and 97.3 million tonnes for internal consumption. The corresponding figures for exports and internal consumption in the preceding year were 31.83 million tonnes, and 117.19 million tonnes respectively.

The mine-head stocks of iron ore at the end of the year under review were 123.8 million tonnes as compared to 120.6 million tonnes in the beginning of the year. The stocks relate to iron ore lumps, fines and concentrates in all the states (Tables 8A & 8B).

The average daily employment of labour was 45,106 during 2011-12 as against 46,183 in the preceding year. The prices of iron ore are furnished in the General Review on 'Prices'.



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**Table – 1 : Reserves/Resources of Iron Ore (Hematite) as on 1.4.2010  
(By Grades/Stages)**

(In '000 tonnes)

Grade/State	Reserves				Remaining resources							Total resources (A+B)	
	Proved STD111	Probable		Total (A)	Feasibility STD211	Pre-feasibility		Measured STD331	Indicated STD332	Inferred STD333	Reconnaissance STD334		Total (B)
		STD121	STD122			STD221	STD222						
<b>All India</b>	<b>5982042</b>	<b>1173324</b>	<b>938180</b>	<b>8093546</b>	<b>515353</b>	<b>756190</b>	<b>494738</b>	<b>540188</b>	<b>1197539</b>	<b>3942673</b>	<b>2341870</b>	<b>9788551</b>	<b>17882098</b>
<b>By Grades</b>													
Lump, High-grade	704874	89475	229589	1023938	85053	67668	11746	53586	32222	188840	35687	474803	1498741
Lump, Medium-grade	3411208	643575	272908	4327691	90878	203315	135930	156886	560175	903906	42533	2093623	6421314
Lump, Low-grade	154561	29684	61602	245847	84583	36168	95031	11653	91346	823326	238032	1380139	1625986
Lump, Unclassified	29097	114	40022	69233	54870	183	7882	52768	32934	151983	22800	323420	392653
Fines, High-grade	167700	4294	56498	228492	8215	6132	5675	54480	8451	46459	880	130293	358785
Fines, Medium-grade	421188	233772	56194	711153	38963	155282	54799	173317	279600	675621	18222	1395805	2106958
Fines, Low-grade	330476	48717	49103	428296	89848	57270	85045	9794	76746	416943	28977	764624	1192919
Fines, Unclassified	735	-	320	1055	-	-	-	8452	12908	118738	15200	155297	156352
Lumps & Fines, High-grade	256525	61689	26026	344241	24990	419	59151	8378	7981	66977	112375	280271	624512
Lumps & Fines, Medium-grade	207919	38185	59596	305700	3320	20531	15525	9495	19461	48741	238214	355287	660987
Lumps & Fines, Low-grade	183839	20463	31219	235520	29694	13310	11174	745	73912	274859	100498	504191	739711
Lumps & Fines Unclassified	97236	10	51198	148443	2103	175147	10045	633	725	31256	3602	223511	371955
Black Iron Ore	3150	-	1370	4520	1464	4936	2716	-	1059	8294	-	18469	22989
Others	11888	2501	2536	16924	6	13591	17	-	-	25154	-	38769	55693
Unclassified	-	-	-	-	1314	389	-	-	-	389	-	2093	2093
Not-known	1648	846	-	2494	51	1850	-	-	18	161188	1484850	1647957	1650451
<b>By States</b>													
Andhra Pradesh	60038	58011	34167	152217	551	20988	32475	377	4624	169955	291	229261	381478
Assam	-	-	-	-	-	-	-	-	8600	4000	-	12600	12600
Bihar	-	-	-	-	-	-	-	-	-	55	-	55	55
Chhattisgarh	636460	-	263650	900110	114382	5080	15610	107625	527563	872739	748715	2391714	3291824
Goa	367378	44907	57559	469844	88723	63145	117393	7539	10050	141984	28493	457328	927172
Jharkhand	1840594	391052	72496	2304142	89372	14339	113334	45282	199455	594716	1235981	2292478	4596620
Karnataka	602685	95458	178723	876866	73194	171202	59231	245454	42843	501669	188218	1281811	2158678
Madhya Pradesh	40534	7099	9181	56814	9978	587	10170	4710	4014	145162	10	174632	231446
Maharashtra	6937	6460	17	13414	7544	6093	7659	79793	71806	64714	32185	269795	283209
Meghalaya	-	-	-	-	-	-	-	-	-	225	-	225	225
Odisha	2422247	569186	321568	3313000	128440	471517	138365	49408	317074	1404450	107978	2617232	5930232
Rajasthan	5169	1152	819	7139	3168	3239	500	-	11510	5004	-	23420	30560
Uttar Pradesh	-	-	-	-	-	-	-	-	-	38000	-	38000	38000

Figures Rounded off.

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**Table – 2 : Reserves/Resources of Iron Ore (Magnetite) as on 1.4.2010  
(By Grades/States)**

(In '000 tonnes)

Grade/State	Reserves				Remaining resources				Total resources (A+B)				
	Proved STD111	Probable		Total (A)	Feasibility STD211	Pre-feasibility		Indicated STD332		Inferred STD333	Reconnaissance STD334	Total (B)	
		STD121	STD122			STD221	STD222						
<b>All India : Total</b>	<b>15973</b>	<b>3672</b>	<b>2111</b>	<b>21755</b>	<b>189478</b>	<b>1714</b>	<b>50816</b>	<b>1984566</b>	<b>6313583</b>	<b>568980</b>	<b>10622305</b>	<b>10644060</b>	
<b>By Grades :</b>													
Metallurgical	2148	3047	369	5565	163205	102	18435	690596	342792	966726	255	2182111	2187676
Coal washery	-	346	510	856	-	518	1981	411	318	4491	-	7719	8575
Foundry	330	125	-	455	-	-	-	-	-	303	-	303	758
Others	2074	139	-	2213	62	-	-	-	-	231	-	293	2506
Unclassified	11049	14	978	12041	26211	1094	30400	822161	1641456	5061583	568677	8151582	8163622
Not-known	372	-	254	626	-	-	-	-	-	280249	48	280297	280923
<b>By States</b>													
Andhra Pradesh	-	-	-	-	43034	-	-	13800	1266666	140027	14	1463541	1463541
Assam	-	-	-	-	-	-	-	-	-	15380	-	15380	15380
Bihar	-	-	-	-	-	-	-	-	-	2659	-	2659	2659
Goa	12489	3186	-	15675	26211	1094	30400	-	-	147296	1997	206998	222673
Jharkhand	-	361	551	912	-	518	1981	411	3948	2724	48	9629	10541
Karnataka	-	-	-	-	120022	-	18375	1498957	479372	5345018	340000	7801744	7801744
Kerala	-	-	-	-	-	-	-	-	59912	23523	-	83435	83435
Maharashtra	559	-	315	875	211	-	60	-	-	215	-	486	1361
Meghalaya	-	-	-	-	-	-	-	-	-	3380	-	3380	3380
Nagaland	-	-	-	-	-	-	-	-	5280	-	-	5280	5280
Odisha	-	-	54	54	-	102	-	-	-	43	-	145	199
Rajasthan	2924	125	1191	4240	-	-	-	-	-	522590	-	522590	526831
Tamil Nadu	-	-	-	-	-	-	-	-	169388	110728	226921	507037	507037

Figures rounded off.

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**Table – 3 : Details of Exploration Activity for Iron ore, 2011-12**

Agency/ State/ District	Location/ Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/ Resources Estimated
		Scale	Area (sq km)	No. of Boreholes	Meterage		
<b>GSI</b>							
<b>Jharkhand</b> Singhbhum (West)	Around Silpunji- Kantoria Block.	-	-	-	-	-	In this area, Reconnaissance stage (G-4) investigation was taken up during FS 2010-12 in collaboration with DGM, Jharkhand to assess the iron and manganese ore potentialities within the Upper Shale Formation in Jamda-Koira synclinerium belt. Lithounits include intraformational conglomerate, quartzite, shale and ferruginous brecciated cherty quartzite which is overlain by cover sediments of Kolhan Group represented by a sequence of ferruginous sandstone, feldspathic sandstone and capped by laterites, at places. The iron ore in the area is derived mainly from the lateritic iron ore. A few iron enriched bands associated with BHJ has been delineated among them the two bands located around Kantoria, Hesapi and south of Param Baljori are the most prominent. The band in the west of Hesapi has a strike continuity of more than a kilometre and is most promising. Analytical results of 7 samples from this band revealed Fe wt% between 50% to 55% and 2 samples showed Fe wt% >55%. Analytical results received so far for laterites have indicated Fe value upto 41.50% and Mn value upto 21.55%. Lateritic iron ore typically occupies the contour heights between 460m and 500m on the top and slopes of the hillocks. Mineralogically, it consists of pyrolusite and cryptomelane.
<b>Karnataka,</b> Chitradurga	Kankeri, Melanahalli, Guruyapura, Kempanahalli , Dasudi,Kandikere Blocks	-	-	-	-	-	Reconnaissance stage investigation (G-4) was initiated during FS 2010-12 in selected freehold areas for preliminary.

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Table – 3 (Contd.)

Agency/ State/ District	Location/ Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/ Resources Estimated
		Scale	Area (sq km)	No. of Boreholes	Meterage		
<b>Karnataka,</b> Chitradurga	Kankeri Melanahalli, Guruyapura, Kempnahalli, Dasudi, Kandikere Blocks (Concl'd.)	-	-	-	-	-	assessment of the iron ore occurrences in parts of Chitradurga Schist Belt as a follow up of decisions taken in SGPB meetings of Karnataka and CGPB meetings. Large scale mapping in Melanahalli and Guruyapura Blocks has brought out three bands of BIF. The analytical results of trench samples (value of 55.01% Fe) obtained near a fold closure indicating a structural control for the ore concentration. Bed rock samples have given value range of 20.11 wt% to 46.91 wt% Fe. The width of BIF band at Purada Mata hill ranges from 10 to 15m and at south of dolomitic stone hill is 35m. In Kandikere block a 15 to 20m wide band of BHQ has been delineated. The work has been completed.
<b>Odisha</b> Keonjhar	Damurda- Champuasahi	-	-	-	-	-	Prospecting stage (G-3) investigation was carried out in Damurda - Champuasahi area, Keonjhar district during FS 2010-12 to assess the potential of low grade iron ore associated with BHJ & ferruginous laterite in the area. Detailed mapping in the northern part of Damurda ridge has brought out discontinuous linear iron ore bodies exposed in old quarry/pit sections. On the surface, the iron ore bodies are covered by ferruginous laterite of 1m - 5m thickness, the iron ore-bearing zone continues further north towards Bolani & the iron ore is mainly laminated and lateritic type. The maximum length of the ore body is about 160m with a thickness of 2m - 5 m. The exploration in Damurda block has indicated a moderate to low potentiality of iron ore mineralization over a strike length of 2.2 km with 20.7m average width and an average grade of 55.56% Fe. The work has been completed.
Keonjhar	Chamakpur Nayagarh area	-	-	-	-	-	Reconnaissance stage (G-4) investigation was carried out for delineating detrital iron ore bodies in the eastern and

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Table – 3 (Contd.)

Agency/ State/ District	Location/ Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/ Resources Estimated
		Scale	Area (sq km)	No. of Boreholes	Meterage		
Keonjhar	Chamakpur - Nayagarh area	-	-	-	-	-	southern margins of Horseshoe basin. Stratigraphically detrital iron ore bodies belong to the basal conglomerate horizon of the Kolhan Group and rest unconformably over granite and gritty quartzite. Detrital iron ore bodies are composed of clasts of hematite, jasper, Bill, quartz and rock fragments of approximately 1cm to 16 cm size ranges. The population of iron bearing clasts (hematite with massive hard and soft laminated BHI) range from 35% to 65% by volume within the isolated patches of detrital iron ore bodies. The approximate dimensions of individual detrital iron ore bodies recorded are (i) Chamakpur-200m x 100m (ii) Mirgisingra- 450m x 250m (iii) Kendra - 625m x 125m (iv) Basudebpur - 375m x 75m (v) Damupur - 300m x 125m. The pitting work carried out indicates possibility of development of thicker detrital iron ore bodies on granitic bodies.
Sundergarh	Sagasahi East Block	-	-	-	-	-	Prospecting stage (G-3) investigation was carried out in Sagasahi East block, Sundergarh district during FS.2010-12 for assessment of iron ore potential in the northern contiguous area of already explored Ghoraburhani – Sagasahi Block. The investigation was aimed to examine the down dip continuity of the ore bodies already intersected in the adjoining Ghoraburhani block by drilling vertical boreholes on 200m x 200m grid up to depths varying from 70.40m to 100.10m. The cumulative thickness of ore bodies intersected at 55% Fe cut off varies from 2.0m to 90m and has an average iron content varying from 61.77% to 64.97%.
<b>Rajasthan</b> Banswara	Aravalli Fold Belt and adjoining BGC Kanpura- Bhuwer area west of Ghotol	-	-	-	-	-	Reconnaissance stage investigation (G-4) for ferrous and associated metallic minerals was carried out in FS -2010-12 to evaluate and delineate the iron ore occurrences in parts of south Rajasthan. Two moderately dipping BIF bands trending NE-SW have been delineated within Banded Gneissic Complex (BGC). The BGC comprises granite gneiss, leuco-granite and migmatite.

