Indian Mineral Industry — At a Glance 2012-13

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Ministry of Mines

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NAGPUR

Indian Mineral Industry at a Glance

2012-13

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PREFACE

"Indian Mineral Industry at a Glance 2012-13" is the thirty fourth edition in its series. This publication is designed to meet the needs of policy makers, and all others associated with planning, exploitation and utilisation of minerals and related activities.

For easy reference, the publication has been divided into eight sections viz., General, Mineral Production, Production of Metals and Alloys, Foreign Trade, Employment in Mines, Consumption of Minerals, Production of Mineral-based Products and Mining Machinery. The salient features of the data presented in each section are highlighted at the beginning of the section. The Indian Mineral Industry at a Glance pocket book is handy and a ready reckoner with important diagrams. It is stated that some of the figures of GDP, consumption, foreign trade, mineral based product etc. pertaining to previous years are updated based on latest data.

The publication has been brought out by the Mining and Mineral Statistics Division of the Bureau. This Division, in addition to the extensive data available with it, has also utilised the data furnished by the Mines Control and Conservation of Minerals Division on Afforestation for Section-1 and Mining Machinery for Section-8. Similarly, Mineral Economics Division has furnished data on Mining Leases for Section-1 and on Consumption of Minerals for Section-6.

The foreign trade data on minerals, metals and selected mineral-based products is received from the Director General of Commercial Intelligence & Statistics (DGCI&S), Kolkata. The export data includes re-exports for the years 2004-05 to 2012-13. Country-wise break-up of some of the minerals and metals at 8-digit customs tariff / ITC (HS) code level is not available for few items. The entire data of such minerals and metals have been grouped under country-item 'unspecified', which has been clubbed with 'others'. The data for the remaining countries in respect of tables of such minerals have limitations to that extent.

The Bureau is thankful to the Ministry of Petroleum and Natural Gas, New Delhi; Office of the Coal Controller, Kolkata; Joint Plant Committee, Kolkata; The Director General of Commercial Intelligence and Statistics, Kolkata; The Department of Industrial Policy & Promotion, Office of the Economic Advisor, Ministry of Commerce & Industry and Central Statistical Office for providing the valuable information for this publication.

I am sure that this publication would serve as a useful reference material on mining and minerals related information to all those who are directly or indirectly associated with the mineral sector.

(K. Thomas)
Controller General (I/c)
Indian Bureau of Mines

Nagpur
Dated: 13th February, 2015

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Note: *(i) Figures for the previous year have been revised wherever necessary. Figures for the latest year are provisional and subject to revision.*

(ii) In certain cases sum of individual items may not tally with the total of the table due to rounding off the figures.

Symbols and Abbreviations

(e)	Estimated
N.A.	Not Available
(R)	Revised
++	Negligible
-	Nil
(P)	Provisional
%	Percentage
kg.	Kilogram
t	Tonne
'000 t	Thousand Tonnes
m.t.	Million Tonnes
m.cu.m.	Million Cubic Metres
R.O.M.	Run-of-mine
Av.	Average
m.m.	Millimetre
h.p.	Horsepower

Section – 1
General

Section-1

General

The value of mineral production in India covering fuel, metallic, non-metallic and minor minerals rose spectacularly during the last 6 decades since 1952 and touched the peak level of Rs. 285761 crores in 2012-13. The increase in the value was attributable to both rises in mineral production as well as in mineral prices.

During 2012-13, production of principal minerals like coal, lignite, petroleum (crude), bauxite, chromite, copper concentrates, iron ore, lead and zinc concentrate, manganese ore, diamond, dolomite, gypsum, kaolin, limestone, phosphorite, steatite etc. has gone up whereas that of gold, kyanite and mica (crude) declined when compared with that of 1952.

The index of mineral production in new series (base 2004-05=100) has declined from 128.45 in 2011-12 to 125.46 in 2012-13 registering a decrease of 2.3% as compared to previous year.

Fuel minerals contributed a major share of 64% in the value of mineral production in 2012-13, followed by metallic minerals about 15% and non-metallic minerals (including minor minerals) 21 percent. Offshore regions continued to be in leading position, in terms of value of mineral production in the country and had the share of about 21% in the value of national output. Next in order was Rajasthan with a share of 11% followed by Gujarat and Andhra Pradesh (9% each); Odisha (8%);

Jharkhand and Chhattisgarh (7% each), Maharashtra (5%); Madhya Pradesh, Assam and West Bengal(4%each); Uttar Pradesh (3%); Tamil Nadu and Karnataka (2% each) Goa, Kerala and Meghalaya(1%each) in the total value of mineral production while other 14 States/Union Territories having individual nominal share reported the remaining value during the year under review.

Off-shore region was the major source for supply of petroleum (crude) and natural gas (utilised) during the decade contributing a substantial amount to the exchequer.

The value of mineral production in India in 2012-13 was at Rs. 285761 crore showing a marginal increase in comparison with the previous year. Public sector accounted for around 67% of the total value of mineral production during the year. The total number of reporting mines in 2012-13 (excluding those of petroleum (crude), natural gas (utilised), atomic and minor minerals) increased by about 2.5% as compared to previous year and totalled 3693. Of these, 575 mines belonged to coal & lignite, 635 to metallic minerals and 2483 to non-metallic minerals.

Growth during 1952 to 2012-13

The mining sector has shown significant growth since 1952. The value of mineral production reached the level of Rs. 285761 crore in 2012-13 from Rs. 85 crore in 1952. This was mainly due to significant achievements made in the production of fuel, metallic & non-metallic minerals. The value of fuel minerals shoot up from Rs. 56 crore in 1952 to Rs. 182689 crore in 2012-13. Similarly, the value of metallic minerals rose from Rs. 21 crore to Rs. 43592 crore and non-metallic

minerals including minor minerals from Rs. 8 crore to Rs. 59480 crore during the same period.

The performance of some important minerals such as fuel, metallic and non-metallic minerals in the last 60 years is shown under Appendix-I at the end of this publication.

Fuel Minerals

The production of coal at 556 million tonnes in 2012-13 was more than 15 times of its production at 37 million tonnes recorded in 1952. The production of lignite at 46 million tonnes was substantially higher than that of 45 thousand tonnes in 1952. The production of petroleum (crude) at 38 million tonnes during 2012-13 was also significantly higher than that of the 263 thousand tonnes in 1952. Natural gas (utilised), which had no production in 1952, recorded a production of 40679 m.cu.m. in 2012-13.

Metallic Minerals

The production of all metallic minerals, except gold, registered a spectacular growth during the last 60 years. The production of iron ore increased from 4 million tonnes in 1952 to 136 million tonnes in 2012-13. The production of bauxite increased from 65 thousand tonnes in 1952 to 15360 thousand tonne in 2012-13, chromite from 36 thousand tonnes to 2950 thousand tonnes, manganese ore from 1597 thousand tonnes to 2322 thousand tonnes, lead concentrates from 2 thousand tonnes to 184 thousand tonnes and zinc concentrates from 4 thousand tonnes to 1493

thousand tonnes. The production of silver, a by-product, was at 374046 kg. as compared to 550 kg. in 1952.

Non-Metallic Minerals

In the non-metallic group of minerals, the production of limestone at 280 million tonnes in 2012-13 was more than 53 times of the output recorded in 1952. The production of apatite & phosphorite rose from less than a thousand tonne in 1952 to 2125 thousand tonnes during 2012-13, barytes from 10 thousand tonnes to 1739 thousand tonnes, dolomite from 4 thousand tonnes to 6713 thousand tonnes, gypsum from 418 thousand tonnes to 3538 thousand tonnes, kaolin from 87 thousand tonnes to 3679 thousand tonnes, magnesite from 90 thousand tonnes to 213 thousand tonnes and steatite from 21 thousand tonnes to 939 thousand tonnes in the same period of 60 years.

Mineral Reserves and Resources				
Mineral	Unit	As on 1.4.2010		
		Reserves (A)	Remaining Resources (B)	Total (A+B)
Andalusite	'000 t	-	18450	18450
Antimony				
Ore	tonnes	-	10588	10588
Metal	tonnes	-	174	174
Apatite	'000 t	2090	22139	24229
Asbestos	'000 t	2511	19656	22167
Ball Clay	'000 t	16778	66616	83394
Barytes	'000 t	31584	41150	72734
Bauxite	'000 t	592938	2886682	3479620
Bentonite	'000 t	25060	543307	568367
Borax	tonnes	-	74204	74204
Calcite	'000 t	2664	18281	20945
Chalk	'000 t	4332	585	4917
Chromite	'000 t	53970	149376	203346
Cobalt (Ore)	m. tonnes	-	44.91	44.91
Copper	'000 t			
Ore		394372	1164086	1558458
Metal		4768.33	7518.34	12286.67
Corundum	tonnes	597	740194	740792
Diamond	th. carats	1045	30877	31922

Mineral Reserves and Resources (Contd…)

Mineral	Unit	As on 1.4.2010		
		Reserves (A)	Remaining Resources (B)	Total (A+B)
Diaspore	'000 t	2860	3125	5985
Diatomite	'000 t	-	2885	2885
Dolomite	'000 t	738185	6992372	7730557
Dunite	'000 t	17137	168232	185369
Felspar	'000 t	44503	87832	132335
Fireclay	'000 t	30104	683415	713519
Fluorite	'000 t	4712	13502	18214
Fullers Earth	'000 t	58	256594	256652
Garnet	'000 t	19325	37638	56963
Gold				
Ore (Primary)	'000 t	24125	469570	493695
Metal (Primary)	tonnes	110.54	549.30	659.84
Ore (Placer)	'000 t	-	26121	26121
Metal (Placer)	tonnes	-	5.86	5.86
Granite (Dimension stone)	'000 cu.m	263692	45966608	46230300
Graphite	'000 t	8032	166818	174850
Gypsum	'000 t	39096	1247402	1286498

Mineral Reserves and Resources (Contd…)

Mineral	Unit	As on 1.4.2010		
		Reserves (A)	Remaining Resources (B)	Total (A+B)
Iron Ore & Conc.	'000 t			
Hematite		8093546	9788551	17882097
Magnetite		21755	10622305	10644060
Kaolin	'000 t	177158	2528049	2705207
Kyanite	'000 t	1575	101671	103246
Laterite	'000 t	24714	446119	470833
Lead & Zinc	'000 t			
Ore		108980	576615	685595
Lead Metal		2245.01	9304.38	11549.39
Zinc Metal		12453.26	24211.64	36664.90
Lead & Zinc Metal		-	118.45	118.45
Limestone	m.t.	14926	170009	184935
Magnesite	'000 t	41950	293222	335172
Manganese Ore	'000 t	141977	288003	429980
Marble	'000 t	276495	1654968	1931463
Marl	'000 t	139976	11705	151681
Mica	tonnes	190741	341496	532237

Mineral Reserves and Resources (Contd…)

Mineral	Unit	As on 1.4.2010		
		Reserves (A)	Remaining Resources (B)	Total (A+B)
Molybdenum				
Ore	tonnes	-	19286732	19286732
Contained MOS_2	tonnes	-	12640	12640
Nickel	m.t.	-	189	189
Ochre	'000 t	54942	89319	144261
Perlite	'000 t	428	1978	2406
PGM (Metals)	Tonnes of Metal Content	-	15.7	15.7
Phosphorite/Rock Phosphate	'000 t	34778	261506	296284
Potash	m.t.	-	21816	21816
Pyrites	'000 t	-	1674401	1674401
Pyrophyllite	'000 t	23275	32808	56083
Quartz & Silica sand	'000 t	429223	3069808	3499031
Quartzite	'000 t	86599	1164649	1251248
Ruby	kg.	236	5112	5348
Salt (Rock)	'000 t	16026	-	16026
Sapphire	kg	-	450	450