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Table – 3 (Contd.)

Agency/ State/ District	Location/ Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/ Resources Estimated
		Scale	Area (sq km)	No. of Boreholes	Meterage		
<b>Rajasthan</b> (Banswara)	Aravalli Fold Belt and adjoining BGC Kanpura-Bhuwer area west of Ghotol (Concl'd.)	-	-	-	-	-	The aeromagnetic signatures with values ranging from 3000-3200 a were recorded. The lithounits include migmatite, silicate iron formation, dolomitic marble, quartzite, amphibolite and acid intrusives, which belong to Bamanpara-Kundli Formation of the Pre-Aravalli age. Quartz-grunerite-magnetite schist represents the silicified iron formation (SIF) units and are lensoidal in shape and occur as discontinuous bands along NW-SE direction with steep dips towards west. SIF units occur along the foliation within sheared granites of BGC.
<b>DGM Chhattisgarh</b> Kondagaon	Pavaras-kachora	1:50,000 1:4000	574.0 2.05	-	-	238	The area is occupied by litho units of Bengpal Group & Bailadila Group with Acid and Basic intrusives. Out crops of BHQ & BMQ are spread over an area of 2 km x 0.2 km with thickness of 5 m. 5.109 million tonnes of iron ore with 35-45 % Fe has been assessed.
<b>DGM Odisha</b> Keonjhar	Karhakala & Surhang	1:25,000	65.0	-	-	7	The area forms a part of Iron Ore Super Group comprising the lithounits like quartzite, basic lavas, shale/ tuffaceous shale, laterite and quartz vein . No BHJ as well as Iron ore was encountered. No iron ore occurrences reported.
<b>DMG Rajasthan</b> Jhunjhunu	Tonda	1:4000	1.0	-	-	32	Regional Mineral survey for industrial minerals and iron ores; Iron mineralization was also observed in the SW of Mewara, near village Sior, Nayagaon, Tonda, Napawala ki dhani, Badalwas, Dudwa, Sagdu ki Dhani, near Krishna Gaushala in viillage Dada Fatehpura , Nalpur, Jamalpur etc in Khetri Tehsil. Iron bands are also located due 1 km south of Tonda.
<b>NMDC Ltd Chhattisgarh</b> Dantewada	Bailadila Iron Ore mine- Kirandul Deposits 14 & 11C	-	-	42	5360	-	These deposits belong to pre-Cambrian sedimentary sequence of Bailadila Iron ore series. Exploratory drilling is under progress. Reserves estimation is under process.
<b>Karnataka</b> (Bellary)	Donimalai			04	369.05	73	Donimalai iron ore deposit is located in South East portion of Sandur Schist Belt. The trend is NNW-SSE & dipping between 70 <sup>o</sup> -80 <sup>o</sup> ENE.Hematite is the main ore constituent whereas BHJ/BHQ & Shale are the main waste constituents. Iron ore has been originated from BHJ by leaching of silica and enrichment of iron oxide by meteoric agencies. Resources are yet to be estimated.

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Table – 3 (Concl.d.)

Agency/ State/ District	Location/ Area/ Block	Mapping		Drilling		Sampling (No.)	Remarks Reserves/ Resources Estimated
		Scale	Area (sq km)	No. of Boreholes	Meterage		
<b>MML Karnataka Bellary</b>	N/v Krishnanagar (Thimmappa- nagudi mine)	-	-	37	2768	-	The iron ore deposit occurs in the area in the form of reef with banded iron ore formations- BHQ, BHJ and BHC. The other lithounits occurring in the mine area are laterite, Metavolcanic / Shale. Ore body has been exposed over a strike length of 800 m and the dip varied between 65° to 70° towards north east. The ore body is banded and powdery in nature, reddish brown in colour and hard metallic luster. Ore grade varies from 50%-62% Fe content. The area is structurally disturbed with folds and faults. A total of 13.94 million tonnes resources were estimated out of which 5.27 million tonnes are placed under 111 category, 3.37 million tonnes under 121 & 122 category and remaining 5.30 million tonnes resources are placed under 333 category.
<b>CMDC Kabirdham</b>	N/V Eklama,Chelikama Bhalapur & Kesda Sahaspur Lohara Forest Range Area	-	-	02	-	-	The exploration work is being carried out by GSI in accordance with the UNFC format as per MoU signed between GSI and CMDC. The exploration of Iron ore is under progress from 26th March 2012.

**Table - 4 :Principal Producers of Iron ore  
2011-12**

Name & address of producer	Location of mine	
	State	District
National Mineral Development Corporation Ltd, 10-3-311/A, Khanij Bhavan, Masab Tank, Hyderabad –500 028, Andhra Pradesh.	Karnataka Chhattisgarh	Bellary Dantewada
Steel Authority of India Ltd, Ispat Bhavan, Lodhi Road, New Delhi – 110 003.	Jharkhand Chhattisgarh Odisha	Singhbhum (West) Durg Keonjhar Sundergarh
Tata Steel Ltd. 24, Homi Mody Street, Fort, Mumbai –400 001, Maharashtra.	Jharkhand Odisha	Singhbhum (West) Keonjhar

(Contd.)

Table – 4 : (Contd.)

Name & address of producer	Location of mine	
	State	District
Sesa Goa Ltd, Altinho, Panjim, Goa – 403 001.	Goa Karnataka	North Goa South Goa Chitradurga
Rungta Mines Pvt. Ltd, 206, A.C.J. Bose Road, Kolkata – 700 017West Bengal.	Jharkhand Odisha	Singhbhum (West) Keonjhar
Sarda Mines Private Limited, Thakurani Iron Ore Mines, (Block B) Post Box No. 85, P.O. Barbil-758 035, Keonjhar, Odisha.	Odisha	Keonjhar
The Odisha Mining Corporation Ltd.P. B. No. 34, Bhubaneswar-751 001, Odisha.	Odisha	Keonjhar Sundergarh

(Contd.)

IRON ORE

Table – 4 : (Contd.)

Name & address of producer	Location of mine	
	State	District
Essel Mining & Industries Ltd, 10, Camac Street, Kolkata-700 017, West Bengal.	Odisha	Keonjhar Sundergarh
Bonai Industrial Co. Ltd, Barbil P.O., Barbil-758 035, Dist. Keonjhar, Odisha.	Odisha	Sundergarh
Smt. Indrani Patnaik, Bonaikela, P.O. Joda-758 035, Dist. Keonjhar, Odisha.	Odisha	Keonjhar
Rungta Sons (P) Ltd, Rungta House, Chaibasa-833 201, Jharkhand.	Odisha	Sundergarh
Cosme Costa & Sons, Altino Mapusa, Goa.	Goa	North Goa
Jindal Steel & Power Ltd, P.B. No. 6, Delhi Road, Hissar- 125 005, Haryana.	Odisha	Sundergarh
Usha Martin Ltd, Mangal Kalash, 2A Shakespeare Sarani, Kolkata-700 071, West Bengal.	Jharkhand	Singhbhum (West)
V.M. Salgaocar & Bros. Pvt. Ltd, Salgaocar House, P.B.No.14, Vasco-da-gama, Goa-403 803.	Goa	North Goa South Goa
Chowgule & Co. Ltd, Chowgule House, Marmugao Harbour-403 803, Goa.	Goa	North Goa
Kaypee Enterprises, Post Box No.3, P.O. Barbil -758 035, Keonjhar, Odisha.	Odisha	Keonjhar
Sesa Mining Corporation Ltd, Jeevan Vishwas, LIC Building, 2 EDC Complex, Panaji-403 001, Goa.	Goa	North Goa
Serajuddin & Co., P-16, Bentinck Street, Kolkata-700 001, West Bengal.	Odisha	Keonjhar

Table – 4 : (Concl'd.)

Name & address of producer	Location of mine	
	State	District
Padam Kumar Jain, Chaibasa-833 201, Dist. Singhbhum (West) Jharkhand.	Jharkhand	Singhbhum (West)
Khatau Narbheram & Co., N.V.Ram Complex, At- Barbil-758 035, Dist. Keonjhar, Odisha.	Odisha	Keonjhar
Sesa Resources Ltd. Jeevan Vishwas LIC Building , 2 EDC Complex, Panaji-403001, Goa.	Goa	North Goa
Mideast Integrated Steels Ltd, Mesco Tower, 3915, Lewis Road, Bhubaneswar-751 016, Odisha.	Odisha	Keonjhar
Sociedade Timblo Irmaos Ltd, P.O. Margao, Kadar Manzil, Margao-403 601, Dist. South Goa, Goa.	Goa	South Goa
Aryan Mining & Trading Corp. (P) Ltd.61, Strand Street, Kolkata-700 006, West Bengal.	Odisha	Sundergarh
Panduranga Timblo Industries, Subhash Timblo Bhavan, P. B. No. 242, Margao-403 601, Goa.	Goa	South Goa
R.S.Gharse, P. B. No. 204, Kadar Manzil, Near Municipalty Office, Margao-403 601, Goa.	Goa	South Goa
Mrs. Geetabala M.N.Parulekar Constituted Attorney, Flat No.Sn-1, Poonam Apts, 2nd Floor,Angod, Mapusa, Bardej, North Goa-403507 Goa.	Goa	North Goa
Kamaljeet Singh Ahluwalia, P.B.No. 3, Barbil-758 035, Dist. Keonjhar, Odisha.	Odisha	Keonjhar
Ramesh Prasad Sao, Near Gandhi Park, Chaibasa, Dist. Singhbhum (West), Jharkhand.	Odisha	Keonjhar

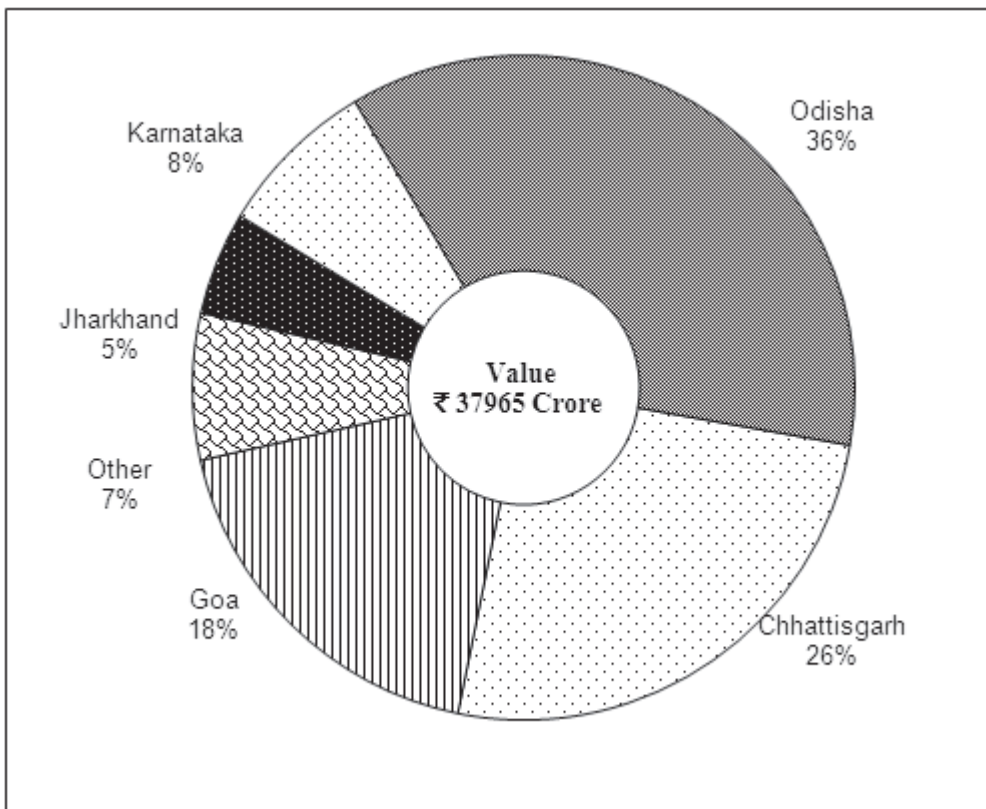
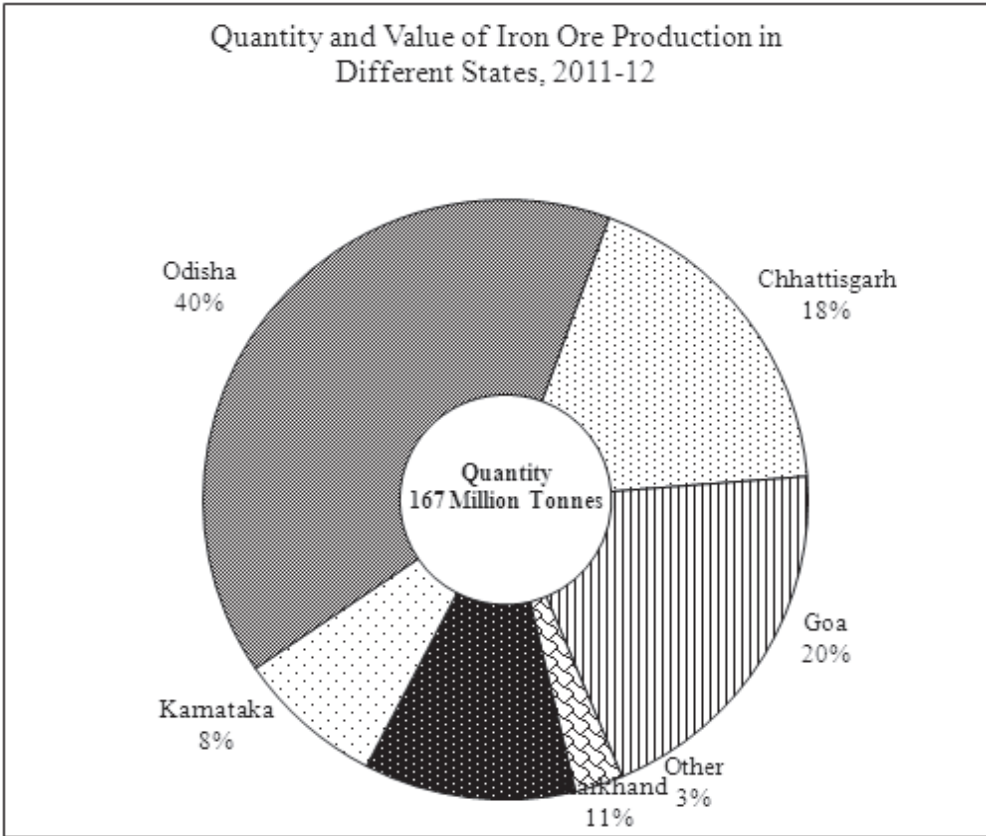
IRON ORE

**Table – 5 : Production of Iron Ore, 2009-10 to 2011-12  
(By States)**

(Quantity in '000 tonnes; value in ₹'000)

States		2009-10		2010-11		2011-12(P)	
		Quantity	Value	Quantity	Value	Quantity	Value
<b>India</b>	<b>Total</b>	<b>218553</b>	<b>264620052</b>	<b>207157</b>	<b>396141714</b>	<b>167289</b>	<b>379651367</b>
	Lumps	90262	126412246	77273	173545279	62700	179737036
	Fines	127720	137815781	129203	222181727	104180	199634866
	Concentrates	571	392025	681	414708	409	279465
<b>Andhra Pradesh</b>	<b>Total</b>	<b>6246</b>	<b>8101303</b>	<b>1560</b>	<b>478212</b>	<b>1714</b>	<b>571872</b>
	Lumps	3249	4684328	1128	392500	1263	452954
	Fines	2997	3416975	432	85712	451	118918
<b>Chhattisgarh</b>	<b>Total</b>	<b>26211</b>	<b>44227248</b>	<b>29320</b>	<b>71712050</b>	<b>30455</b>	<b>96429439</b>
	Lumps	11191	23572505	12067	36122684	11556	47229745
	Fines	15020	20654743	17253	35589366	18899	49199694
<b>Goa</b>	<b>Total</b>	<b>38136</b>	<b>55846319</b>	<b>35564</b>	<b>74912294</b>	<b>33372</b>	<b>69492708</b>
	Lumps	8267	11145773	7619	12568654	6790	12879951
	Fines	29298	44308521	27264	61928932	26193	56345292
	Concentrates	571	392025	681	414708	389	267465
<b>Jharkhand</b>	<b>Total</b>	<b>22547</b>	<b>11242048</b>	<b>22288</b>	<b>16907241</b>	<b>18942</b>	<b>19132126</b>
	Lumps	10249	5766639	9611	9224281	8059	9757217
	Fines	12298	5475409	12677	7682960	10883	9374909
<b>Karnataka</b>	<b>Total</b>	<b>43163</b>	<b>48811665</b>	<b>38983</b>	<b>79098120</b>	<b>13189</b>	<b>29821352</b>
	Lumps	16337	19013755	14074	26268567	4806	14521206
	Fines	26826	29797910	24909	52829553	8363	15288146
	Concentrates	-	-	-	-	20	12000
<b>Madhya Pradesh</b>	<b>Total</b>	<b>1058</b>	<b>359750</b>	<b>1762</b>	<b>785316</b>	<b>1102</b>	<b>719850</b>
	Lumps	117	46591	234	118743	104	100813
	Fines	941	313159	1528	666573	998	619037
<b>Maharashtra</b>	<b>Total</b>	<b>283</b>	<b>221777</b>	<b>1525</b>	<b>1332628</b>	<b>1470</b>	<b>1302353</b>
	Lumps	190	149047	1046	774643	1051	752247
	Fines	93	72730	479	557985	419	550106
<b>Odisha</b>	<b>Total</b>	<b>80896</b>	<b>95807348</b>	<b>76128</b>	<b>150907681</b>	<b>67013</b>	<b>162172471</b>
	Lumps	40649	62031014	31467	88067035	29039	94033707
	Fines	40247	33776334	44661	62840646	37974	68138764
<b>Rajasthan</b>	<b>Total</b>	<b>13</b>	<b>2594</b>	<b>27</b>	<b>8172</b>	<b>32</b>	<b>9196</b>
	Lumps	13	2594	27	8172	32	9196

IRON ORE



**Table-6 (A) : Production of Iron Ore, 2010-11**  
(By Sectors/States/Districts/Grades)

(Quantity in '000 tonnes; value in ₹'000)

District	No. of mines	Lumps										Fines										Total Qty	Total Value		
		Below 55% Fe		55%-58% Fe		58%-60% Fe		60%-62% Fe		62%-65% Fe		65% Fe & above		Below 55% Fe		55%-60% Fe		60%-62% Fe		62%-65% Fe				65% Fe & above	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value			Qty	Value
<b>India</b>	<b>336(20)</b>	<b>5278</b>	<b>4604</b>	<b>5603</b>	<b>9589</b>	<b>25331</b>	<b>26868</b>	<b>77273</b>	<b>173545279</b>	<b>13336</b>	<b>7727</b>	<b>9755</b>	<b>26201</b>	<b>55621</b>	<b>16563</b>	<b>129203</b>	<b>222181727</b>	<b>681</b>	<b>414708</b>	<b>207157</b>	<b>396141714</b>				
Public sector	35	6	369	4	1600	11878	10661	24518	62157935	1576	37	1763	6969	19416	5722	35483	57984373	-	-	60001	120142308				
Private sector	301(20)	5272	4235	5599	7989	13453	16207	52755	111387344	11760	7690	7992	19232	36205	10841	93720	164197354	681	414708	147156	275999406				
<b>Andhra Pradesh</b>	<b>34(2)</b>	<b>936</b>	<b>35</b>	<b>157</b>	-	-	-	<b>1128</b>	<b>392500</b>	<b>373</b>	-	<b>20</b>	<b>39</b>	-	-	<b>432</b>	<b>85712</b>	-	-	<b>1560</b>	<b>478212</b>				
Anantpur	2	99	-	-	-	-	-	99	24816	-	-	-	-	-	-	-	-	-	-	99	24816				
Cuddapah	9	228	-	144	-	-	-	372	132231	255	-	11	39	-	-	305	58742	-	-	677	190973				
Karimnagar	2	15	-	13	-	-	-	28	9644	11	-	9	-	-	20	5790	-	-	-	48	15434				
Krishna	2	++	-	++	-	-	-	++	374	-	-	-	-	-	-	-	-	-	-	++	374				
Kurnool	18(2)	594	35	-	-	-	-	629	225416	107	-	-	-	-	107	21180	-	-	-	736	246596				
Prakasam	1	++	-	-	-	-	-	++	19	-	-	-	-	-	-	-	-	-	-	++	19				
<b>Chhattisgarh</b>	<b>10</b>	-	-	<b>50</b>	<b>36</b>	<b>2273</b>	<b>9708</b>	<b>12067</b>	<b>36122684</b>	<b>1</b>	<b>108</b>	<b>38</b>	<b>2548</b>	<b>9142</b>	<b>5416</b>	<b>17253</b>	<b>35589366</b>	-	-	<b>29320</b>	<b>71712050</b>				
Dantewada	3	-	-	-	-	104	8075	8179	33060537	-	15	38	325	7094	5416	12888	33151206	-	-	21067	66211743				
Durg	5	-	-	-	-	2115	1411	3526	2862840	-	-	-	2223	2048	-	4271	2397252	-	-	7797	5260092				
Kanker	1	-	-	50	36	54	222	362	199307	-	93	-	-	-	93	38853	-	-	-	455	238160				
Rajnandgaon	1	-	-	-	-	-	-	-	-	1	-	-	-	-	1	2055	-	-	-	1	2055				
<b>Goa</b>	<b>73(3)</b>	<b>2827</b>	<b>2054</b>	<b>1941</b>	<b>719</b>	<b>78</b>	-	<b>7619</b>	<b>12568654</b>	<b>8434</b>	<b>4256</b>	<b>6106</b>	<b>7033</b>	<b>1434</b>	<b>1</b>	<b>27264</b>	<b>61928932</b>	<b>681</b>	<b>414708</b>	<b>35564</b>	<b>74912294</b>				
North Goa	28	1734	531	985	182	73	-	3505	6386162	4673	679	4810	1498	796	-	12456	29863918	-	-	15961	36250080				
South Goa	45(3)	1093	1523	956	537	5	-	4114	6182492	3761	3577	1296	5535	638	1	14808	32065014	681	414708	19603	38662214				

(Contd.)

Table - 6 (A) : (Concl'd.)