Mineral Reserves and Resources (Concld…)				
Mineral	Unit	As on 1.4.2010		
		Reserves (A)	Remaining Resources (B)	Total (A+B)
Shale	'000 t	15331	580	15911
Sillimanite	'000 t	4085	62902	66987
Silver				
Ore	'000 t	187559	279426	466985
Metal	tonnes	8039.57	19588.68	27628.25
Slate	'000 t	-	2369	2369
Sulphar (Native)	'000 t	-	210	210
Talc/Steatite/Soap Stone	'000 t	90026	178996	269022
Tin				
Ore	'000 t	7	83719	83726
Metal	tonnes	1132.43	101142.41	102274.84
Titanium Minerals	'000 t	22030	371966	393996
Tungstun				
Ore	tonnes	-	87387464	87387464
Contained WO_3	tonnes	-	142094	142094
Vanadium				
Ore	tonnes	410955	24307933	24718888
Contained V_2O_5	tonnes	1603	63284	64887
Vermiculite	tonnes	1704007	803003	2507010
Wollastonite	tonnes	2487122	14082751	16569873
Zircon	tonnes	1347470	1786482	3133952

Mining Leases as on 31-3-2013@ (By Principal Minerals)				
Mineral	No. of Mining Leases Granted/Executed	% to Total Leases	Area ('000 ha)	% to Total Area
Total	**11104**	**100**	**498**	**100**
Quartz	2276	20	18	4
Limestone	2013	18	155	31
Iron Ore	774	7	94	19
China Clay	690	6	20	4
Silica Sand	563	5	25	5
Dolomite	542	5	8	2
Steatite	476	4	15	3
Bauxite	337	3	30	6
Manganese Ore	323	3	22	4
Mica	264	2	6	1
Fireclay	248	2	5	1
Others	2598	23	100	20

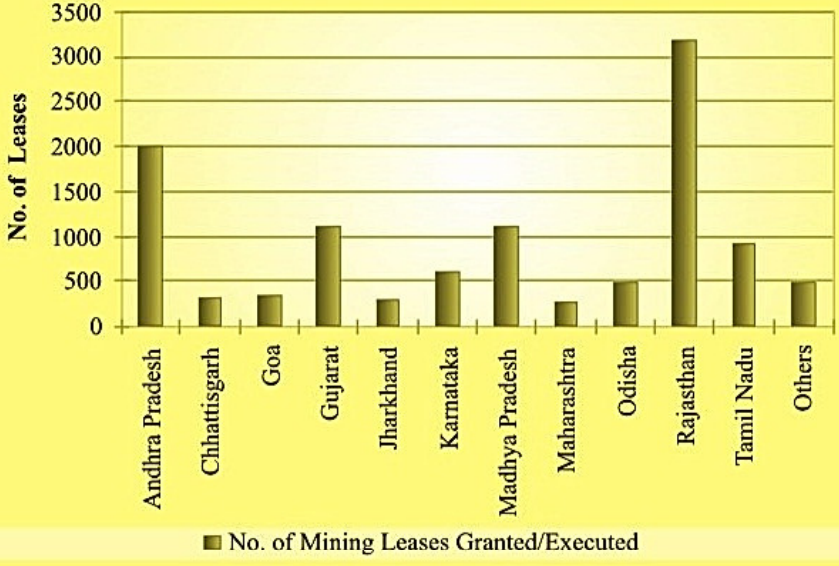
@ Excluding fuel, atomic and minor minerals.

Silica Sand - (Silica Sand + Moulding Sand + Sand Others)

China Clay - (China Clay + Ball Clay + Clay Others); Quartz - (Quartz + Quartzite)

Mining Leases as on 31-3-2013

(By Principal States)



Mining Leases as on 31-3-2013[@] (By Principal States)				
State	No. of Mining Leases Granted/Executed	% to Total Leases	Area ('000 ha)	% to Total Area
All States	**11104**	**100**	**498**	**100**
Andhra Pradesh	2001	18	68	14
Chhattisgarh	308	3	23	5
Goa	337	3	24	5
Gujarat	1104	10	30	6
Jharkhand	294	3	35	7
Karnataka	594	5	49	10
Madhya Pradesh	1117	10	34	7
Maharashtra	261	2	16	3
Odisha	490	5	75	15
Rajasthan	3185	29	106	21
Tamil Nadu	924	8	10	2
Others	489	4	28	5

@ Excluding fuel, atomic and minor minerals.

Concentration of Mining Leases as on 31-3-2013[@] (By Potential)					
Potential Bearing Districts	No. of Districts	No. of Mining Leases Granted/ Executed	% to Total Leases	Area ('000 ha)	% to Total Area
Total	**281**	**11104**	**100**	**498**	**100**
Low	224	2878	26	200	40
Medium	28	1864	17	76	15
High	29	6362	57	222	45

@ Excluding fuel, atomic and minor minerals.

High : > 100 mining leases in a district
Medium : 51 – 100 mining leases in a district
Low : 1– 50 mining leases in a district

Distribution of Mining Leases as on 31-3-2013[@] (By Sectors)				
Sector	No. of Mining Leases Granted/Executed	% to Total Leases	Area ('000 ha)	% to Total Area
Total	**11104**	**100**	**498**	**100**
Public Sector	483	4	147	30
Private Sector	10621	96	351	70

Distribution of Mining Leases as on 31-3-2013 [@] (By Lease Groups)					
Frequency Groups (No. of Leases)	Minerals Covered	No. of Mining Leases Granted/Executed	% to Total Leases	Area ('000 ha)	% to Total Area
Total	**64**	**11104**	**100**	**498**	**100**
1-50	40	558	5	68	14
51-100	6	541	5	10	2
101-200	6	897	8	32	6
201-300	2	512	4	10	2
301-500	4	1611	15	82	16
501-1000	4	2779	25	124	25
>1000	2	4206	38	172	35

@ Excluding fuel, atomic and minor minerals.

Distribution of Mining Leases as on 31-3-2013 @ (By Area Groups)				
Frequency Groups (Area in ha.)	No. of Mining Leases Granted/Executed	% to Total Leases	Area ('000 ha)	% to Total Area
All Groups	**11104**	**100**	**498**	**100**
0-10	7122	64	28	6
10-20	1003	9	15	3
20-50	1243	11	41	8
50-100	844	8	63	13
100-200	413	4	57	11
200-500	284	3	89	18
Above 500	195	2	205	41

@ *Excluding fuel, atomic and minor minerals.*

Number of Reporting Mines, 2003-04 to 2012-13 (By Mineral Groups)				
Year	Total*	Coal & Lignite	Metallic Minerals	Non-Metallic Minerals
2003-04	3131	562	612	1957
2004-05	3215	571	625	2019
2005-06	2999	556	636	1807
2006-07	3005	570	639	1796
2007-08	3025	570	693	1762
2008-09	3150	574	719	1857
2009-10	3055	573	701	1781
2010-11	3118	573	719	1826
2011-12	3603	573	682	2348
2012-13(P)	3693	575	635	2483

**Excluding Petroleum (crude), Atomic and Minor minerals.*

***Reporting mine** : A mine reporting production or reporting 'Nil' production during a year but engaged in developmental work such as, overburden removal; underground driving, winzing, sinking work; exploration by pitting, trenching or drilling as evident from the MCDR returns.*

Number of Underground Mines, 2012-13 @ (By Principal Minerals)			
Mineral	Total	'A' Category	'B' Category
Total	**91**	**34**	**57**
Apatite	1	-	1
Asbestos	3	1	2
Barytes	6	-	6
Chalk	1	-	1
Chromite	6	6	-
Copper Ore	4	4	-
Gold	4	3	1
Lead & Zinc	8	8	-
Manganese Ore	14	8	6
Mica	22	2	20
Steatite	22	2	20

@ Excluding fuel, atomic & minor minerals.

'A' Mechanised Mines: > 150 labours in all
> 75 labours in workings below ground

'B' Other than 'A'

Decennial Growth in the Value of Mineral Production, 1952 to 2012-13[@] (By Groups)

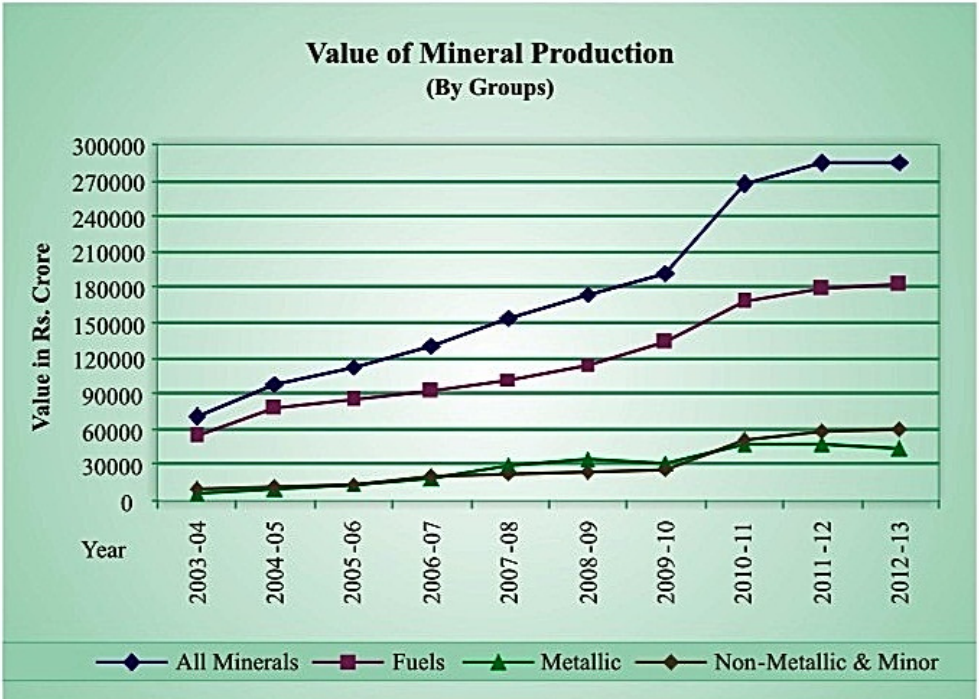
(Rs. Crore)

Year	Total	Fuels	Metallic Minerals	Non-Metallic and Minor Minerals
1952	85	56	21	8
1962	213	142	33	38
1972	542	369	74	99
1982	5321	4454	365	502
1992-93	23284	19123	1942	2219
2002-03	66875	53043	4679	9153
2012-13(P)	285761	182689	43592	59480

@ Excluding atomic minerals.

Value of Mineral Production, 2003-04 to 2012-13[@] (By Mineral Groups) (Rs. Crore)				
Year	All Minerals	Fuels	Metallic Minerals	Non-Metallic and Minor Minerals
2003-04	71062	55033	6392	9637
2004-05	98934	77654	9941	11339
2005-06	113354	85616	13903	13835
2006-07	131023	92905	18286	19832
2007-08	154622	102119	29182	23321
2008-09	174133	114717	35076	24340
2009-10	192108	133658	31734	26716
2010-11	267032	168581	47639	50812
2011-12	284570	178922	47032	58616
2012-13(P)	285761	182689	43592	59480

@ Excluding atomic minerals.