District	No. of mines	Lumps										Fines										Total							
		Below 55% Fe		55%-58% Fe		58%-60% Fe		60%-62% Fe		62%-65% Fe		65% Fe & above		Total		Below 55% Fe		55%-58% Fe		58%-60% Fe		60%-62% Fe		62%-65% Fe		65% Fe & above		Total	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value
<b>Jharkhand</b>	<b>20</b>	<b>299</b>	<b>555</b>	<b>886</b>	<b>2817</b>	<b>3150</b>	<b>1904</b>	<b>1904</b>	<b>9611</b>	<b>9224281</b>	<b>253</b>	<b>60</b>	<b>40</b>	<b>3258</b>	<b>5688</b>	<b>3378</b>	<b>12677</b>	<b>7682960</b>	-	-	-	-	-	-	-	-	<b>22288</b>	<b>16907241</b>	
Singbhum																													
West	20	299	555	886	2817	3150	1904	1904	9611	9224281	253	60	40	3258	5688	3378	12677	7682960	-	-	-	-	-	-	-	-	22288	16907241	
<b>Karnataka</b>	<b>98(8)</b>	<b>92</b>	<b>878</b>	<b>2294</b>	<b>3137</b>	<b>6564</b>	<b>1109</b>	<b>14074</b>	<b>26268567</b>	<b>964</b>	<b>337</b>	<b>2456</b>	<b>7130</b>	<b>13432</b>	<b>590</b>	<b>24909</b>	<b>52829553</b>	-	-	-	-	-	-	-	-	<b>38983</b>	<b>79098120</b>		
Bagalkot	1	-	293	-	-	-	-	293	352080	269	-	-	-	-	-	269	134000	-	-	-	-	-	-	-	-	562	486080		
Bellary	76(5)	61	434	1595	2843	6009	885	11827	21687276	8	76	2421	4068	11771	590	18934	29153680	-	-	-	-	-	-	-	-	30761	50840956		
Chitradurga	10(2)	-	81	373	80	555	224	1313	3701164	529	218	35	2477	1645	-	4904	22261432	-	-	-	-	-	-	-	-	6217	25962596		
Tumkur	11(1)	31	70	326	214	-	-	641	528047	158	43	-	585	16	-	802	1280441	-	-	-	-	-	-	-	-	1443	1808488		
<b>Madhya Pradesh</b>	<b>8(5)</b>	<b>103</b>	<b>103</b>	<b>23</b>	<b>5</b>	<b>-</b>	<b>-</b>	<b>234</b>	<b>118743</b>	<b>200</b>	<b>615</b>	<b>673</b>	<b>40</b>	<b>-</b>	<b>-</b>	<b>1528</b>	<b>666573</b>	-	-	-	-	-	-	-	-	<b>1762</b>	<b>785316</b>		
Gwalior	1	-	++	-	-	-	-	++	6	17	-	-	-	-	-	17	3348	-	-	-	-	-	-	-	-	17	3354		
Jabalpur	6(5)	75	103	23	5	-	-	206	90802	175	615	673	40	-	1503	655046	-	-	-	-	-	-	-	-	-	1709	745848		
Sagar	1	28	-	-	-	-	-	28	27935	8	-	-	-	-	8	8179	-	-	-	-	-	-	-	-	-	36	36114		
<b>Maharashtra</b>	<b>15</b>	<b>994</b>	<b>-</b>	<b>51</b>	<b>1</b>	<b>++</b>	<b>-</b>	<b>1046</b>	<b>774643</b>	<b>337</b>	<b>-</b>	<b>110</b>	<b>32</b>	<b>-</b>	<b>479</b>	<b>557985</b>	-	-	-	-	-	-	-	-	-	<b>1525</b>	<b>1332628</b>		
Chandrapur	3	33	-	3	1	-	-	37	25827	2	-	-	32	-	34	23104	-	-	-	-	-	-	-	-	-	71	48931		
Gadchiroli	2	9	-	-	-	++	-	9	9514	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	9514		
Gondia	4	4	-	4	-	-	-	8	6676	-	-	++	-	-	++	510	-	-	-	-	-	-	-	-	-	8	7186		
Sindhudurg	6	948	-	44	-	-	-	992	732626	335	-	110	-	-	445	534371	-	-	-	-	-	-	-	-	-	1437	1266997		
<b>Odisha</b>	<b>77(2)</b>	<b>-</b>	<b>979</b>	<b>201</b>	<b>2874</b>	<b>13266</b>	<b>14147</b>	<b>31467</b>	<b>88067035</b>	<b>2774</b>	<b>2351</b>	<b>312</b>	<b>6121</b>	<b>25925</b>	<b>7178</b>	<b>44661</b>	<b>62840646</b>	-	-	-	-	-	-	-	-	<b>76128</b>	<b>150907681</b>		
Keonjhar	48(1)	-	888	96	568	8161	12966	22679	62265061	2262	1707	137	3072	19614	5505	32297	42129292	-	-	-	-	-	-	-	-	54976	104394353		
Mayurbhanj	4	-	91	105	318	58	147	719	2818640	20	37	49	48	21	++	175	303798	-	-	-	-	-	-	-	-	894	3122438		
Sundargarh	25(1)	-	-	-	1988	5047	1034	8069	22983334	492	607	126	3001	6290	1673	12189	20407556	-	-	-	-	-	-	-	-	20258	43390890		
<b>Rajasthan</b>	<b>1</b>	<b>27</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>27</b>	<b>8172</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	-	-	-	-	-	-	-	-	<b>27</b>	<b>8172</b>		
Jaipur	1	27	-	-	-	-	-	27	8172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	8172		

## IRON ORE





Table - 6 (B) : (Concl.d.)

District	No. of mines	Lumps												Fines												Total Qty	Total Value		
		Below 55% Fe			55%-58% Fe			60%-62% Fe			62%-65% Fe & above			Below 55% Fe			55%-58% Fe			60%-62% Fe			62%-65% Fe & above					Total Qty	Total Value
		Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe	Fe					
<b>Jharkhand</b>	<b>19(1)</b>	<b>442</b>	<b>428</b>	<b>1411</b>	<b>483</b>	<b>3834</b>	<b>1461</b>	<b>8059</b>	<b>9757217</b>	<b>431</b>	<b>697</b>	<b>57</b>	<b>115</b>	<b>7026</b>	<b>2557</b>	<b>10883</b>	<b>9374909</b>	-	-	-	-	-	-	-	-	<b>18942</b>	<b>19132126</b>		
Singbhum																													
West	19(1)	442	428	1411	483	3834	1461	8059	9757217	431	697	57	115	7026	2557	10883	9374909	-	-	-	-	-	-	-	-	-	18942	19132126	
<b>Karnataka</b>	<b>55(7)</b>	<b>134</b>	<b>486</b>	<b>521</b>	<b>794</b>	<b>2263</b>	<b>608</b>	<b>4806</b>	<b>14521206</b>	<b>564</b>	<b>718</b>	<b>1083</b>	<b>2861</b>	<b>3043</b>	<b>94</b>	<b>8363</b>	<b>15288146</b>	<b>20</b>	<b>12000</b>	<b>13189</b>	<b>29821352</b>								
Bagalkot	1	-	29	-	-	-	-	29	34800	-	39	-	-	-	-	39	19700	-	-	68	54500								
Bellary	42(3)	63	243	267	756	2198	588	4115	13001391	76	304	947	2552	2753	94	6726	13248622	20	12000	10861	26262013								
Chitradurga	6(3)	34	101	202	38	65	20	460	1213201	430	372	136	299	290	-	1527	1948981	-	-	1987	3162182								
Tumkur	6(1)	37	113	52	-	-	-	202	271814	58	3	-	10	-	-	71	70843	-	-	273	342657								
<b>Madhya Pradesh</b>	<b>13(5)</b>	<b>79</b>	<b>5</b>	<b>20</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>104</b>	<b>100813</b>	<b>460</b>	<b>74</b>	<b>464</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>998</b>	<b>619037</b>	<b>-</b>	<b>-</b>	<b>1102</b>	<b>719850</b>								
Gwalior	2	++	-	-	-	-	-	++	747	1	-	-	-	-	-	1	735	-	-	1	1482								
Jabalpur	9(5)	28	5	13	-	-	-	46	24147	459	74	464	-	-	++	997	618302	-	-	1043	642449								
Sagar	2	51	-	7	-	-	-	58	75919	-	-	-	-	-	-	-	-	-	-	58	75919								
<b>Maharashtra</b>	<b>14</b>	<b>1021</b>	<b>11</b>	<b>10</b>	<b>9</b>	<b>-</b>	<b>-</b>	<b>1051</b>	<b>752247</b>	<b>131</b>	<b>121</b>	<b>84</b>	<b>83</b>	<b>-</b>	<b>-</b>	<b>419</b>	<b>550106</b>	<b>-</b>	<b>-</b>	<b>1470</b>	<b>1302353</b>								
Chandrapur	3	29	8	-	-	-	-	37	36009	21	++	-	-	-	-	21	15055	-	-	58	51064								
Gadchiroli	2	1	-	++	-	++	-	1	500	-	-	-	-	-	-	-	-	-	-	1	500								
Gondia	4	8	-	-	-	-	-	8	6672	23	-	-	-	-	-	23	7943	-	-	31	14615								
Sindhudurg	5	983	3	10	9	-	-	1005	709066	87	121	84	83	-	-	375	527108	-	-	1380	1236174								
<b>Odisha</b>	<b>74(3)</b>	<b>682</b>	<b>312</b>	<b>418</b>	<b>2228</b>	<b>14854</b>	<b>10545</b>	<b>29039</b>	<b>94033707</b>	<b>364</b>	<b>962</b>	<b>596</b>	<b>6881</b>	<b>23149</b>	<b>6022</b>	<b>37974</b>	<b>68138764</b>	<b>-</b>	<b>-</b>	<b>67013</b>	<b>162172471</b>								
Keonjhar	46(1)	560	125	135	352	9547	9888	20607	62108600	198	484	231	4003	17241	4550	26707	49912022	-	-	47314	112020622								
Mayurbhanj	4	87	187	224	149	68	97	812	3260686	73	116	28	47	2	++	266	293446	-	-	1078	3554132								
Sundargarh	24(2)	35	-	59	1727	5239	560	7620	28664421	93	362	337	2831	5906	1472	11001	17933296	-	-	18621	46597717								
<b>Rajasthan</b>	<b>1</b>	<b>32</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>32</b>	<b>9196</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>32</b>	<b>9196</b>								
Jaipur	1	32	-	-	-	-	-	32	9196	-	-	-	-	-	-	-	-	-	-	32	9196								

**Table – 7 : Production of Iron Ore, 2010-11 and 2011-12(P)**  
(By Frequency Groups)

Production Group (in tonnes)	No. of mines		Production for the Group (in '000 tonnes)		Percentage in total production		Cumulative percentage	
	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12
<b>Total</b>	<b>336(20)</b>	<b>294(24)</b>	<b>207157</b>	<b>167289</b>	<b>100.00</b>	<b>100.00</b>	<b>-</b>	<b>-</b>
Up to 50,000	114(7)	119(15)	1641	1489	0.79	0.89	0.79	0.89
50,001 - 100,000	38(5)	37(4)	3172	2903	1.53	1.74	2.32	2.63
100,001 - 500,000	103(5)	75(5)	28254	21560	13.64	12.89	15.96	15.52
500,001 - 1,000,000	30(1)	20	23513	14309	11.35	8.55	27.31	24.07
1,000,001 - 1,500,000	11(2)	9	15379	10796	7.42	6.45	34.73	30.52
1,500,001 - 2,000,000	15	12	26010	20921	12.56	12.51	47.29	43.03
2,000,001 and Above	25	22	109188	95311	52.71	56.97	100.00	100.00

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**Table – 8 (A) : Mine-head stocks of Iron ore at the beginning of the Year, 2011-12  
(By States/Grades)**

State	Lumps						Fines						Concentrates	Total Lumps, Fines & Concentrates	
	Below 55% Fe			60%-62% Fe			55%-58% Fe			60%-62% Fe					
	1920	1762	3053	7794	2812	23510	16275	24397	5276	25003	19219	6933			97103
Andhra Pradesh	336	32	35	2	168	.++	573	168	13	9	114	1	305	-	878
Chhattisgarh	.++	3	10	18	135	303	469	103	103	176	1404	387	2173	-	2642
Goa	606	304	223	202	7	-	1342	847	186	842	747	-	2950	17	4309
Jharkhand	264	39	85	64	599	-	1051	1233	19658	-	1113	838	7	22849	23900
Karnataka	490	444	1186	3135	2684	209	7148	6764	798	2584	4398	1860	22466	-	29614
Madhya Pradesh	59	33	2	9	-	-	103	266	73	254	13	-	606	-	709
Maharashtra	163	-	45	1	7	-	216	3	-	17	1	8	29	-	245
Odisha	2	5314	176	622	4194	2300	12608	6891	3579	1566	18546	10465	45725	-	58333
Rajasthan	.++	-	-	-	-	-	.++	-	-	-	-	-	.++	-	.++

**Table – 8 (B) : Mine-head stocks of Iron ore at the end of the Year, 2011-12(P)  
(By States/Grades)**

State	Lumps						Fines						Concentrates	Total Lumps, Fines & Concentrates			
	Below 55% Fe			58%-60% Fe			62%-65% Fe			55%-58% Fe					60%-62% Fe		
	3139	3164	1983	1998	7262	1669	19215	20983	32292	3163	25112	19522			3496	104568	31
Andhra Pradesh	605	19	26	2	93	++	745	283	5	-	1	189	1	479	-	1224	
Chhattisgarh	12	4	13	22	188	182	421	105	97	33	292	793	333	1653	-	2074	
Goa	512	253	242	133	2	-	1142	1723	509	224	260	210	-	2926	1	4069	
Jharkhand	42	81	95	68	658	-	944	581	19522	264	109	1193	1	21670	-	22614	
Karnataka	736	803	1373	1218	1752	354	6236	8620	1707	1513	2596	1750	179	16365	30	22631	
Madhya Pradesh	470	221	30	-	-	-	721	1168	1327	369	75	-	-	2939	-	3660	
Maharashtra	286	1	10	-	++	-	297	2	++	50	-	-	-	52	-	349	
Odisha	476	1782	194	555	4569	1133	8709	8501	9125	710	21779	15387	2982	58484	-	67193	
Rajasthan	.++	-	-	-	-	-	.++	-	-	-	-	-	-	-	-	.++	

## **MINING, MARKETING & TRANSPORT**

Iron ore mining is carried out by opencast method by manual, semi-mechanised and mechanised operations.

The method of mining and deployment of machinery vary from place to place depending upon characteristics of iron ore as per geological set up. Large mechanised mines are mostly in the public sector. Manual and semi-mechanised mines are mainly in private sector. Some mechanised mines in Goa, Jharkhand and Odisha are also operated by the private sector.

### **Manual Mines**

Generally, these mines are confined to float ores where mining is done by digging the ore with pickaxes, crowbars, chisels and spades. The mined material is screened manually to separate +10 mm float ore which is then stacked separately. The waste is backfilled into the pits. In some reef workings, 35-40 mm diameter holes are drilled to 0.6 m depth by hand-held jackhammers at a spacing of about 0.6 m and each hole is charged with 150-200 grammes gunpowder or special gelatine cartridges. Blasted tonnage per kg gunpowder is usually 2.5-3 tonnes. Blasted ore is manually loaded into trucks for transport to either railway sidings or to buyer's destination directly. Output per manshift (OMS) is normally between 1.5 and 2 tonnes.

### **Mechanised Mines**

Most of the mechanised mines are captive belonging to different steel plants and have been developed to meet their requirements. Mining is done by formation of systematic benches in overburden and ore. The height of the benches normally varies from 10 to 12 m and width up to 20 m in the ore. Drilling holes of 300 mm diameter and till 12 m depth by crawler drills and use of explosives, such as ANFO, SMS and emulsion

explosives for blasting are in practice. Loading is done by earth-moving machinery powered by diesel or electric engines, such as hydraulic excavators in the range from 1.9 cu m to 10 cu m. Ripper dozers and motor graders are also deployed for excavation and levelling purposes.

In some Goan mines, where ore is predominantly in powdery form, hydraulic shovels with boom height of 9 m are used for excavation and loading. Heavy-duty Ripper-Dozers are preferred for mining as Goan ores are soft. Height of the benches is restricted to 7 m for safe and efficient operations. Width of working benches is maintained at more than 15 m and bench slope is maintained at about 80°. The ore produced is transported to short distances by dumpers up to 40-tonne capacity. For longer distances and barge loading, dumpers up to 10-tonne capacity are used. The barges carry the ore to harbours. The ore from the barges is loaded to ships either through berth or through transshippers.

Almost all the public sector mines including Kiriburu, Barsua, Gua, Bailadila, Donimalai, Daitari and Dalli-Rajhara operated by SAIL, NMDC and OMC are fully mechanised. Kudremukh iron ore mine of KIOCL closed since December 2005 was also mechanised. In private sector, mines operated in Goa region and Tata Steel's captive mines are mechanised. Approximately, 90% iron ore production comes from mechanised mines. In order to achieve 50 million tpy capacity of production by 2014-15, NMDC has undertaken expansion of deposit 11B mine to 7 million tpy ROM on priority and its 80% work has been completed. In view of depleting reserves at Donimalai mine, construction of Kumaraswamy mine with 7 million tpy capacity is envisaged. The entire project has been planned to be executed in 6 packages and the project was scheduled to be completed by June 2013. NMDC has formed a joint venture company, namely, NMDC-CMDC Ltd to develop Bailadila Iron Deposit 13 and Deposit 4 as stand alone projects. Deposit 13 is proposed

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to have a 10 million tpy capacity, while Deposit 4 will supply raw material to the proposed 3 million tpy integrated steel plant at Nagarnar, Jagdalpur. However, forest clearance proposal for Deposit 13 has been returned by MoEF as the area is having high bio-diversity values. IIRBT, Kolkata has been engaged for undertaking Bio-diversity study for approaching to MoEF for restoration.

The processing of iron ore in the country involves crushing, screening, washing and in some cases beneficiation and agglomeration. Crushing and screening are adopted mainly for sizing the ore and also for removing the adherent gangue minerals. Dry and wet grinding is also resorted to in some cases.

The lumps and fines of iron ore are marketed after washing, screening and beneficiation. Fines are converted into sinters for use in steel plants while pellets made from concentrates/fines are predominantly exported and also are utilised for internal consumption in sponge iron units.

### **ENVIRONMENTAL FACTORS**

Afforestation, waste dump management, top soil management, management of sub-grade minerals, mechanical beneficiation, dust suppression, monitoring of water and air quality, vibration survey, publicity and propaganda are some common environmental restoration efforts pursued by all mechanised and semi-mechanised iron ore mines. Mining and beneficiation of ores carried out on large-scale cause environmental problems. A specific problem to iron ore mining is the disposal of tailings and other deleterious silica minerals and phosphorous. To safeguard the environment and prevent ecological degradation, thrust has been laid on green belt development, solid waste management, monitoring of liquid and air effluents and other crucial environmental parameters.

Goa region is prone to siltation of agricultural fields, nallahs, riverbeds and creeks due to wash

off from iron ore dumps in rainy season. Loss of crop yield and reduction in fish population in streams and navigation difficulties are the problems due to silting. To overcome the problems, check dams and water filter beds at higher contours have been constructed. Tailing ponds are also being maintained at some mines. Afforestation is the mainstay in reclaiming the mined out areas in Goa. In a few cases, pits are used as water reservoir for pisciculture.

In Bellary-Hospet area, Karnataka, dust concentration (suspended particulate matter) is the main environmental problem. Environmental concerns had led to closing down of mining operations at Kudremukh iron ore mine of KIOCL in December 2005, in compliance with the order passed by the Hon'ble Supreme Court in this regard. In Bailadila sector, Chhattisgarh, forest is fairly widespread and dense, supported by good rainfall and rich flora and fauna. The deforestation taking place due to mining and waste dumping needs to be compensated continuously by afforestation at suitable slopes and in township areas. In Jharkhand, afforestation of land is the main recourse adopted for reclamation of degraded lands or improvement in land uses.

### **INDUSTRY**

Iron ore is the basic raw material used for making pig iron, sponge iron and finished steel. The iron ore is used mainly in blast furnaces, mini-blast furnaces (MBF), DRI and sintering and pelletisation plants.

#### **Pelletisation**

In general, the pelletisation process involves mixing of iron ore and required limestone with water which later is ground in ball mills to the desired size. The discharged slurry from ball mills is filtered in pressure filters. The filter cake from filters is then mixed with dry-ground coke fines to which bentonite is mixed in suitable proportion to

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form green pellets in pelletising discs. The coke fines and bentonite are ground separately. The green pellets are then dried, heated and fired in indurating machine to produce iron ore pellets. There is an increasing trend for utilisation of pellets or sinters in the recent years. The use of pellets as feed in the blast furnace has several advantages because of their uniform size, known composition and strength.

The thirteen pelletisation plants in the country about which information is available have a total capacity of 41.5 million tonnes per annum. The pellet plant of JSW Steel Ltd (formerly Jindal Vijayanagar Steel Ltd) possesses the capacity to manufacture 9.2 million tpy pellets across its two units. This infrastructure comprises India's first dry process pelletising plant, a technology ideally suited to soft iron in the Bellary-Hospet region. Jindal Steel & Power Ltd has a capacity of 4.5 MTPA for different grades of pellets. The plant is of dry grinding, with recuperation type of straight grade hearth layer. In addition to the existing 4.5 MTPA Pellet Plant, the Company is in the process of setting up one more 4.5 MTPA Iron Ore Pellet Plant with wet grinding process at Barbil. Detailed engineering agency has been finalised and critical packages ordering is in progress.

Essar Steel Pelletisation plant at Visakhapatnam has installed capacity of 8 million tonnes per annum. After meeting its own requirement at its hot briquetted iron (HBI) plant in Hazira, Gujarat; Essar supplies pellets to both domestic and international markets. The plant has an assured supply of high quality iron ore from 8 million tpy captive beneficiation plant at Bailadila, Chhattisgarh. The iron ore slurry is pumped through 267 km pipe-line, the second largest in the world, to the pellet plant at Visakhapatnam.

Integrated pelletisation facility of 12 million tpy is being set up at Paradip, Odisha, in two phases by Essar Steel. Successful commissioning

of Phase I (6 million tpy) has been completed, while second phase is under construction. After completion of second phase, the capacity of pellet plant, at Paradip, Odisha, will be scaled up to 12 million tpy and the total pellet plant capacity of the company may become 20 million tpy.

Owing to environmental concerns and consequent to the Hon'ble Supreme Court's order thereupon effective from 31st December, 2005, mining activity at Kudremukh was halted by KIOCL. Alternatively, the Government's decision to allot iron ore from Donimalai deposits to KIOCL's Mangalore Pellet Plant which has a capacity 3.5 million tonnes pellets per annum, has furthered the prospects for pellet production. An arrangement has also been made to transport fine ore by train from Bellary-Hospet region to the Pellet Plant at Mangalore. On 22.9.2011, KIOCL signed MoU with Kerala State Industrial Development Corporation (KSIDC) for mining and setting up beneficiation and pelletisation plant at Kasargod/ Kozhikode districts in the state of Kerala.

NMDC is in the process of setting up two Pellet plants, one at Donimalai in Karnataka with 1.2 million tpy capacity for making pellets by using the slimes of Tailing Dam of Donimalai, and the second at Nagarnar with 2 million tpy capacity, along with 2 million tpy Beneficiation Plant at Bachelu interconnected by a Slurry Pipeline between Bachelu and Nagarnar in Chhattisgarh.

The Orissa Minerals Development Co. Ltd (OMDCL) is planning to set up a 2 million tpy pellet plant along with a beneficiation plant at Barbil, Odisha. The pelletisation plants of Chowgule & Co. Pvt. Ltd at Pale, Goa is not in operation. Tata steel is in the process of setting up of a pellet plant with a capacity of 6 million tpy. JSW Ispat Steel Limited is planning for setting up of a pellet plant with capacity of 4 million tpy at Dolvi Steel Complex. The project is expected to be commissioned by September 2014.

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To encourage beneficiation and pelletisation of iron ore fines in the country, basic customs duty on the plants and equipments required for initial setting up or substantial expansion of iron ore pellets plants and iron ore beneficiation plants has been reduced from 7.5 % to 2.5% w.e.f 17th March 2012.

### Sintering

The sintering plants in the country about which information is available have a total capacity of about 60.47 million tonnes per annum. All integrated steel plants except IISCO Steel Plant (ISP) have their own sintering plants. However, production unit of Sinter Plant will also become operational at SAIL's IISCO Steel Plant at Burnpur. Sinter plants receive raw material mostly from their captive mines. Sesa Goa Ltd has successfully commissioned the associated 0.8 million tpy Sinter Plant that would enable the Pig Iron Division (PID) to partially meet its iron ore requirement with sintered iron ore fines, resulting in significant cost savings and increasing efficiency.