Value of Mineral Production
(By Groups)
Value in Rs. Crore
300000
270000
240000
210000
180000
150000
120000
90000
60000
30000
0
Year
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
All Minerals
Fuels
Metallic
Non-Metallic & Minor

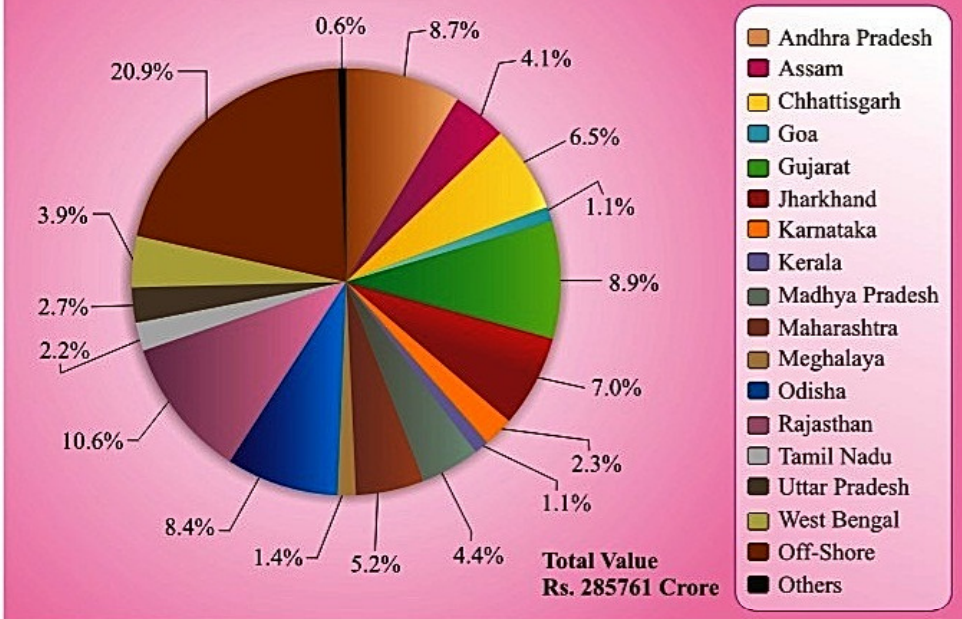
Value of Mineral Production[@] (By Minerals)		(Rs. Crore)
Minerals	2003-04	2012-13(P)
All Minerals	**71062**	**285761**
Coal	25440	74719
Petroleum (crude)	18589	68817
Natural Gas (utilised)	8966	33642
Iron Ore	4650	33227
Lignite	2038	5511
Limestone	1594	4322
Lead & Zinc Concentrates	384	2725
Chromite	432	2448
Silver	29	2123
Manganese Ore	279	1265
Apatite & Phosphorite	242	773
Bauxite	228	710
Copper Concentrates	207	631
Barytes	42	562
Gold	172	461
Dolomite	91	213
Gypsum	31	171
Garnet (abrasive)	11	126
Others	7637	53315

@ Excluding atomic minerals.

Value of Mineral Production[@] (By States)		(Rs. Crore)
State	2003-04	2012-13(P)
India	**71062**	**285761**
Andhra Pradesh	6157	24859
Assam	3037	11644
Chhattisgarh	4951	18695
Goa	675	3108
Gujarat	5309	25477
Jharkhand	6014	19951
Karnataka	1523	6458
Kerala	246	3156
Madhya Pradesh	4091	12742
Maharashtra	3091	14755
Meghalaya	762	3940
Odisha	4631	24196
Rajasthan	2856	30402
Tamil Nadu	2274	6152
Uttar Pradesh	2493	7624
West Bengal	2555	11085
Off-Shore	18912	59782
Others	1485	1735

@ Excluding atomic minerals.

Value of Mineral Production (By States), 2012-13

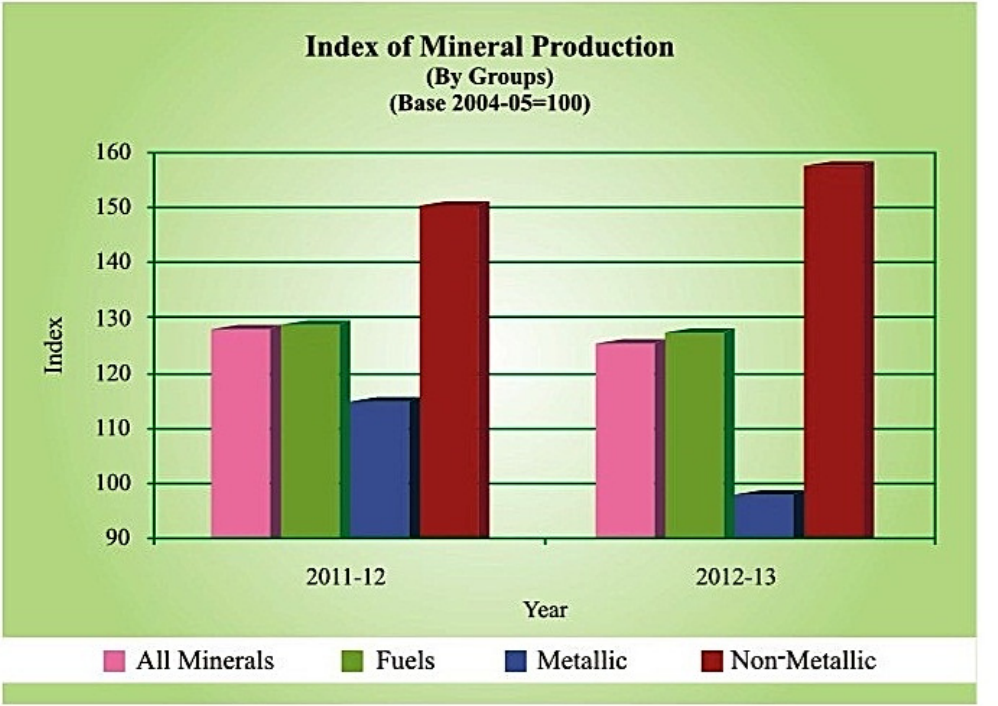


Value of Mineral Production,[@] 2003-04 to 2012-13 (By Sectors)			
			(Rs. Crore)
Year	Total	Public Sector	Private Sector
2003-04	71062	53184	17878
2004-05	98934	74659	24275
2005-06	113354	82241	31113
2006-07	131023	89788	41235
2007-08	154622	100762	53860
2008-09	174133	115240	58893
2009-10	192108	121794	70314
2010-11	267032	141000	126032
2011-12	284570	152478	132092
2012-13(P)	285761	156644	129117

@ Excluding atomic minerals.

Value of Mineral Production & Number of Mines, 2012-13(P) (By Sectors)			
	Total *	Public Sector	Private Sector
No. of Mines	**3118**	**225**	**2893**
Total Value #	**50581**	**18875**	**31706**
Metallic #	43592	16906	26686
Non-metallic #	6989	1969	5020

** Excluding fuel, atomic & minor minerals.*
 # Value in Rs. Crore.


Index of Mineral Production
(By Groups)
(Base 2004-05=100)
160
150
140
130
120
110
100
90
Index
2011-12
2012-13
Year
All Minerals
Fuels
Metallic
Non-Metallic

Index of Mineral Production, 2003-04 to 2012-13
(By Mineral Groups)

(Base 1993-94 = 100)

	All Minerals	Fuels	Metallic Minerals	Non-Metallic Minerals
Year/Weight	1000.000	857.180	80.765	42.327
2002-03	141.08	137.64	165.32	163.27
2003-04	146.93	142.21	187.31	167.10
2004-05	154.16	146.59	221.07	184.66
2005-06	157.40	148.25	240.17	191.18
2006-07	167.08	154.48	283.36	211.30
2007-08	173.55	159.43	311.28	210.63
2008-09	175.96	162.80	302.26	215.48
2009-10	193.36	183.00	291.38	239.14
2010-11	204.95	194.98	298.57	256.87

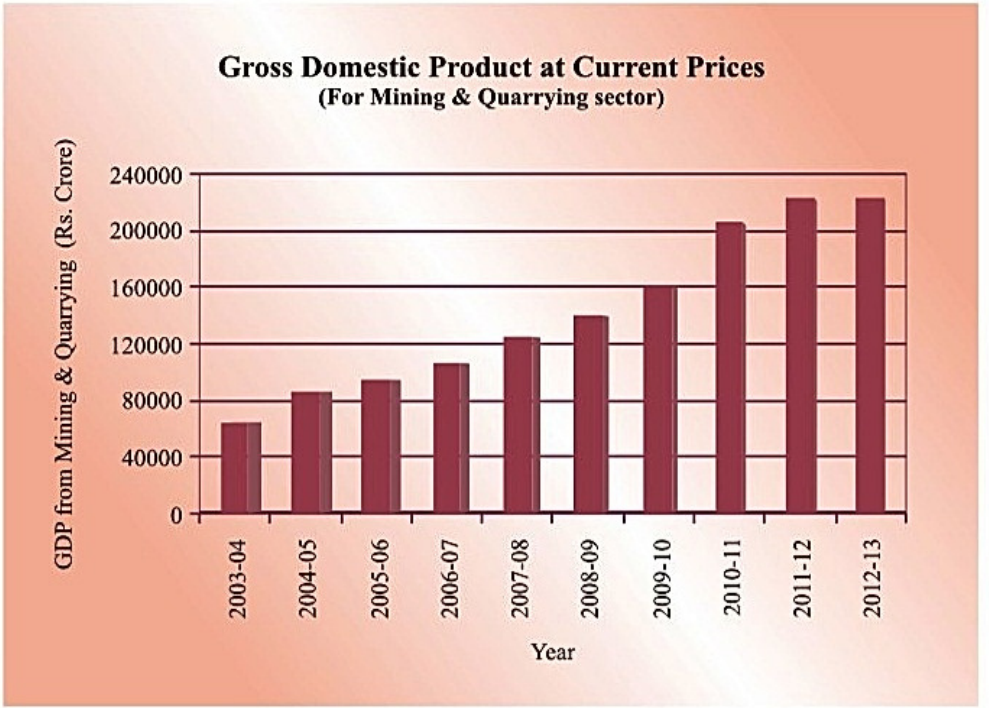
(Base 2004-05 = 100)

Year/Weight	1000.000	812.328	103.983	27.414
2010-11	131.06	130.16	136.45	142.49
2011-12	128.45	129.37	115.36	150.55
2012-13(P)	125.46	127.64	98.05	158.39

***Note**: - Weight of minor minerals production in the index of mineral is 19.728 for base year 1993-94 = 100 and it is 56.275 for base year 2004-05=100.*

Wholesale Price Index, 2003-04 to 2012-13 (By Groups)					
					(Base 2004-05 = 100)
Year	All Commodities	Minerals	Metallic Minerals	Other Minerals	Mineral Oils
2003-04	N.A.	N.A.	N.A.	N.A.	N.A.
2004-05	100.00	100.00	100.00	100.00	100.00
2005-06	104.47	115.15	127.92	104.78	116.73
2006-07	111.35	136.61	162.14	108.38	127.40
2007-08	116.63	152.78	192.77	116.14	126.25
2008-09	126.02	186.52	266.15	144.19	141.84
2009-10	130.81	202.92	258.32	145.98	135.75
2010-11	143.32	253.28	373.78	153.37	157.47
2011-12	156.13	320.65	411.52	165.88	184.02
2012-13(P)	167.62	346.91	438.95	204.72	202.45

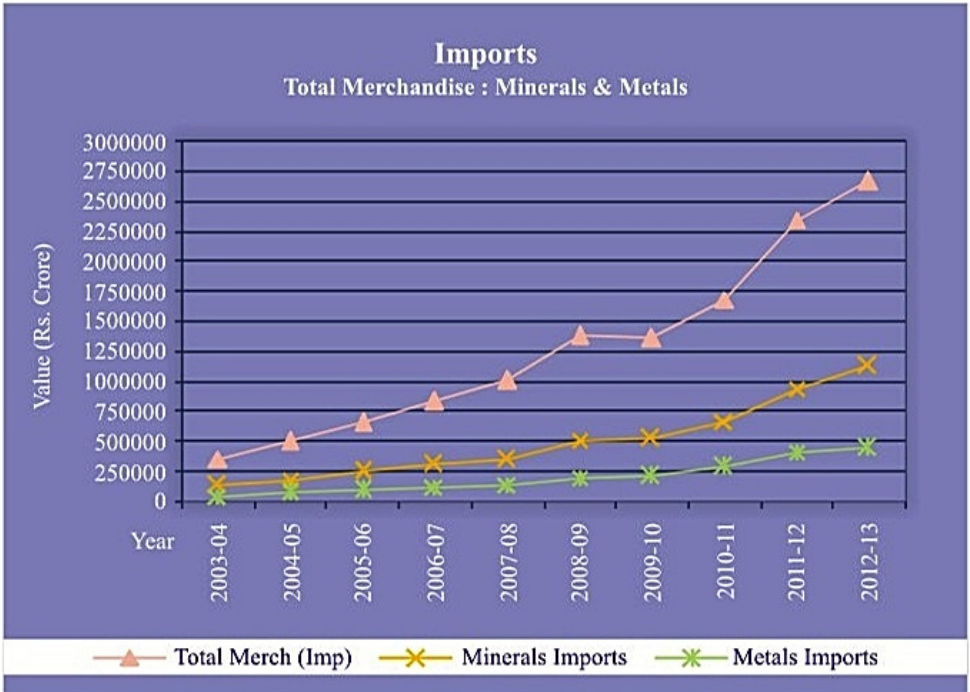

Gross Domestic Product at Current Prices
(All Sector)
Total GDP (Rs. Crore)
9000000
7500000
6000000
4500000
3000000
1500000
0
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Year