Pellets along with sinters have resulted in growth in utilisation of iron ore fines and blue dust. Information on capacity and production of pellets and sintering plants is given in Table-9.

### Pig Iron

Pig iron is one of the basic raw materials required by foundry and casting industry for manufacturing various types of castings for the engineering sector. The post-liberalisation regime has witnessed expression of interest from a large number of entrepreneurs for setting up mini-blast furnaces for production of hot metal/pig iron. Commissioned pig iron units are mostly of stand alone type. Three units, namely, M/s Usha Martin Industries Ltd, M/s Jindal Steel & Power Ltd and Ispat Industries Ltd have integrated mini-blast furnaces (MBF) and are using the hot metal in the charge-mix directly for manufacturing steel

through electric arc furnace (EAF). Two units, in Karnataka (M/s Hospet Steel, a joint venture of Kalyani & Mukand) and in Tamil Nadu (M/s Southern Iron & Steel Company Ltd) have integrated their MBF with energy optimising furnace (EOF) for manufacturing steel. The excess hot metal produced by them supplements the pig iron production. Tata Metalliks Ltd, a subsidiary of Tata Steel, has been manufacturing pig iron at its plants located at Kharagpur in West Bengal and Redi in Maharashtra and has been catering to the domestic demand.

At JSW Steel Ltd in Karnataka, besides MBF, a Corex Plant (alternative to conventional MBF/BF) supplements the production of pig iron along with downstream steel making facilities. Erstwhile Ispat Industries Ltd's subsidiary Ispat Metallics (India) Ltd had set up a large blast furnace to produce 2 million tonnes per annum hot metal/pig iron at Dolvi, Raigad in Maharashtra. The excess hot metal, after meeting the requirements of the new parent company, viz, JSW Ispat Ltd, for manufacturing steel is made available as pig iron for sale. M/s Neelachal Ispat Nigam Ltd had commissioned a blast furnace with 1.1 million tpy hot metal capacity and started production of pig iron at Duburi in Jajpur district of Odisha. Visa Steel Ltd commissioned a pig iron plant in March, 2005, having a capacity of 2.25 lakh tonnes per annum at Kalinganagar in Odisha. Sesa Goa Limited, a largest producer and exporter of iron ore in the private sector, has commissioned its third blast furnace of 450 m<sup>3</sup> capacity with the hot metal production from August 17, 2012. With this commissioning, Sesa's pig iron plant becomes the largest producer of low phosphorous pig iron in India with an installed capacity of 0.625 million tpy which has increased from earlier capacity of 0.250 million tpy. The Company has also successfully completed the expansion of its metallurgical coke capacity from 0.28 million tpy to 0.56 million tpy along with the 30 MW waste heat recovery power plant.

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The gross pig iron manufacturing capacity in the country was about 5.941 million tonnes. Post-liberalisation, with establishment of several units in the private sector, not only imports have drastically reduced, the country has turned out to be a net exporter of pig iron. Total production of pig iron in the country in 2011-12 was 5.78 million tonnes. The private sector accounted for 91% of total production for sale of pig iron in the country in 2011-12 (provisional).

### Sponge Iron

India is the world's largest producer of sponge iron with a host of coal based units in the private sector, located in the mineral - rich states of the country. Over the years, the coal based route has emerged as a key contributor and accounted for 76% of total sponge of iron production in the country. The growth of sponge iron industry during the last few years in terms of capacity and production has been substantial. The installed capacity of sponge iron increased from 1.52 million tonnes per annum in 1990-91 to around 35.31 million tonnes in 2011-12 and further increased to 37.31 million tonnes in 2012-13. Production has increased from 0.9 million tonnes in 1990-91 to 20.37 million tonnes in 2011-12. There were 324 sponge iron units in the country. Out of these, 3 gas-based units had a capacity about 8 million tonnes per annum and the rest were coal-based units. JSPL has set up a 2 million tpy gas-based unit at Raigarh, Chhattisgarh. The DRI plant was completed in 2011 using gas produced by coal gasification.

Sponge iron is a good substitute for scrap which is required by the electric arc furnaces and induction furnaces or mini-steel plants in the country. The availability of indigenous metal scrap is scarce, and therefore, to meet the domestic demand, scrap is usually imported. Sponge iron is a viable alternative for scrap and is produced by direct reduction of high-grade iron ore or pellets to metallic iron ore in solid state by

using coal or natural gas as reductant. It is also known as Direct Reduced Iron (DRI) or Hot Briquetted Iron (HBI).

### Iron & Steel

The details of the Iron & Steel Industry are provided in the Review on "Iron & Steel and Scrap".

### Ferro-alloys

Iron is an important constituent of ferro-alloys, like ferro-manganese (high carbon, medium carbon and low carbon), ferro-silicon, ferro-chrome (high carbon and low carbon)/charge-chrome, ferro-molybdenum, ferro-vanadium, ferro-tungsten, ferro-silicon-magnesium, ferro-aluminium, ferro-silicon-zirconium, ferro-titanium, etc. Ferro-alloys in turn are either used in steel industries to impart some special qualities or are exported. Ferro-alloys Industry has an annual production capacity of over 4.65 million tonnes. The production was almost 2.79 million tonnes and 3.00 million tonnes in 2010-11 and 2011-12, respectively. The details about the ferro-alloys industry are provided in the Review on 'Ferro-Alloys'.

### Cement

Iron ore lumps and powder containing +58% Fe, are normally used in the Cement Industry as they improve burning properties, impart colour and balance the composition of the mix. Further details about the Cement Industry are provided in the Review on 'cement'

### Coal Washeries

Magnetite ore is used as heavy media in coal washeries. There are 18 washeries for coking coal and 34 washeries for non-coking coal with 29.69 million tpy and 101.55 million tpy installed capacity, respectively, during 2011-12. Details on the coal washeries are provided in the Review on 'Coal & Lignite'.



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**Table – 9 : Installed Capacity & Production of Pellets/Sinters, 2011-12  
(By Plants)**

(In '000 tonnes)

Name & location of plant	Annual installed capacity	Production		Iron ore fines consumed		General specifications of concentrates/fines used
		2010-11	2011-12	2010-11	2011-12	
<b>A) Pellet Plants :</b>						
i) KIOCL Ltd, Panambur, Mangalore, Karnataka.	3500	2124	1710	2119	1710	Fe 64% , SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> 6% (max), S 0.05%, P 0.08% <sup>2</sup> (max), Size - 10 mm.
ii) Mandovi Pellets Ltd, Near Borim Bridge, Shiroda, Goa – 403 103.	1800	NA	NA	NA	NA	Fe 62%, SiO <sub>2</sub> 2 to 3.5%, Al <sub>2</sub> O <sub>3</sub> 1.35 to 2%, Size -10 mm.
iii) JSW Steel Ltd, Karnataka.	9200	3620	3117	8026	11891	Fe 62%, Size -10 mm
iv) Essar Steel Ltd, Visakhapatnam, Andhra Pradesh.	8000	NA	NA	NA	NA	NA
v) Essar Steel Ltd, Paradip Port, Odisha.	6000	NA	NA	NA	NA	NA
vi) Jindal Steel & Power Ltd	4500	2787	3737	NA	NA	NA
vii) Arya Iron and Steel Co. Pvt. Ltd Matkabeda, Barbil, Distt Keonjhar, Odisha.	1200	813	770	893	880	NA
viii) Sarda Energy and Minerals Ltd, Siltara Raipur.	600	348	109	NA	NA	NA
ix) Rexon strips Ltd, Rourkela.	300	NIL	NIL	NA	NA	NA
x) Godawari Power & Ispat Ltd	600	NA	NA	NA	NA	NA
xi) BMM Ispat, Karnataka.	1200	NA	NA	NA	NA	NA
xii) Brahmani River Pellets.	4000	NA	NA	NA	NA	NA
xiii) Ardent Steel Ltd, Odisha.	600	NA	301	NA	344	NA
<b>B) Sintering Plants :</b>						
i) Bokaro Steel Plant, Jharkhand.	6900	4717	4603	3898	3122	Fe 63.88% (max), SiO <sub>2</sub> -5.19% max., Al <sub>2</sub> O <sub>3</sub> 2.69% (Av), Size -3 mm.
ii) Bhilai Steel Plant, Bhilai, Chhattisgarh.	6334	8345	NA	5603	NA	Fe 62.6% (min), Size -0-10 mm or <10% & 1 mm or >75%.
iii) Durgapur Steel Plant, West Bengal.	3009	2915	2845	2340	2172	Fe >63%, SiO <sub>2</sub> 2.17 to 4.54%, Al <sub>2</sub> O <sub>3</sub> 2.57 to 3.03%, Size +10 mm <10% & 1 mm >75%.
iv) Rourkela Steel Plant, Odisha.	3070	3360	3450	2608	2738	Fe 62.80%, SiO <sub>2</sub> 2.28%, Al <sub>2</sub> O <sub>3</sub> 3.04%, Size -10 mm.
v) Visakhapatnam Steel Plant, Andhra Pradesh.	5256	5126	NA	3800	NA	Fe 64.50% (min), Al <sub>2</sub> O <sub>3</sub> 3.0% (max), SiO <sub>2</sub> 3%, (max), Size (-) 10 mm.
vi) Tata Steel Ltd, Jamshedpur, Jharkhand.	7500	7444	NA	7154	NA	Fe 63 %, Size +10 mm.

(Contd.)

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Table - 9 (Concl'd.)

Name & location of plant	Annual installed capacity	Production		Iron ore fines consumed		General specifications of concentrates/fines used
		2010-11	2011-12	2010-11	2011-12	
vii) IDCOL, Kalinga, Keonjhar, Odisha.	8	NA	NA	6	NA	Fe 62% min., Al <sub>2</sub> O <sub>3</sub> + SiO <sub>2</sub> 8% max., Moisture 4%, SiO <sub>2</sub> 1.5-5%.
viii) Usha Martin Ltd; (Usha Alloys and steel Division); Jamshedpur.	715	246	617	NA	NA	NA
ix) JSW Ispat Steel Ltd, Dolvi, Raigad, Maharashtra 02 107.	2800	2004	2229	1324	1377	NA
x) Neelachal Ispat Nigam Ltd, Kalinga Nagar, Industrial Complex, Duburi-755 026, Dist. Jajpur, Odisha.	1711	1000	1019	812	918	Fe 63% (min.), Size + 10 mm
xi) SISCO, Mettur, Tamil Nadu.	127.5	NA	NA	NA	NA	NA
xii) Jindal Steel & Power Ltd, Raigarh, Chhattisgarh.	2300	NA	NA	NA	NA	NA
xiii) Jayaswal Necco Industries Ltd, Siltara Growth Centre, Raipur-493 221, Chhattisgarh.	640	638	869	425	607	Fe 56.5 %, CaO 9.0%, MgO 2.25%.
xiv) Bhushan Power & Steel Ltd, Sambalpur, Odisha.	1000	NA	NA	NA	NA	NA
xv) JSW Steel Ltd Salem works , Pottaneri, Salem, TN.	1190	919	1155	458	628	NA
xvi) Kirloskar Ferrous Industries Ltd, Bevinahalli, Hitnal, Karnataka.	500	NA	65	564	396	NA
xvii) Rashmi Metalliks Ltd, Shyamraipur, West Midnapore, WB.	384	85	221	86	220	NA
xviii) Sona Alloys Pvt. Ltd, Lonanad, MIDC, Maharashtra.	490	NA	333	NA	246	NA
xix) Sunflag Iron and Steel Co. Ltd, Bhandara, Nagpur, Maharastra.	364	333	340	430	405	NA
xx) JSW Steel Ltd; Vijayanagar works, Vidyanagar -583175, Tornagallu, Bellary, Karnataka.	12950	3884	7886	8026	11891	NA
xxi) BMM Ispat, Karnataka.	2500	NA	NA	NA	NA	NA
xxii) SBQ Steel Ltd. Guddur, Nellore, AP.	240	NA	161	NA	80	NA
xxiii) Kalyani Gerdau Steel Ltd., Tadpatri, Anantpur, A.P.	484	NA	100	NA	86	NA

*As per Joint Plant Committee ( Report of the working Group on Rationalisation of Iron Ore Exports and Beneficiation and Pelletization of Iron Ore Fines), the total annual installed capacity of Pellets Plants in the year 2012 is about 48.958 million tonnes and that of sinters plant is 60.539 million tonnes in the year 2012-13.*

IRON ORE

**USES & SPECIFICATIONS**

Iron ore is mainly used for manufacturing of pig iron, sponge iron and steel. It is also used in cement, coal washeries, ferro-alloys, foundry, vanaspati and glass industries. The specifications of iron ore consumed by major sponge iron plants are furnished in Table - 10 and by major steel plants in Table - 11.