Gross Domestic Product at Current Prices
(For Mining & Quarrying sector)
GDP from Mining & Quarrying (Rs. Crore)
240000
200000
160000
120000
80000
40000
0
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Year

Gross Domestic Product (GDP) at Current Prices (Rs. Crore)			
Year	Total GDP	Mining & Quarrying	Percentage
2003-04	2625819	64121	2.4
2004-05	2971465	85028	2.9
2005-06	3390503	94462	2.8
2006-07	3953276	106787	2.7
2007-08	4582086	124812	2.7
2008-09	5303566	139828	2.6
2009-10	6108903	159304	2.6
2010-11	7248860	204866	2.8
2011-12	8391691	222716	2.7
2012-13(P)	9388876	222416	2.4

Exports Total Merchandise: Minerals & Metals (Rs. Crore)					
Year	Total Merchandise	Minerals	% Share	Metals	% Share
2003-04	293367	49914	17	17089	6
2004-05	375340	69374	18	35106	9
2005-06	456418	79790	17	39657	9
2006-07	571779	80931	14	62621	11
2007-08	655864	95022	14	66361	10
2008-09	840755	109296	13	82239	10
2009-10	845534	127831	15	57975	7
2010-11	1142922	174370	15	94052	8
2011-12	1465959	175310	12	102500	7
2012-13(P)	1634318	159747	10	139496	9


Exports
Total Merchandise : Minerals & Metals
Value (Rs. Crore)
1650000
1500000
1350000
1200000
1050000
900000
750000
600000
450000
300000
150000
0
Year
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Total Merch (Exp)
Minerals Exports
Metals Exports


Imports
Total Merchandise : Minerals & Metals
Value (Rs. Crore)
3000000
2750000
2500000
2250000
2000000
1750000
1500000
1250000
1000000
750000
500000
250000
0
Year
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Total Merch (Imp)
Minerals Imports
Metals Imports

Imports Total Merchandise : Minerals & Metals (Rs. Crore)					
Year	Total Merchandise	Minerals	% Share	Metals	% Share
2003-04	359108	130078	36	46601	13
2004-05	501065	182710	36	75504	15
2005-06	660409	243839	37	92149	14
2006-07	840506	305028	36	123461	15
2007-08	1012312	349507	35	141947	14
2008-09	1374436	514509	37	199489	15
2009-10	1363736	524830	38	214425	16
2010-11	1683467	669010	40	286835	17
2011-12	2345463	944430	40	418310	18
2012-13(P)	2669162	1124137	42	443996	17

Consumption of Explosives, 2011-12[@]
(By Principal Minerals)

(In tonnes)

Mineral	Gun Powder	High Explosives
Total:	**5**	**32094**
Bauxite	-	1908
Chromite	-	121
Copper Ore	-	455
Iron Ore	-	11157
Lead & Zinc Ore	-	2635
Manganese Ore	-	12
Dolomite	4	461
Limestone	++	13516
Steatite	1	535
Others	-	1294

@ Excluding fuel, atomic and minor minerals.

Consumption of Explosives, 2011-12[@]
(By Principal Minerals)

(In thousands)

Mineral	Detonators (Nos.)		Fuses (Meters)	
	Ordinary*	Electric	Safety	Cordtex
Total	**644**	**1347**	**791**	**8127**
Bauxite	85	55	112	2019
Chromite	4	56	++	78
Copper Ore	7	152	3	762
Iron Ore	131	22	42	1476
Lead & Zinc Ore	3	245	-	750
Manganese Ore	-	53	-	-
Dolomite	48	39	33	83
Limestone	232	428	265	2309
Steatite	96	8	242	356
Others	38	236	94	294

@ Excluding fuel, atomic and minor minerals. **Includes other detonators*

Afforestation in Metalliferrous Mines from 1989-90 to 2011-12 (By Principal Minerals)						
Mineral	Total Mines Covered	Area Covered (ha)	Trees		Survival	
			Planted ('000 Nos.)	Survived ('000 Nos.)	Percentage	('000 trees) per ha
Total	**1317**	**40295**	**101237**	**67987**	**67**	**1.7**
Bauxite	83	2618	7712	5853	76	2.2
Chromite	14	1189	3449	2386	69	2.0
Copper	7	377	1525	966	63	2.6
Dolomite	78	343	539	347	64	1.0
Gold	5	434	922	645	70	1.5
Iron & Manganese Ore	31	230	692	518	75	2.3
Iron Ore	145	11674	49633	32412	65	2.8
Lead & Zinc Ore	9	1535	847	726	86	0.5
Limestone	428	15128	24616	16833	68	1.1
Magnesite	18	554	509	343	67	0.6
Manganese Ore	60	2469	6589	4255	65	1.7
Pyrites	1	7	21	15	71	2.1
Others	438	3737	4182	2689	64	0.7

Section – 2

Mineral Production

Production, Value, Employment and Reporting Mines, 2003-04 to 2012-13, (Principal Minerals)

Section-2

Mineral Production

Fuel Minerals

The steady rise in the production of coal continued during the decade under review and reached the level of 556 million tonnes during 2012-13. The production of lignite also maintained a rising trend during the decade ending 2012-13 except in 2005-06 and 2008-09 and it was 46 million tonnes during 2012-13. The production of petroleum (crude) at 38 million tonnes in 2012-13 has decreased marginally as compared to previous year. The output of natural gas (utilised) at 40679 m.cu.m. during 2012-13 has decreased by 14% as compared to the previous year.

Metallic Minerals

The production of bauxite increased during the decade till 2007-08, then declined till 2010-11 and thereafter increased to 15 million tonnes in 2012-13 showing 13% increase over the previous year. The production of chromite had a mixed trend during the decade and at 2.9 million in 2012-13 has increased marginally as compared to previous year. The output of copper concentrates has shown a fluctuating trend during the decade and its production in 2012-13 at 124 thousand tonnes decreased by 5% over the preceding year. Iron ore maintained an upward production trend during the decade till 2007-08 and touched to the higher level of 219 m.t. then it showed fluctuations. The production of iron ore in 2012-13 at 136 million

tonnes decreased by 19% as compared to the preceding year. The production of manganese ore with fluctuating trend touched the highest level of 3.1 million tonnes in 2010-11 and declined to 2.3 million tonnes at the end of 2012-13.The production of lead concentrates and zinc concentrates at 184 thousand tonnes and 1493 thousand tonnes in 2012-13 was highest ever in the decade ending 2012-13.

Non-Metallic Minerals

Fluctuating trend in the production of apatite & phosphorite was observed during the decade ending 2012-13. Its production at 2.1 million tonnes in 2012-13 was lower by 6% compared to the highest level of the decade in the previous year. The production of barytes fluctuated during the decade ending 2012-13 and stood at 1739 thousand tonnes registering a decrease of 2% as compared to the previous year. The production of diamond showed mixed trend and it was 32 thousand carats during 2012-13. During the decade the production trend in dolomite was increasing except 2008-09 and 2010-11 and it increased to highest of the decade at 6.7 million tonnes in 2012-13 showing an increase of 12% as compared to the previous year.

The trend in production of fireclay was fluctuating during the decade ending 2012-13 and its output at 817 thousand tonnes at the end of decade was 17% lower as compared to the previous year. The output of gypsum had a mixed trend during the decade ending 2012-13 and it was 3538 thousand tonnes at the end of the decade. The output of kaolin showed an increasing trend during the decade except 2010-11 and it reached from 897 thousand tonnes in 2003-04 to highest level of 3679 thousand tonnes in 2012-13. The output of kyanite maintained a fluctuating trend of

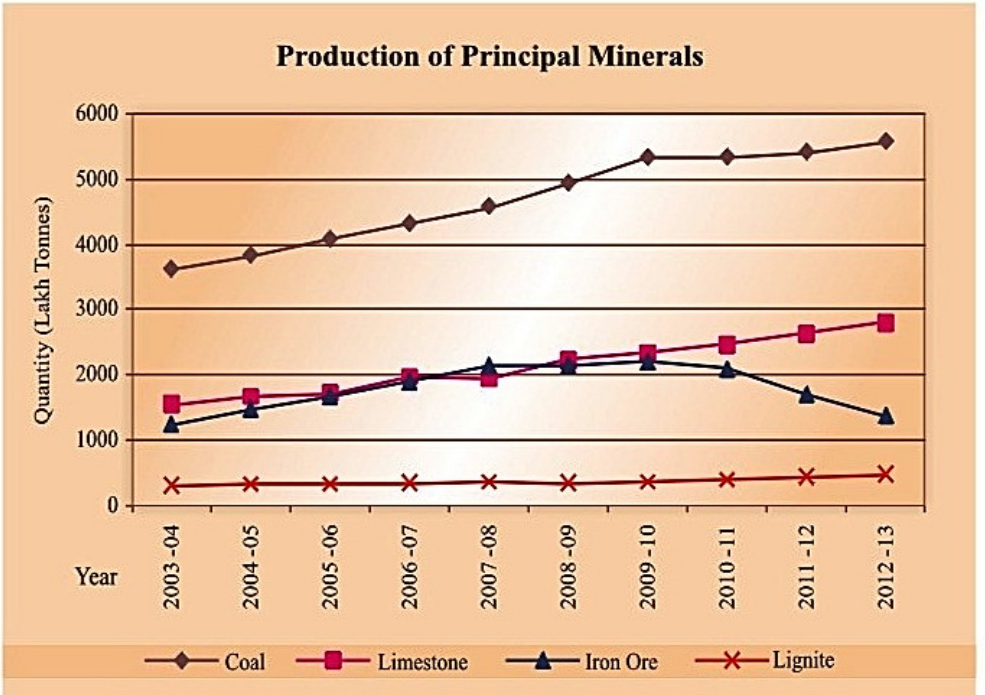
production during the decade and at one thousand tonnes in 2012-13, it decreased by 74% as compared to the previous year.

The production of limestone has showed an increasing trend during the decade ending 2012-13 except a marginal decrease in 2007-08. Its production at 280 million tonnes in 2012-13 was 7% higher over the preceding year and highest in the decade. The production of magnesite, however showed mixed trend during the decade ending 2012-13 and it was 213 thousand tonnes during 2012-13, showing a decrease of 5% as compared to previous year. The output of mica (crude) also showed a fluctuating trend during the decade ending 2012-13 and was 1.3 thousand tonnes at the end of it. The output of steatite with a decrease of 6% was at 939 thousand tonnes at the end of 2012-13.

Production of Coal, 2003-04 to 2012-13				
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)	No. of* Mines	Labour* Employed (Av. Daily)**
2003-04	3612	25440	554	405719
2004-05	3826	30434	563	393513
2005-06	4070	33675	547	384644
2006-07	4308	34837	561	371490
2007-08	4571	38465	559	357467
2008-09	4928	45537	561	356848
2009-10	5320	51318	560	360705
2010-11	5327	62021	559	355721
2011-12	5400	70172	559	355721
2012-13(P)	5564	74719	559	355721

* *Excluding Meghalaya*

** *Data relates to calendar year*

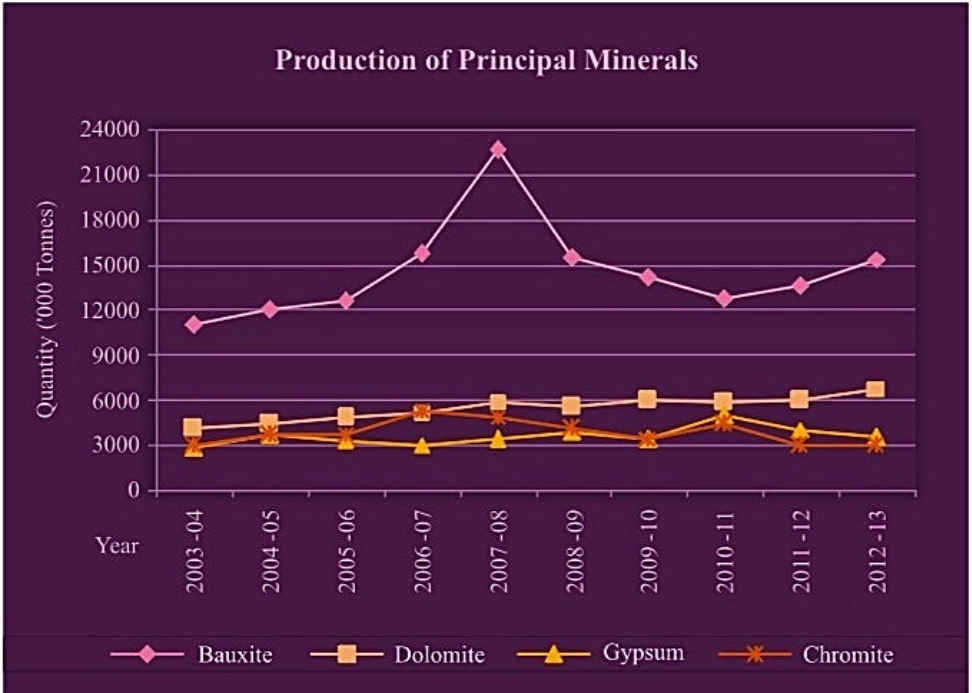

Production of Principal Minerals
Quantity (Lakh Tonnes)
6000
5000
4000
3000
2000
1000
0
Year
2003 -04
2004 -05
2005 -06
2006 -07
2007 -08
2008 -09
2009 -10
2010 -11
2011 -12
2012 -13
Coal
Limestone
Iron Ore
Lignite

Production of Lignite, 2003-04 to 2012-13				
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)	No. Of Mines	Labour Employed (Av. Daily)
2003-04	280	2038	8	11048
2004-05	305	2201	8	11698
2005-06	301	2153	9	14246
2006-07	313	2626	9	14246
2007-08	340	2961	11	14246
2008-09	324	3688	13	12566
2009-10	341	3776	13	13245
2010-11	377	4331	14	14406
2011-12	423	5338	14	14406
2012-13(P)	465	5511	16	14406

Production of Petroleum (Crude), 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	33373	18589
2004-05	34015	36080
2005-06	32190	40479
2006-07	33988	45679
2007-08	34118	49694
2008-09	33508	53385
2009-10	33690	60789
2010-11	37684	68804
2011-12	38090	69202
2012-13(P)	37862	68817

Production of Natural Gas (Utilised), 2003-04 to 2012-13		
Year	Quantity (m.cu.m.)	Value (Rs. Crore)
2003-04	30908	8966
2004-05	30820	8940
2005-06	32202	9308
2006-07	31747	9764
2007-08	32417	11000
2008-09	32845	12107
2009-10	47496	17775
2010-11	52219	33425
2011-12	47559	34211
2012-13(P)	40679	33642

Production of Bauxite, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	10925	228	188	7782
2004-05	11964	252	191	9145
2005-06	12596	293	200	8448
2006-07	15733	385	197	8082
2007-08	22625	568	209	8971
2008-09	15460	470	198	8546
2009-10	14124	489	197	8178
2010-11	12723	512	193	7851
2011-12	13600	613	172	7684
2012-13(P)	15360	710	152	6905


Production of Principal Minerals
Quantity ('000 Tonnes)
24000
21000
18000
15000
12000
9000
6000
3000
0
Year
2003 -04
2004 -05
2005 -06
2006 -07
2007 -08
2008 -09
2009 -10
2010 -11
2011 -12
2012 -13
Bauxite
Dolomite
Gypsum
Chromite

Production of Chromite, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs.Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	2905	432	20	5314
2004-05	3621	850	19	5439
2005-06	3714	1093	18	5514
2006-07	5296	1450	21	6157
2007-08	4873	2142	20	5982
2008-09	4073	2263	24	6359
2009-10	3426	1045	22	6735
2010-11	4326	2596	21	6862
2011-12	2923	2424	22	6845
2012-13(P)	2950	2448	25	567 0

Production of Copper Ore and Concentrates, 2003-04 to 2012-13					
Year	Copper Ore Quantity ('000 tonnes)	Copper Concentrates		No. of Mines	Labour Employed (Av. Daily)
		Quantity ('000 tonnes)	Value (Rs. Crore)		
2003-04	2903	143	207	6	2020
2004-05	2929	137	213	5	2418
2005-06	2643	125	251	5	1700
2006-07	3274	150	312	4	1661
2007-08	3242	150	347	4	1835
2008-09	3452	138	409	4	2291
2009-10	3271	125	381	4	2611
2010-11	3602	137	473	4	2712
2011-12	3479	130	539	4	2774
2012-13(P)	3639	124	631	5	2918

Production of Gold Ore and Gold, 2003-04 to 2012-13							
Year	Gold Ore Qty. ('000 tonnes)	Gold				No. of Mines	Labour Employed (Av. Daily)
		Primary	By Product	Total			
		Qty (Kg.)	Qty (Kg.)	Qty (Kg.)	Value (Rs.Crore)		
2003-04	622	3261	196	3457	183	2	2703
2004-05	493	3526	-	3526	194	3	3004
2005-06	479	2880	167	3047	282	3	3085
2006-07	513	2361	127	2488	229	3	2943
2007-08	681	2969	-	2969	302	4	3064
2008-09	587	2438	-	2438	315	4	3210
2009-10	518	2084	-	2084	343	4	3210
2010-11	742	2399	-	2399	435	4	3150
2011-12	492	2194	-	2194	531	4	3100
2012-13(P)	471	1588	-	1588	461	4	3129

Note :- No. of Mines and labour employed relates to primary gold.

Production of Iron Ore, 2003-04 to 2012-13				
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	1228	4650	266	36124
2004-05	1459	7403	281	37091
2005-06	1652	10804	284	39450
2006-07	1877	14204	290	39341
2007-08	2133	23379	314	46056
2008-09	2130	28544	328	42702
2009-10	2186	26462	320	43557
2010-11	2072	39614	336	46183
2011-12	1686	38357	313	46752
2012-13(P)	1360	33227	270	39617

Production of Lead & Zinc Ore and Concentrates, 2003-04 to 2012-13

Year	Lead & Zinc Ore Qty. ('000 tonnes)	Lead Concentrates		Zinc Concentrates		No. of Mines	Labour Employed (Av. Daily)
		Qty. ('000 tonnes)	Value (Rs. Crore)	Qty. ('000 tonnes)	Value (Rs. Crore)		
2003-04	3644	73	55	590	329	6	4557
2004-05	3929	82	65	666	400	6	2966
2005-06	4801	96	77	889	572	7	2628
2006-07	5140	107	133	947	971	7	3914
2007-08	5783	126	144	1036	939	7	3991
2008-09	6681	134	136	1224	947	7	4157
2009-10	7102	134	177	1280	1306	7	3859
2010-11	7540	148	200	1427	1793	6	3408
2011-12	8042	162	245	1414	1986	6	3980
2012-13(P)	8582	184	329	1493	2396	8	5736

Production of Manganese Ore, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	1776	279	122	12462
2004-05	2386	555	118	13772
2005-06	1906	507	116	12321
2006-07	2116	557	114	12893
2007-08	2697	1206	130	13226
2008-09	2789	1774	149	13796
2009-10	2492	1191	142	13806
2010-11	3056	1468	149	14117
2011-12	2412	1178	155	14587
2012-13(P)	2322	1265	165	14618

Production of Apatite and Phosphorite,2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	1446	242	10	1601
2004-05	1732	294	11	1635
2005-06	2058	296	7	1614
2006-07	2003	195	7	1535
2007-08	1856	215	8	1672
2008-09	1810	310	9	1501
2009-10	1611	312	9	1507
2010-11	2101	502	9	1749
2011-12	2263	750	7	1604
2012-13(P)	2125	773	7	1563

Production of Barytes, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	723	42	18	605
2004-05	1159	51	17	535
2005-06	1156	44	14	503
2006-07	1681	95	10	499
2007-08	1076	57	12	435
2008-09	1686	97	10	480
2009-10	2153	260	11	507
2010-11	2339	270	8	617
2011-12	1777	169	12	606
2012-13(P)	1739	562	14	777

Production of Diamond, 2003-04 to 2012-13				
Year	Quantity ('000 carats)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	71	32	2	320
2004-05	78	38	2	200
2005-06	44	23	2	235
2006-07	2	1	2	220
2007-08	0.6	1	2	197
2008-09	0.5	0.5	2	154
2009-10	17	12	2	167
2010-11	11	11	2	163
2011-12	18	20	2	167
2012-13(P)	32	37	2	180

Production of Dolomite, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	4051	91	120	2479
2004-05	4339	92	113	2905
2005-06	4751	116	117	2987
2006-07	5172	113	124	3091
2007-08	5852	146	121	2922
2008-09	5509	155	120	3060
2009-10	5912	167	123	2554
2010-11	5840	187	136	3047
2011-12	5969	174	194	3426
2012-13(P)	6713	213	179	3419

Production of Fireclay, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	657	9	97	1136
2004-05	663	9	102	1657
2005-06	536	6	79	1544
2006-07	497	7	80	1077
2007-08	545	9	75	810
2008-09	496	8	61	713
2009-10	549	9	51	548
2010-11	857	14	60	553
2011-12	983	16	83	915
2012-13(P)	817	15	69	773

Production of Gypsum, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	2774	31	46	382
2004-05	3685	50	33	361
2005-06	3291	40	22	222
2006-07	3006	49	28	299
2007-08	3400	72	31	167
2008-09	3877	99	27	144
2009-10	3370	100	27	294
2010-11	4918	148	30	323
2011-12	3979	169	38	334
2012-13(P)	3538	171	33	388

Production of Kaolin, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	897	98	118	3027
2004-05	934	109	115	3163
2005-06	1336	205	106	2904
2006-07	1460	162	104	2927
2007-08	1466	57	95	2907
2008-09	2084	64	93	2718
2009-10	2798	68	92	2226
2010-11	2728	74	81	2078
2011-12	3077	65	105	2148
2012-13(P)	3679	99	131	2437

Production of Kyanite,2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	9	0.8	8	144
2004-05	8	0.7	9	120
2005-06	9	0.7	9	179
2006-07	8	0.8	7	151
2007-08	5	0.5	6	149
2008-09	5	0.5	5	125
2009-10	5	0.6	4	115
2010-11	6	0.6	5	127
2011-12	4	0.5	3	56
2012-13(P)	1	0.1	4	48

Production of Limestone, 2003-04 to 2012-13				
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	1534	1594	552	20696
2004-05	1658	1794	600	19453
2005-06	1700	1906	550	18164
2006-07	1967	2405	583	18758
2007-08	1931	2400	553	17865
2008-09	2216	2922	601	19446
2009-10	2330	3248	565	21006
2010-11	2463	3635	592	20031
2011-12	2626	4077	716	23058
2012-13(P)	2797	4322	723	22615

Production of Magnesite,2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	324	41	15	2225
2004-05	384	36	15	2459
2005-06	341	39	11	2104
2006-07	239	34	12	1285
2007-08	253	33	10	880
2008-09	253	36	10	770
2009-10	301	44	8	899
2010-11	236	38	10	899
2011-12	224	35	11	777
2012-13(P)	213	36	14	885

Production of Mica (Crude), 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	1.1	2.5	31	375
2004-05	1.3	2.6	33	424
2005-06	2.1	3.4	29	397
2006-07	1.4	3.8	35	411
2007-08	4.6	16.1	31	375
2008-09	1.5	4.3	35	425
2009-10	1.1	4.0	32	403
2010-11	1.3	4.5	32	405
2011-12	1.9	6.9	35	389
2012-13(P)	1.3	4.0	32	381

Production of Sillimanite, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	20	7	4	1695
2004-05	31	12	4	2050
2005-06	33	17	4	2110
2006-07	26	10	4	1940
2007-08	41	18	4	1924
2008-09	34	24	4	2050
2009-10	34	26	4	2066
2010-11	49	41	4	1790
2011-12	59	52	4	1683
2012-13(P)	44	36	5	2407

Production of Steatite, 2003-04 to 2012-13				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2003-04	726	34	168	3750
2004-05	684	34	164	3849
2005-06	682	36	154	3874
2006-07	740	40	139	3461
2007-08	923	59	139	3598
2008-09	889	60	135	4018
2009-10	877	71	126	3731
2010-11	903	62	123	3748
2011-12	998	88	138	3894
2012-13(P)	939	83	133	4009

Section–3

Production of Metals & Alloys

Section – 3

Production of Metals & Alloys

Ferrous Metals

There was a continuous upward trend in production of finished steel till 2007-08, which declined marginally to 57.7 million tonnes during the year 2008-09 and again increased by about 8% in 2012-13 to 86.4 million tonnes. Similarly, there was upward trend in production of semi-finished steel during the decade ending 2012-13 except in the years 2007-08 and 2008-09. It increased to 30.0 million tonnes in 2012-13 showing an increase of 7% over the previous year.