**CONSUMPTION**

In 2011-12, about 110.98 million tonnes iron ore was consumed in various industries like iron & steel, sponge iron, ferro-alloys, alloy steel, coal washery and cement. Iron & steel including sponge iron industries were major consumer of iron ore and accounted for over 98% of its consumption. Plantwise consumption of iron ore in steel plants is furnished in Table-11. Industrywise consumption of iron ore from 2009-10 to 2011-12 is given in Table-12.

**Table – 10 : Specifications of Iron Ore Consumed by Major Sponge Iron Plants**

Sl. No.	Name of the Plant	Size	Fe	Specifications		
				Al <sub>2</sub> O <sub>3</sub> + SiO <sub>2</sub>	P	S
1.	Orissa Sponge Iron Plant	5-18 mm	65% min	4.5% max	0.03% max	N. A.
2.	Welspun Max Steel Ltd,	9-16 mm	66%	2.6% max	0.05%	0.01%
3.	Sunflag Iron & Steel Ltd	5-20 mm	67.5%	–	–	–
4.	NMDC Ltd. (Sponge iron unit)	6-20 mm	55-58% & 64-66%	–	–	–
5.	Essar Steel Ltd	10-40 mm	67%	2.60% max	0.05%	0.01%
6.	Jindal Steel & Power Ltd,	10-30 mm	65% min	3% max (SiO <sub>2</sub> )	0.05%	–
7.	Tata Sponge Iron Ltd	5-18 mm	65% min	5% max	–	–
8.	Steel Exchange India Ltd	10-40 mm	62%	–	–	–
9.	Sarda Energy & Minerals Ltd.	5-18 mm	65-66%	–	–	–
10.	OCL Iron & Steel Ltd.,	Sized	62% min	–	–	–
11.	Nalwa Steel & Power Ltd	5-20 mm	63% min	–	–	–
12.	Shri Bajrang Power & Ispat Ltd	5-18 mm	64% min	–	–	–
13.	Jai Balaji Industries Ltd	5-18 mm 10-30 mm 10-150 mm	65% – –	5% – –	0.05% – –	0.03% – –

IRON ORE

**Table – 11 : Consumption and Specifications of Iron Ore, 2010-11 and 2011-12  
(By Steel Plants)**

(In '000 tonnes)

Steel plant	Iron ore consumption				Specifications
	2010-11		2011-12		
	Lumps	Fines	Lumps	Fines	
Bokaro Steel Plant, Bokaro, Jharkhand.	2526	3898	2566	3122	Lumps : Fe 63.40%, SiO <sub>2</sub> 2.25%, Al <sub>2</sub> O <sub>3</sub> 2.39%, Size-10- 40 mm. Fines : Fe 62.24%, SiO <sub>2</sub> 3.36%, Al <sub>2</sub> O <sub>3</sub> 3.45%
Bhilai Steel Plant, Bhilai, Chhattisgarh.	3160	5603	NA	NA	BF : Fe-64% (min), Size-10 - 40 mm. SMS : Fe 66%, (min), Size- 40 - 100 mm. Sinters: Fe 62.6% (min), Size - 0-10 mm.
Rourkela Steel Plant, Rourkela, Odisha.	1177	2608	1159	2738	Lumps : Fe 63.54%, SiO <sub>2</sub> 1.78%, Al <sub>2</sub> O <sub>3</sub> 2.48%, Size- 10 to 50 mm, Fines:Fe 62.21%, SiO <sub>2</sub> 2.96%, Al <sub>2</sub> O <sub>3</sub> 3.01%, Size -10 mm
Durgapur Steel Plant, Durgapur, West Bengal.	1134	2340	1100	2172	Lumps : Fe 62.48%, Al <sub>2</sub> O <sub>3</sub> 2.42%, Size- 10 - 50 mm. Fines : Fe 62.8%, SiO <sub>2</sub> 2.28%, Size -10 mm.
IISCO Steel Plant, Burnpur, West Bengal.	NA	NA	845	NA	Lumps : Fe 62.86%, SiO <sub>2</sub> 2.56%, Al <sub>2</sub> O <sub>3</sub> 2.56% (max.), Size - 10-40 mm .
Visvesvaraya Iron & Steel Ltd, Bhadravati, Karnataka.	231	NA	223	NA	Fe 62.97%, SiO <sub>2</sub> 2.85%, Al <sub>2</sub> O <sub>3</sub> 2.43%, Size- 10-40mm.
Visakhapatnam Steel Plant, Visakhapatnam, Andhra Pradesh.	6012	3800	NA	NA	Lumps: Fe 65.5% min, Al <sub>2</sub> O <sub>3</sub> 1.60% max, SiO <sub>2</sub> 2.25% max, Size 10-150 mm for BF, Fines : Fe 64.5% min, Al <sub>2</sub> O <sub>3</sub> 3.0%, SiO <sub>2</sub> 3.00% max, Size - 10 mm.
Tata Steel Ltd, Jamshedpur, Jharkhand.	4101	7154	NA	NA	Fe 66.63, Size + 10 mm

(Contd.)

IRON ORE

Table - 11 (Concl'd.)

Steel plant	Iron ore consumption				Specifications
	2010-11		2011-12		
	Lumps	Fines	Lumps	Fines	
IDCOL, Kalinga Iron Works, P.O. Matkarmbeda -758 036, Barbil, Distt. Keonjhar, Odisha.	26	-	-	34	Fe 65%, SiO <sub>2</sub> + Al <sub>2</sub> O <sub>3</sub> 5% max, Size - 10 to 30 mm.
Visa Steel Ltd, Kalinga Nagar, Industrial Complex, At & Post Jakhapura Jajpur, Odisha	73	NA	NA	NA	Fe - 62%-64%, Size- 10 - 40 mm in BF Fe- 62% -64%, Size in DRI : 5-18 mm, 10-40 mm & 10-180 mm.
Neelachal Ispat Nigam Ltd, Kalinga Nagar, Industrial Complex, Duburi -755 026, Jajpur, Odisha.	234	812	96	917	Lumps : Fe 65% (min) Size + 40 mm, Fe 63% (min), Size +10 mm.

**Table – 12: Reported Consumption of Iron Ore\* 2009-10 to 2011-12  
(By Industries)**

(In tonnes)

Industry	2009-10	2010-11(R)	2011-12(P)
<b>All Industries</b>	<b>96955300</b>	<b>105231700</b>	<b>110982400</b>
Alloy steel	290900(3)	2600(2)	2600(2)
Cement	1294600(58)	1520600(71)	1473100(71)
Coal washery **	33900(15)	33900(15)	35200(18)
Ferro-alloys	3300(4)	3700(4)	3700(4)
Iron & steel	56417600(17)	60935800(22)	64215900(23)
Sponge iron	38912000(e)	42734400(e)	45251200(e)
Others (foundry, glass, refractory)	3000(8)	700(8)	700(8)

Figures rounded off.

Figures in parentheses denote the number of units in organised sector reporting\* consumption.

(\*Includes actual reported consumption and/or estimates made wherever required).

\* Does not include consumption of pellets & sinters; includes consumption of iron ore(fines) consumed in the production of pellets & sinters.

\*\* Magnetite.

## IRON ORE

### TRADE POLICY

As per the Foreign Trade Policy (FTP) for 2009-2014 and the amended Export and Import Policy incorporated in the FTP, the present export

policy for iron ore is furnished below in brief. The imports of iron ore lumps, fines, concentrates and agglomerated pellets are freely allowed.

HS Code	Item	Export Policy	Nature of restrictions
26011100	Iron ore other than those specified under Free category	STE	Export through MMTC
26011100	Iron ore of Goa origin when exported to China, Europe, Japan, South Korea and Taiwan, irrespective of the Fe content	Free	
26011100	Iron ore of Redi origin supplied to all markets, irrespective of the Fe content	Free	
26011100	All iron ores of Fe content up to 64%	Free	
26011150	Iron ore concentrate prepared by beneficiation and/or concentration of low-grade ore containing 40% or less iron produced by KIOCL Ltd	STE	Export through KIOCL Ltd, Bengaluru
26011210	Iron ore pellets manufactured by KIOCL Ltd	STE	Export through KIOCL Ltd, Bengaluru
26011290	Rejects of iron ore chips and like generated from the manufacturing process after using imported raw material	Free	(i) The quantity of export of such rejects shall not be more than 10% of the imported raw materials  (ii) The size of the rejected pellets chips (fines) shall be less than 6 mm.

*Source: Export-Import Policy, 2009-2014.*

*STE: State Trading Enterprise*

### WORLD REVIEW

The world reserves of crude iron ore are estimated to be around 170 billion tonnes. The iron content in the iron ore reserves is estimated to be around 80 billion tonnes. The world reserves of crude iron ore and iron content by principal countries is given in Table - 13.

In 2011, the world production of iron ore was 3,012 million tonnes as against 2,620 million tonnes in the previous year. China, Australia, Brazil, India and Russia were the principal producers. These five countries account for about 85% of the world production of iron ore. The world production of iron ore is given in Table-14.

#### Australia

In 2011, BHP Billiton Ltd produced 149 million tonnes, a 16% increase against 128 million tonnes in 2010. BHP Billiton continued work on its Rapid Growth Project-5 (RGP-5) in Western

Australia. The company also approved an additional \$7.4 billion to continue expansion of its Western Australia iron ore operations which include development of the Jimblebar Mine and rail links and adding two berths and shiploaders, a blending facility, a car dumper, conveyor system, and rail lines at its Port Hedland site.

Rio Tinto continued an expansion of its operations in Western Australia. The company had planned to maintain capacity at its Marandoo Mine in Pilbara and to expand its port facilities at its Cape Lambert Port. Rio Tinto also continued work to increase capacity at its Pilbara iron mine, and debottleneck and upgrade its port facilities at Dampier.

In 2011, Fortescue Metals Group LLC shipped 46.5 million tonnes of ore and commissioned its Christmas Creek ore processing facility at the Chichester Hub and made its first shipments from its joint venture at the Nullagine Mine near the Christmas Creek operation.

## IRON ORE

### Brazil

In 2011, Vale S.A (Rio de Janeiro) reported that its iron ore production increased by 5% to 323 million tonnes (including Vale's 50%-joint venture with BHP Billiton in Samarco) against 308 million tonnes in 2010. Vale is planning to construct a 9.25 million tpy pelletizing plant at its Samarco operation. Brazil's iron ore production is likely to hit 820 million tonnes by 2016.

### Canada

Arcelor Mittal is planning to increase its ore output of Mont-Wright mine from 14 million tonnes to 24 million tonnes by 2012 & also to increase its iron ore pellet production of its Port-Cartier, Quebec plant from 14 million tonnes to 24 million tonnes. Labrador Iron Mines Holdings Ltd (LIM) began mining at its James Mine near Schefferville, Labrador. The company shipped 1.21 million tonnes of ore for processing to the Silver Yards processing plant which was commissioned in June 2011. LIM also made refinements to the Silver Yards plant to increase output of fines and ultra-fines. .

### Guinea

Rio Tinto entered into an agreement with the Government of Guinea regarding ownership of the Simandou iron ore deposit and retained ownership of blocks 3 and 4 of the original four block prospect. The Government of Guinea retained up to a 35% ownership in the project, an increase from the original 20% interest. Vale controlled a majority share of Blocks 1 and 2 of the Simandou deposit.

### Liberia

Arcelor Mittal began producing iron ore from its Nimba County mine and produced 1.3 million tonnes of ore in 2011 and plans were being reviewed to eventually expand mine production to 15 million tonnes by 2015.