Ferro-Alloys

Increasing trend in production of ferro-chrome was observed during the decade ending 2012-13 except in 2004-05 and its production at 944 thousand tonnes was almost same as compared to the previous year. The output of ferro-manganese with a fluctuating trend during the decade increased marginally and was 519 th. tonnes during 2012-13. Also the production of ferro-silicon increased marginally over the previous year.

Non-ferrous Metals

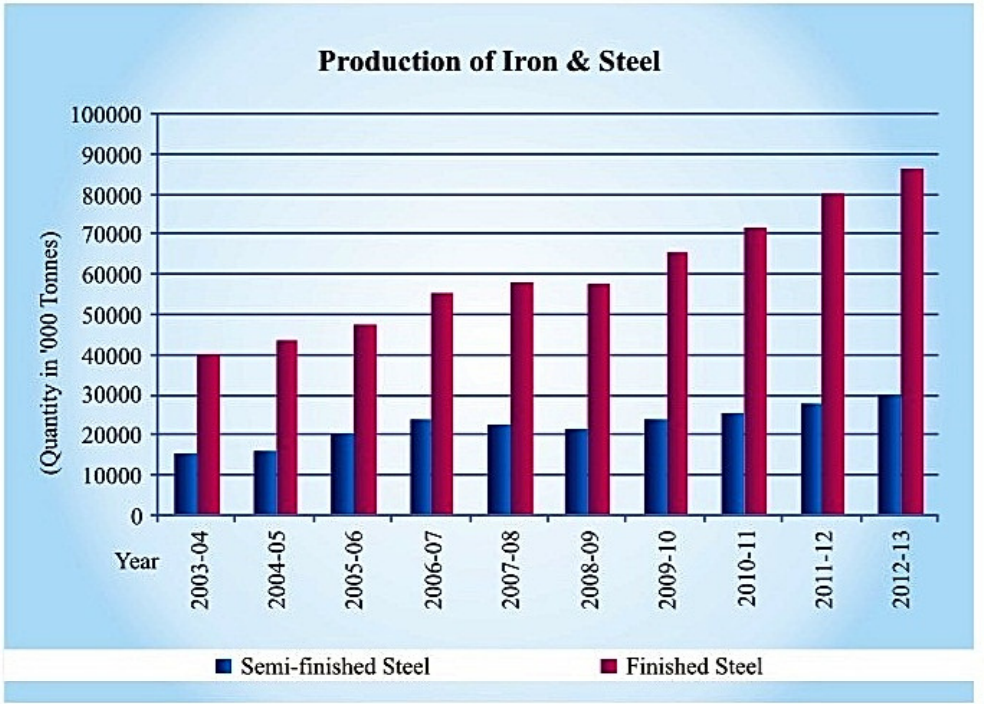
Among the non-ferrous metals, India has achieved self-sufficiency in aluminium and zinc. The production of alumina rose steadily from 2791 thousand tonnes in 2003-04 to 3610 thousand tonnes in 2012-13 registering a decrease of 8%

as compared to that in the previous year. The production of aluminium increased steadily during the decade and it was 1720 thousand tonnes in 2012-13, which was more than double of the level in 2003-04.

The production of copper (blister)/anode was highest at 311 thousand tonnes in 2005-06 and then declined sharply to 17 thousand tonnes in 2012-13. The production of copper (cathode) at 494 thousand tonnes in 2012-13 registered a decrease of 2% and that of copper (CCWR) at 285 thousand tonnes was marginally lower than that of the previous year.

There was a fluctuating trend in the production of gold (including by product) during the decade and at 8304 kg. in 2012-13 it was about 26% lower than that of the preceding year. The production of silver, a by-product, reached the peak level of 434.6 tonnes during 2012-13 and was 65% higher as compared to the previous year.

The output of lead (primary) fluctuated during the decade ending 2012-13 and reached to highest level of 118 thousand tonnes at the end of it registering an increase of 28% as compared to that in previous year. No production of lead (secondary) was reported during the decade ending 2012-13. The output of zinc ingots maintained a rising trend during the decade except in 2004-05 and 2012-13. During 2012-13 it decreased to 704 thousand tonnes and was lower by 10% as compared to that in the previous year.


Production of Iron & Steel
(Quantity in '000 Tonnes)
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
Year
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
Semi-finished Steel
Finished Steel

Production of Iron and Steel, 2003-04 to 2012-13

('000 tonnes)

Year	Semi-finished Steel[@]	Finished Steel*
2003-04	15326	40306
2004-05	15967	43470
2005-06	20143	47486
2006-07	23692	55287
2007-08	22685	58263
2008-09	21367	57659
2009-10	23561	65428
2010-11	25273	71775
2011-12	27928	80352
2012-13(P)	29984	86381

[@] *Including Steel ingots*

* *Including C.R. Sheets*

Source: Joint Plant Committee, Kolkata

Production of Principal Ferro-Alloys, 2003-04 to 2012-13 ('000 tonnes)			
Year	Ferro-Chrome	Ferro-Manganese	Ferro-Silicon
2003-04	311	205	50
2004-05	292	193	47
2005-06	327	184	55
2006-07	363	156	69
2007-08	383	163	69
2008-09	618	332	81
2009-10	922	513	81
2010-11	938	511	81
2011-12	943	517	89
2012-13(P)	944	518	90

Source: Joint Plant Committee, Kolkata.

Production of Alumina & Aluminium, 2003-04 to 2012-13 ('000 tonnes)		
Year	Alumina	Aluminium
2003-04	2791	810
2004-05	2900	884
2005-06	3086	931
2006-07	2811	1114
2007-08	3320	1240
2008-09	3620	1347
2009-10	3433	1481
2010-11	3577	1621
2011-12	3931	1654
2012-13(P)	3610	1720

Production of Copper, 2003-04 to 2012-13

('000 tonnes)

Year	Blister/ Anode	Electrolytic Wire Bar	Cathode	CCWR
2003-04	205	++	396	242
2004-05	190	-	413	241
2005-06	311	1	529	289
2006-07	51	-	511	276
2007-08	45	-	501	284
2008-09	29	-	514	314
2009-10	18	-	533	312
2010-11	14	-	512	300
2011-12	19	-	505	288
2012-13(P)	17	-	494	285

CCWR: Continuous Cast Wire Rod.

Production of Gold and Silver, 2003-04 to 2012-13 (Kilograms)		
Year	Gold	Silver
2003-04*	10364	69382
2004-05*	8680	47550
2005-06*	9760	63038
2006-07*	12823	101633
2007-08*	12104	133635
2008-09*	7309	142590
2009-10*	11198	183656
2010-11*	9360	193376
2011-12*	11286	263910
2012-13*(P)	8304	434569

**Includes production reported from HINDALCO Industries Ltd.*

Production of Lead and Zinc, 2003-04 to 2012-13 ('000 tonnes)		
Year	Lead (Primary)	Zinc Ingots
2003-04	25	252
2004-05	16	239
2005-06	24	296
2006-07	45	381
2007-08	58	457
2008-09	60	579
2009-10	64	614
2010-11	57	740
2011-12	92	784
2012-13(P)	118	704

Section – 4

Foreign Trade

Direction of Trade

Section-4

Export

The value of exports of minerals excluding petroleum (crude) from India, which was showing increasing trend in the decade has decreased to Rs. 159747 crore during 2012-13 as compared to Rs. 175237 crore in 2011-12. Diamond accounted for 79% of the total value of exports of minerals during 2012-13 followed by iron ore 6% and granite 5 percent.

India imports diamond (uncut) and after cutting & polishing exports the same thus earning substantial foreign exchange by value addition. The share of diamond in the value of exports of minerals increased from 66% to 79% during the period 2008-09 to 2012-13.

The export of iron ore had fluctuating trends throughout the decade and at 18 million tonnes during 2012-13, it decreased by 62% as compared to previous year.

Granite emerged as one of the leading foreign exchange earner during the decade. Its value of exports at Rs. 7940 crore in 2012-13 was more than thrice of the value of its exports in 2003-04 and registered an increase of about 24% as compared to 2011-12.

The exports of manganese ore fluctuated during the decade ending 2012-13. The exports during 2012-13 were 72 thousand tonnes which were lower by 4

percent as compared to previous year whereas the value of exports of manganese ore decreased by 39% as compared to the preceding year.

Other notable mineral items exported from India during 2012-13 were alumina, barytes, chromite, coal, coke, lead ore & conc., titanium ores & conc., emerald (cut & uncut) and some precious & semi-precious stones, zinc ore & concentrates, etc.

Imports

The value of imports of minerals and metals went up steeply from Rs. 176774 crore in 2003-04 to the level of Rs. 1568133 crore in 2012-13. During the year 2012-13, the share of petroleum (crude) in the total value of imports of minerals was 72% and that of diamond 10%, coal 7%, natural gas 4% and copper ore & concentrates 3%. The value of import of petroleum (crude) was Rs. 814867 crores in 2012-13 and that of diamond was Rs. 117568 crore.

India imported 138 million tonnes of coal valued at Rs. 81018 crore in 2012-13. The quantity of imports of petroleum (crude) went up steadily from 93 million tonnes in 2003-04 to 192 million tonnes in 2012-13. The value of imports of petroleum (crude) alone was at Rs. 814867 crore which accounted for 72% in the total value of imports of minerals in 2012-13.

The imports of rock phosphate fluctuated during the decade ending 2012-

13. The quantity of imports of rock phosphate at 8.16 million tonnes decreased by 16% in the year 2012-13 as compared to the year 2011-12.

The imports of sulphur (excluding precipitated, sublimed and colloidal) were at the level at 1.0 million tonnes in 2003-04, fluctuated during the decade and it was about 1.55 million tonnes during 2012-13. The value of imports (excluding precipitated, sublimed and colloidal) was Rs. 1736 crore in 2012-13.

Coke, copper ores & concentrates, iron ore, asbestos, emerald (cut & uncut), precious and semi-precious stones, manganese ore, marble and molybdenum ores & concentrates etc. were the other important minerals imported into India in 2012-13.

Exports of Chromite, 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	745	149
2004-05	1117	799
2005-06	693	631
2006-07	1203	794
2007-08	907	1223
2008-09	1899	974
2009-10	689	801
2010-11	173	286
2011-12	225	489
2012-13(P)	196	311

Exports of Granite, 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	2098	2506
2004-05	2609	2726
2005-06	2841	3491
2006-07	3292	4725
2007-08	3701	4287
2008-09	3959	4815
2009-10	3828	4994
2010-11	4500	5593
2011-12	4605	6382
2012-13(P)	6063	7940

Value of Exports of Granite, 2008-09 to 2012-13
(By Principal Countries)

(Rs. Crore)

Country	2008-09	2009-10	2010-11	2011-12	2012-13(P)
All Countries	**4815**	**4994**	**5593**	**6382**	**7940**
China	1129	1221	1904	1920	2681
USA	800	685	742	934	1206
Turkey	136	189	229	277	346
Germany	261	279	248	309	312
UK	193	215	190	233	262
Italy	294	242	288	288	244
UAE	225	222	172	185	230
Belgium	192	209	179	201	216
Hong Kong	156	210	141	172	177
Chinese Taipei/Taiwan	94	109	101	165	157
Others	1335	1413	1399	1698	2109

Exports of Iron Ore, 2003-04 to 2012-13		
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)
2003-04	515	5174
2004-05	873	14727
2005-06	840	16829
2006-07	914	17656
2007-08	685	23400
2008-09	689	21725
2009-10	1015	28366
2010-11	469	21416
2011-12	472	22184
2012-13(P)	178	8783

Value of Exports of Iron Ore, 2008-09 to 2012-13
(By Principal Countries)

(Rs. Crore)

Country	2008-09	2009-10	2010-11	2011-12	2012-13(P)
All Countries	**21725**	**28366**	**21416**	**22184**	**8783**
China P Rp	19913	24264	19900	20100	7548
Japan	1176	1484	533	1264	1013
Netherlands	-	41	63	153	94
Korea Rp	214	299	406	478	76
Italy	3	7	-	10	14
Bangaladesh	24	41	++	-	-
Others	395	2230	514	179	38

Exports of Manganese Ore, 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	240	50
2004-05	318	70
2005-06	237	46
2006-07	157	45
2007-08	208	83
2008-09	205	121
2009-10	289	117
2010-11	99	80
2011-12	75	44
2012-13(P)	72	27

Exports of Marble, 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	261	238
2004-05	242	223
2005-06	259	249
2006-07	290	281
2007-08	311	408
2008-09	307	363
2009-10	276	305
2010-11	522	327
2011-12	325	386
2012-13(P)	372	543

Exports of Mica, 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	124	137
2004-05	98	90
2005-06	80	106
2006-07	81	109
2007-08	100	125
2008-09	191	180
2009-10	94	162
2010-11	127	226
2011-12	132	289
2012-13(P)	128	346

Imports of Asbestos, 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	183	257
2004-05	177	272
2005-06	236	415
2006-07	253	519
2007-08	312	590
2008-09	347	874
2009-10	331	939
2010-11	366	1003
2011-12	378	1199
2012-13(P)	460	1900

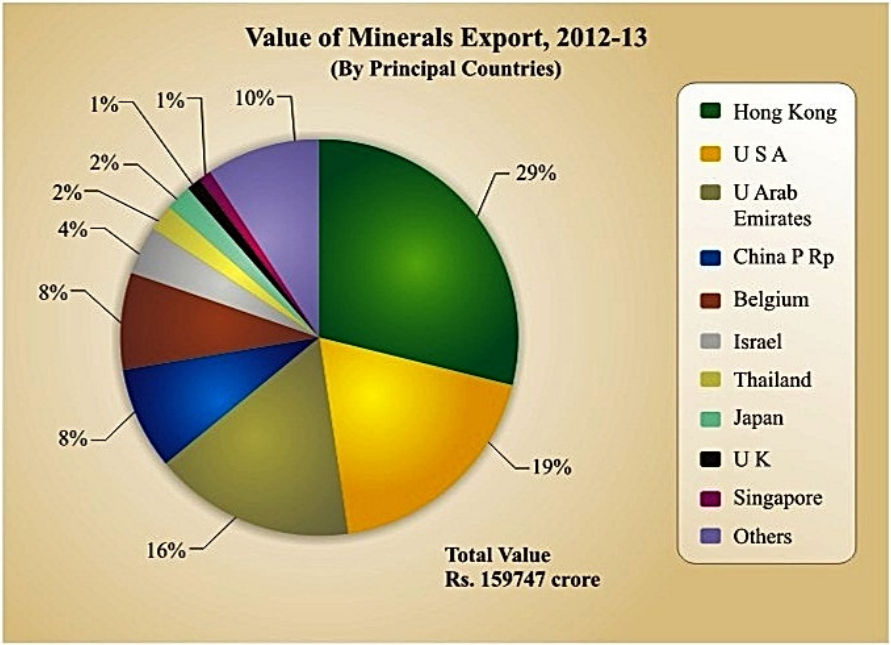
Imports of Coal, 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	21682	5008
2004-05	28949	10266
2005-06	38587	14909
2006-07	43079	16689
2007-08	49792	20739
2008-09	59004	41341
2009-10	73257	39180
2010-11	68918	41549
2011-12	102841	78827
2012-13(P)	137561	81018

Imports of Petroleum (Crude), 2003-04 to 2012-13		
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)
2003-04	932	86512
2004-05	967	118932
2005-06	993	172429
2006-07	1068	213088
2007-08	1153	257462
2008-09	1300	346845
2009-10	1536	365901
2010-11	1531	421616
2011-12	1657	643689
2012-13(P)	1922	814867

Imports of Rock Phosphate, 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	2312	602
2004-05	4290	1291
2005-06	4478	1391
2006-07	5009	1614
2007-08	5018	1853
2008-09	5010	4840
2009-10	5684	3275
2010-11	5194	3211
2011-12	9730	8315
2012-13(P)	8161	7310

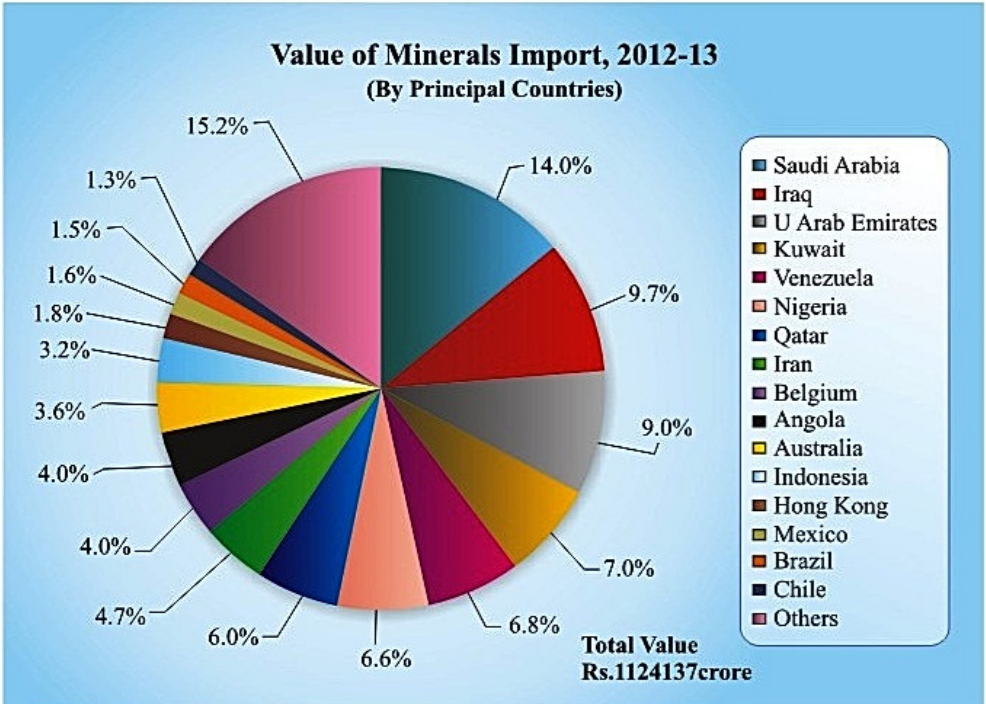
Imports of Sulphur*, 2003-04 to 2012-13		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2003-04	1003	395
2004-05	1433	575
2005-06	1390	602
2006-07	1402	494
2007-08	1406	1456
2008-09	1286	2994
2009-10	1534	681
2010-11	1357	1098
2011-12	2038	2283
2012-13(P)	1547	1736

***** *Excluding sublimed, ppt and colloidal.*


Value of Minerals Export, 2012-13
(By Principal Countries)
29%
19%
16%
8%
8%
4%
2%
2%
1%
1%
10%
Hong Kong
U S A
U Arab Emirates
China P Rp
Belgium
Israel
Thailand
Japan
U K
Singapore
Others
Total Value
Rs. 159747 crore

Value of Exports of Minerals, 2012-13(P) (By Principal Countries)		
Country	Value (Rs. Crore)	Percentage Contribution
Total	**159747**	**100**
Hong Kong	46110	29
U S A	30063	19
U Arab Emirates	26138	16
China P Rp	13323	8
Belgium	12610	8
Israel	6326	4
Thailand	3475	2
Japan	3405	2
U K	1819	1
Singapore	1694	1
Others	14784	10

Value of Exports of Metals, 2012-13(P) (By Principal Countries)		
Country	Value (Rs. Crore)	Percentage Contribution
Total	**139496**	**100**
U Arab Emirates	34032	24
U S A	13100	9
China P Rp	13092	9
Korea Rp	5139	4
Germany	4107	3
Saudi Arabia	3615	3
Belgium	3586	3
Italy	3562	3
Malaysia	2923	2
Thailand	2687	2
Singapore	2491	2
Nepal	2363	2
UK	2238	2
Others	46561	32


Value of Minerals Import, 2012-13
(By Principal Countries)
15.2%
14.0%
1.3%
1.5%
1.6%
1.8%
3.2%
3.6%
4.0%
4.0%
4.7%
6.0%
6.6%
6.8%
7.0%
9.0%
9.7%
Saudi Arabia
Iraq
U Arab Emirates
Kuwait
Venezuela
Nigeria
Qatar
Iran
Belgium
Angola
Australia
Indonesia
Hong Kong
Mexico
Brazil
Chile
Others
Total Value
Rs.1124137crore

Value of Imports of Minerals, 2012-13(P) (By Principal Countries)		
Country	Value (Rs. Crore)	Percentage Contribution
Total	**1124137**	**100.0**
Saudi Arabia	157847	14.0
Iraq	108982	9.7
U Arab Emirates	101432	9.0
Kuwait	78728	7.0
Venezuela	76746	6.8
Nigeria	74111	6.6
Qatar	67519	6.0
Iran	52569	4.7
Belgium	44931	4.0
Angola	44480	4.0
Australia	40770	3.6
Indonesia	35907	3.2
Hong Kong	20705	1.8
Mexico	17988	1.6
Brazil	17081	1.5
Chile	14630	1.3
Others	169711	15.1

Value of Imports of Metals, 2012-13(P) (By Principal Countries)		
Country	Value (Rs. Crore)	Percentage Contribution
Total	**443996**	**100**
Switzerland	149369	34
U Arab Emirates	61099	14
South Africa	28827	6
China P Rp	28068	6
U S A	26813	6
Australia	17706	4
Korea Rp	15359	3
Japan	13595	3
U K	11420	3
German F R/Germany	11067	2
Russia	7354	2
Hong Kong	6063	1
Singapore	5772	1
Others	61484	15

Exports, Imports and Net Trade in Minerals and Metals, 2003-04 to 2012-13
(Rs. Crore)

Year	Minerals and Metals (Including Petroleum)			Minerals (Excluding Petroleum Crude)		
	Exports	Imports	Difference	Exports	Imports	Difference
2003-04	67040	176774	-109734	49814	43548	+6266
2004-05	106878	262071	-155193	70346	65826	+4520
2005-06	119447	335988	-216541	79657	71410	+8247
2006-07	143552	428489	-284937	80606	91940	-11334
2007-08	161383	491454	-330071	94913	92045	+2868
2008-09	191536	713998	-522462	109157	167664	-58507
2009-10	185807	739255	-553448	127743	158929	-31186
2010-11	268423	955845	-687422	174370	247394	-73023
2011-12	277809	1362740	-1084931	175237	300742	-125505
2012-13(P)	299243	1568133	-1268890	159747	309269	-149522