### Malaysia

Vale is constructing a distribution center near Telak Rubiah, which will include a pelletizing plant, warehouses, and a shipping terminal with sufficient depth for Valemax vessels, dry bulk

carriers designed to Vale's specifications with a capacity of 400,000 dead weight tonnes. The center is expected to be completed in 2014.

### Oman

Vale began producing direct reduction pellets at its pelletizing plant in the Sohar industrial complex which contained two pelletizing units, each with a capacity of 4.5 million tpy. At the year end, one unit was operating at full capacity while the other had not yet reached full capacity. The complex was designed as a distribution center with an annual production capacity of 40 million tpy when fully operational.

### South Africa

Anglo American plc began shipping lump iron ore from its Kolomela Mine and its Production was expected to be 9 million tpy when fully operational.

**Table – 13 : World Reserves of Iron Ore  
(By Principal Countries)**

(In million tonnes)

Country	Reserves	
	Crude ore	Iron content
<b>World : Total (rounded)</b>	<b>170000</b>	<b>80000</b>
Australia	35000	17000
Brazil	29000	16000
Canada	6300	2300
China	23000	7200
India*	7000	4500
Iran	2500	1400
Kazakhstan	2500	900
Mauritania	1100	700
Mexico	700	400
Russia	25000	14000
South Africa	1000	650
Sweden	3500	2200
Ukraine	6500	2300
USA	6900	2100
Venezuela	4000	2400
Other countries	12000	6000

*Source: Mineral Commodity Summaries, 2013.*

*\* India's resources of iron ore as per UNFC system as on 1.4.2010 (P) are estimated at 28.52 billion tonnes of ore.*

## IRON ORE

**Table – 14 : World Production of Iron ore  
(By Principal Countries)**

(In million tonnes)			
Country	2009	2010	2011
<b>World : Total</b>	<b>2275</b>	<b>2620</b>	<b>3012</b>
Australia	394	433	488
Brazil	331	372	460
Canada *	32	37	34
China	880	1078	1327
India **	219	208	167
Iran	32	36	48
Kazakhstan	46	50	52
Mexico	18	21	19
Moritania	10	11	11
Russia	92	95	104
South Africa@	55	59	58
Sweden	18	25	26
Ukraine	66	78	81
USA	27	49	54
Venezuela	14	14	16 <sup>(e)</sup>
Other countries	41	54	69

*Source: World Mineral Production, 2007-2011.*

@ Including by-product magnetite.

\*including by-product iron ore.

\*\* India's production of iron ore in 2009-10, 2010-11 and 2011-12 was 218.55 million tonnes, 207.16 million tonnes and 167.29 million tonnes, respectively.

**Table – 15 : World Production of Pig Iron  
(By Principal Countries)**

(In '000 tonnes)			
Country	2009	2010	2011
<b>World : Total</b>	<b>978000</b>	<b>1106000</b>	<b>1159000</b>
Brazil	25135	30898	32600 <sup>(e)</sup>
China	552835	597333	629693
France	8104	10137	9698
Germany	20104	28560	27943
India	61677	64987	66460
Iran	10760	10532	12670
Japan	66943	82283	81028
Korea, Rep. of	27475	35065	42213
Mexico	8065	10075	10473
Russia	43900	48200	48200
Ukraine	25683	27366	28878
USA	19018	26843	29000
Other countries	108301	133721	140144

*Source: World Mineral Production, 2007-2011.*

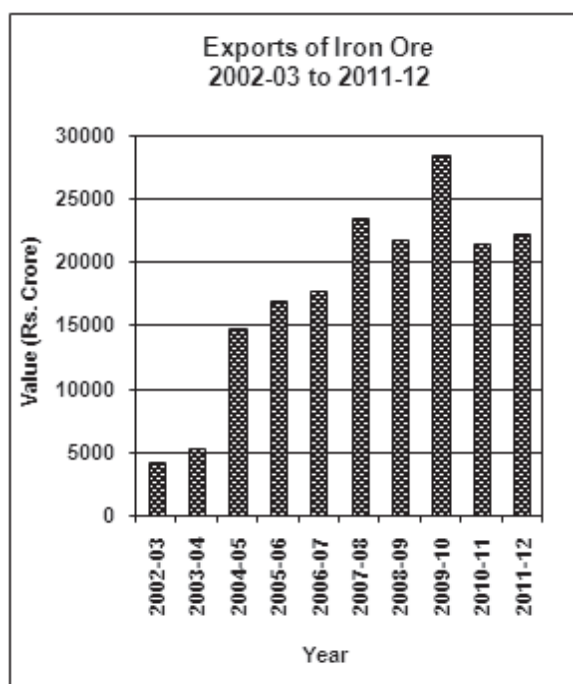
## FOREIGN TRADE

### Exports

Exports of iron ore increased to 47.15 million tonnes in 2011-12 from 46.89 million tonnes in the previous year. In terms of value too, the iron ore exports rose to ₹ 22,184 crore in 2011-12 from, ₹ 21,41 crore in 2010-11. The exports in 2011-12 in terms of volume comprised iron ore fines (85%), iron ore lumps (14%), and iron ore non-agglomerated concentrates & iron ore pellets (1%). Exports were mainly to China (93%), Japan (4%), and Korea (2%) (Tables - 16 to 21).

### Imports

Imports of iron ore were 978 thousand tonnes in 2011-12 as compared to 1,867 thousand tonnes in the previous year. The imports in 2011-12 comprised iron ore pellets (82%), fines lumps, and iron ore pyrites, etc. The Iron was imported from Ukraine, Russia, Bahrain, South Africa, Belgium, Senegal, Indonesia, Mali, Finland and China (Tables-22 to 27).





IRON ORE

**Table – 16 : Exports of Iron ore : Total  
(By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>46890</b>	<b>214156853</b>	<b>47153</b>	<b>221844034</b>
China	42715	198997679	43795	200997251
Japan	1273	5329960	1941	12639629
Korea, Rep. of	857	4058270	841	4775967
Netherlands	160	629342	217	1532953
Bangladesh	++	100	158	1138963
Hong kong	-	-	53	208995
Australia	1	6772	26	163064
Pakistan	-	-	25	121372
Italy	-	-	27	99111
UAE	1603	3940637	24	91258
Other countries	281	1194093	46	75471

**Table – 17 : Exports of Iron ore : Lumps  
(By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>3299</b>	<b>12366761</b>	<b>6840</b>	<b>28122587</b>
China	2757	10210859	6531	26651957
Japan	281	1222486	123	852733
Korea, Rep. of	68	389518	140	547446
Qatar	-	-	39	42079
Italy	-	-	5	16675
Unspecified	-	-	2	11697
Other countries	193	543898	-	-

**Table – 18 : Exports of Iron ore : Fines  
(By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>43363</b>	<b>200653480</b>	<b>40026</b>	<b>192016008</b>
China	39804	188059212	37188	173988424
Japan	992	4107473	1608	10447548
Korea, Rep.of	789	3668752	701	4228521
Netherlands	160	629342	217	1532943
Bangladesh	-	-	158	1138963
Hong Kong	-	-	53	208975
Australia	1	6772	26	163053
Pakistan	-	-	25	121372
UAE	1410	3397061	24	91258
Italy	-	-	22	82436
Other countries	207	784868	4	12515

**Table – 19 : Exports of Iron ore: Concentrates  
Non-agglomerated  
(By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>141</b>	<b>560989</b>	<b>77</b>	<b>363093</b>
China	97	346731	76	356870
Chinese				
Taipei/Taiwan	-	-	1	5568
Yemen Republic	-	-	++	474
Bhutan	-	-	++	142
Hong Kong	-	-	++	16
UK	-	-	++	12
Australia	-	-	++	9
Japan	-	-	++	2
Other countries	44	214258	-	-

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**Table – 20 : Exports of Iron ore: Pellets  
(By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>87</b>	<b>574835</b>	<b>210</b>	<b>1339356</b>
Japan	-	-	210	1339345
Netherlands	-	-	++	11
Other countries	87	574835	-	-

**Table – 21 : Exports of Iron ore : Pyrites  
(By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>++</b>	<b>788</b>	<b>++</b>	<b>2990</b>
Iran	++	432	++	954
Nepal	++	16	++	600
Poland	-	-	++	489
Sri Lanka	++	62	++	441
Algeria	-	-	++	233
Indonesia	-	-	++	103
Fiji	-	-	++	66
Egypt	-	-	++	56
Turkey	-	-	++	42
Hong Kong	-	-	++	4
Other countries	++	278	++	2

**Table – 22 : Imports of Iron ore: Total  
(By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>1867</b>	<b>10284802</b>	<b>978</b>	<b>6885850</b>
Ukraine	117	960947	209	1949221
Russia	45	346466	150	1378426
Bahrain	682	6310170	312	1159475
South Africa	9	67688	104	930756
Belgium	-	-	95	817988
Senegal	-	-	68	299556
Indonesia	21	190054	10	91795
Mali	678	18869	10	69436
Finland	1	9662	7	68295
China	13	2961	5	47372
Other countries	301	2377985	8	73530

**Table – 23 : Imports of Iron ore: Fines  
(By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>55</b>	<b>179933</b>	<b>95</b>	<b>852293</b>
South Africa	-	-	95	851928
Japan	-	-	++	365
Other countries	55	179933	-	-

IRON ORE

**Table – 24: Imports of Iron Ore Concentrates: Non-agglomerated (By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>5</b>	<b>79</b>	<b>++</b>	<b>1362</b>
Sweden	-	-	++	483
UK	-	-	++	481
USA	-	-	++	247
UAE	-	-	++	150
Other countries	5	79	++	1

**Table – 25 : Imports of Iron Ore : Pelletes (By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>1115</b>	<b>10070122</b>	<b>800</b>	<b>5620047</b>
Ukraine	117	960947	209	1949221
Russia	45	346466	150	1378426
Bahrain	682	6310170	312	1159475
Belgium	....	....	95	817710
Indonesia	21	190054	10	91795
South Africa	9	67688	9	78829
Finland	....	....	5	51029
China	....	....	5	46550
Australia	....	....	4	41826
Brazil	168	1598981	1	5185
Other countries	73	595816	..++	1

**Table – 26 : Imports of Iron Ore : Pyrites (By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>14</b>	<b>15799</b>	<b>2</b>	<b>24558</b>
Finland	1	9662	2	17266
France	++	438	..++	2020
Austria	++	1530	..++	1694
USA	++	59	..++	1391
China	13	2961	..++	822
Netherlands	-	-	..++	494
Canada	-	-	..++	466
Germany	++	186	..++	297
Italy	..++	1	..++	108
Other countries	++	962	-	-

**Table – 27 : Imports of Iron Ore : Lumps (By Countries)**

Country	2010-11		2011-12	
	Qty (000' t)	Value (₹'000)	Qty (000' t)	Value (₹'000)
<b>All Countries</b>	<b>678</b>	<b>18869</b>	<b>81</b>	<b>387590</b>
Senegal	-	-	68	299555
Mali	678	18869	10	69436
Kenya	-	-	3	17511
Iran	-	-	..++	555
Belgium	-	-	..++	278
Tanzania	-	-	..++	131
France	-	-	..++	84
Netherlands	-	-	..++	39
Other countries	-	-	..++	1

## FUTURE OUTLOOK

India is the leading producer of iron ore in the world. Cement industry is the second major consumer of iron ore after iron & steel industry. In order to conserve iron ore resources of the country for long term domestic value addition, export duty on all varieties of iron ore (except pellets) has been increased w.e.f. 30.12.2011 from 20% to 30% ad valorem.

The Working Group for 12th Plan, Planning Commission of India has estimated that the production of iron ore would be about 374 million tonnes by 2016-17 at 8% growth rate. The apparent consumption is estimated at 218 million tonnes by 2016-17 at 8% growth rate.

The Working Group has pointed out that to promote the domestic steel industry, assured iron ore linkages need to be promoted. It has further recommended that fiscal and non-fiscal incentives will need to be provided through joint effort of the Ministry of Mines and Ministry of Steel. In particular, technologies for agglomeration, pelletisation and direct use of fines to produce steel must be identified and taken up in Mission mode to achieve the national goal to produce 200 million tonnes of steel per annum by 2020. Acquisition of technology assets abroad pertaining to application of low grade iron ore and other technology for pig iron, sponge iron and pelletisation has also been underlined by the Working Group in its Report.