Exports, Imports and Net Trade in Minerals and Metals, 2003-04 to 2012-13 (Rs. Crore)						
Year	Petroleum Crude			Metals		
	Exports	Imports	Difference	Exports	Imports	Difference
2003-04	112	86512	-86400	17114	46714	-29600
2004-05	123	118932	-118809	36410	77313	-40903
2005-06	133	172429	-172296	39657	92149	-52492
2006-07	325	213088	-212763	62621	123461	-60840
2007-08	109	257462	-257353	66361	141947	-75586
2008-09	140	346845	-346705	82239	199489	-117250
2009-10	89	365901	-365812	57975	214425	-156450
2010-11	++	421616	-421616	94052	286835	-192783
2011-12	72	643689	-643617	102500	418310	-315810
2012-13(P)	++	814867	-814867	139496	443996	-304500

Share of Principal Minerals in the Value of Mineral Exports, 2008-09 to 2012-13

Exports

Year	Exports of all Minerals (Rs. Crore)	Percentage Share of Principal Minerals						
		Diamond*	Iron Ore	Granite	Alumina	Emerald (Cut & Uncut)	Chromite	Others
2008-09	109296	66	20	4	1	++	1	8
2009-10	127831	67	22	4	1	++	1	5
2010-11	174370	77	12	3	2	++	++	6
2011-12	175310	77	13	4	1	++	++	5
2012-13(P)	159747	79	6	5	1	2	++	7

** Includes mostly cut, industrial and powder.*

Share of Principal Minerals in the Value of Mineral Imports, 2008-09 to 2012-13 Imports								
Year	Imports of All Minerals (Rs. Crore)	Percentage Share of Principal Minerals						
		Petroleum (Crude)	Diamond*	Coal	Natural Gas	Copper Ore & Conc.	Coke	Others
2008-09	514509	67	15	8	3	3	1	3
2009-10	524830	70	14	7	2	4	1	2
2010-11	669010	63	23	6	2	3	++	3
2011-12	944430	68	14	8	3	3	1	3
2012-13(P)	1124137	72	10	7	4	3	1	3

** Includes mostly cut, industrial and powder.*

Share of Principal Countries in the Value of Exports of Diamond, 2008-09 to 2012-13 Exports of Diamond (Mostly Cut)									
Year	Value of Exports (Rs. Crore)	Percentage Share of Principal Importing Countries							
		Hong Kong	USA	UAE	Belgium	Israel	Thai-land	Singa-pore	Others
2008-09	72092	30	18	22	11	5	2	2	10
2009-10	85126	30	18	29	9	4	1	2	7
2010-11	134064	25	13	35	7	3	1	++	16
2011-12	133881	32	18	22	12	5	2	1	8
2012-13(P)	126566	36	22	19	10	5	2	1	5

Share of Principal Countries in the Value of Imports of Diamond, 2008-09 to 2012-13
Imports of Diamond (Mostly Cut)

Year	Value of Imports (Rs. Crore)	Percentage Share of Principal Exporting Countries						
		Belgium	UAE	Hong Kong	UK	Israel	USA	Others
2008-09	74842	24	26	28	6	4	3	9
2009-10	74299	29	35	18	5	4	5	4
2010-11	152657	21	40	21	3	4	5	6
2011-12	132181	30	26	25	5	5	4	5
2012-13(P)	117568	38	25	16	6	6	4	5

Production, Exports/Imports and Apparent Consumption as Percentage of Total Availability, 2012-13(P) (By Selected Minerals)

Mineral	Total Availability* ('000 tonnes)	Percentage Share of			
		Gross Production	Imports	Exports	Apparent Consumption
Barytes	1745	100	-	100	-
Steatite	942	100	-	13	87
Bauxite	15427	100	-	22	78
Silica sand	3744	99	1	-	100
Iron Ore	139076	98	2	13	87
Limestone	290352	96	4	4	96
Chromite	3167	93	7	6	94
Coal	693963	80	20	0	100
Magnesite	292	73	27	3	97
Manganese Ore	4649	50	50	2	98
Sulphur & Pyrites	1996	22	78	19	81
Rock Phosphate	10285	21	79	-	100
Petroleum (crude)	230099	16	84	-	100
Asbestos	461	-	100	-	100

** Total Availability = Apparent Consumption + Exports = Production + Imports*

Section – 5

Average Daily Employment in Mines

Average Daily Employment in Mines

Section-5

Average Daily Employment in Mines

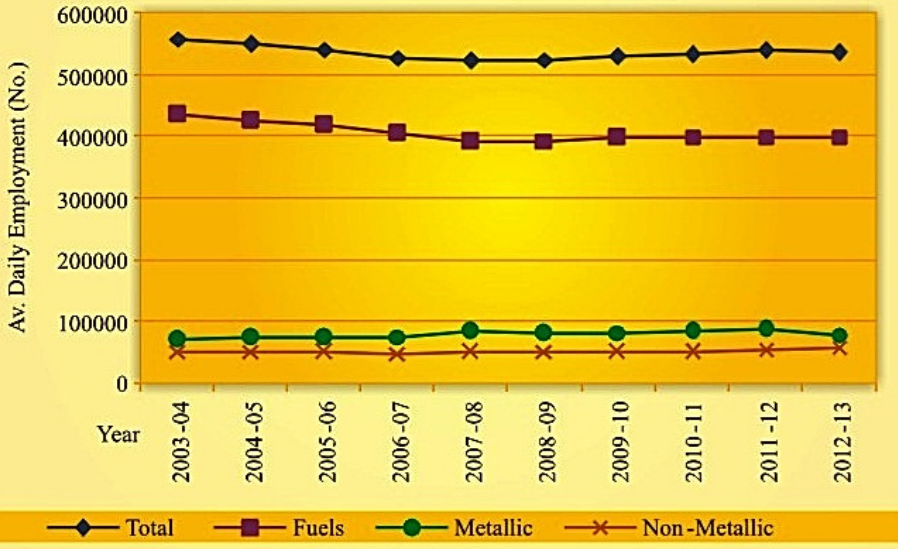
The average daily employment of labour at around 5.58 lakh persons during 2003-04, was decreasing till 2007-08 and then increased marginally every year during the decade till 2011-12. It again decreased to 5.36 lakh persons in 2012-13. Among the major group of minerals, fuel accounted for 74% to the total employment during 2012-13, metallic minerals 15% and non-metallic minerals 11 percent. The average daily employment of labour in 2012-13 was 535982 which was marginally lower as compared to the preceding year.

In the case of fuel minerals, coal and lignite together accounted for 93% of the labour force engaged during 2012-13 in fuel group of minerals. Iron ore alone accounted for 50% of the total employment in metallic group of minerals, followed by manganese ore 19%, bauxite 9%, chromite and lead & zinc concentrates 7% each and copper concentrates and gold 4% each. The share of limestone in the labour employed in non-metallic minerals was 39% followed by steatite (7%), dolomite and quartz (6% each), garnet (abrasive) (5%), felspar, kaolin, sillimanite, silica sand 4% each, while remaining 21% labour were employed in other non-metallic minerals.

In the case of metallic and non-metallic minerals covered under MCDR,

1988 (which excludes fuel, atomic and minor minerals) 455 mines of category 'A' employed 84 thousand persons while 2663 mines of 'B' category employed about 52 thousand persons in 2012-13. The contribution of category 'A' and category 'B' mines to the total value of MCDR minerals in 2012-13 was 79% and 21% respectively. About 40 thousand persons were engaged in 225 public sector mines and 96 thousand persons engaged in 2893 private sector mines in 2012-13. The shares of public and the private sectors in the total value of metallic and non-metallic minerals production were 37% and 63% respectively.

Average Daily Employment in Mines
(By Mineral Groups)



Average Daily Employment in Mines, 2003-04 to 2012-13 (By Groups)				
Year	Total	Fuels*	Metallic Minerals	Non-metallic Minerals
2003-04	558002	435359	70977	51666
2004-05	549452	424366	73855	51231
2005-06	541330	418178	73188	49964
2006-07	528434	404960	75039	48435
2007-08	523171	390937	83181	49053
2008-09	525024	392988	81119	50917
2009-10	530699	398845	82000	49854
2010-11	532985	399570	84336	49079
2011-12	540607	399570	85769	55268
2012-13(P)	535982	399570	78632	57780

**: Calendar year*

Source: Fuel - DGMS, Dhanbad
Metallic & Non-metallic - Returns received under MCDR, 1988.

Average Daily Employment in Metallic Minerals Mines, 2012-13(P) (By Sectors)			
Mineral	Total	Public	Private
Total	**78632**	**28596**	**50036**
Iron Ore	39617	11313	28304
Manganese Ore	14618	7563	7055
Lead & Zinc Concentrates	5736	-	5736
Bauxite	6905	1418	5487
Chromite	5670	2286	3384
Gold	3129	3098	31
Copper Concentrates	2918	2918	-
Tin Concentrates	39	-	39

Average Daily Employment in Non-Metallic Minerals Mines, 2012-13(P) (By Sectors)			
Mineral	Total	Public	Private
Total	**57780**	**11455**	**46325**
Limestone	22615	3272	19343
Steatite	4009	-	4009
Quartz	3498	94	3404
Dolomite	3419	770	2649
Garnet (Abrasive)	2768	1093	1675
Kaolin	2437	275	2162
Sillimanite	2407	2407	-
Silica Sand	2053	94	1959
Felspar	2036	162	1874
Apatite & Phosphorite	1563	1366	197
Chalk	1261	-	1261
Others	9714	1922	7792

Employment in Mines, 2012-13(P) (Metallic & Non-Metallic Minerals) (By Category/Sector)			
Category/Sector	No. of Mines	Average Daily Employment for the Group	Value of Production (Rs. Crore)
Total	**3118**	**136412**	**50581**
Category A	455	84122	40098
Category B	2663	52290	10483
Public Sector	225	40051	18875
Private Sector	2893	96361	31706

Category 'A' *i) Mechanised Mines*
ii) > 150 labours in all
iii) > 75 labours in workings below ground

Category 'B' *: Other than 'A'*

Section – 6

Consumption of Minerals

Section-6

Consumption of Minerals

Iron & Steel Industry

Iron ore is the basic raw material required for iron & steel industry. Besides coal, limestone, dolomite, manganese ore, bauxite, ferro-alloys, fireclay and fluorite are also widely consumed.

During the year 2012-13, upward trend of mineral consumption in above minerals was observed in iron & steel industry except in case of coal and flourite. The increase in consumption was noticed in respect of limestone (7.9%), iron ore (5.8%), and dolomite (1.8%).

Consumption of bauxite, fire clay, manganese ore and ferro alloys maintained almost the same level in 2012-13 over its previous year. During the year 2012-13, the consumption of coal and fluorite decreased by about 6.1% and 4.3% respectively.

Cement Industry

Important minerals, consumed in cement industry are limestone with other calcareous materials and gypsum. Besides quartz, quartzite & silica sand, bauxite,

coal, kaolin (china clay), fire clay and iron ore are also consumed.

During the year 2012-13 consumption increased in respect of quartz/quartzite/silica sand (70%), coal (5.2%) and limestone with other calcareous materials (1.2%) while considerable decrease was observed in case of fireclay (13.4%), iron ore (5.1%), bauxite (4.5%) and gypsum (2.2%)

The consumption of kaolin maintained the same level.

Refractory Industry

During the year 2012-13, significant increase in consumption was observed in respect of dolomite (75.8%), chromite (61.5%), quartz & quartzite (47.4%) and kyanite and sillimanite (38%) in refractory industry. The consumption of magnesite and kaolin was decreased by 18.8% and 5.5% respectively during the year.

The consumption of fireclay and bauxite and diaspore maintained almost the same level over its previous year.

Consumption of Minerals in Iron & Steel Industry, 2003-04 to 2012-13

('000 tonnes)

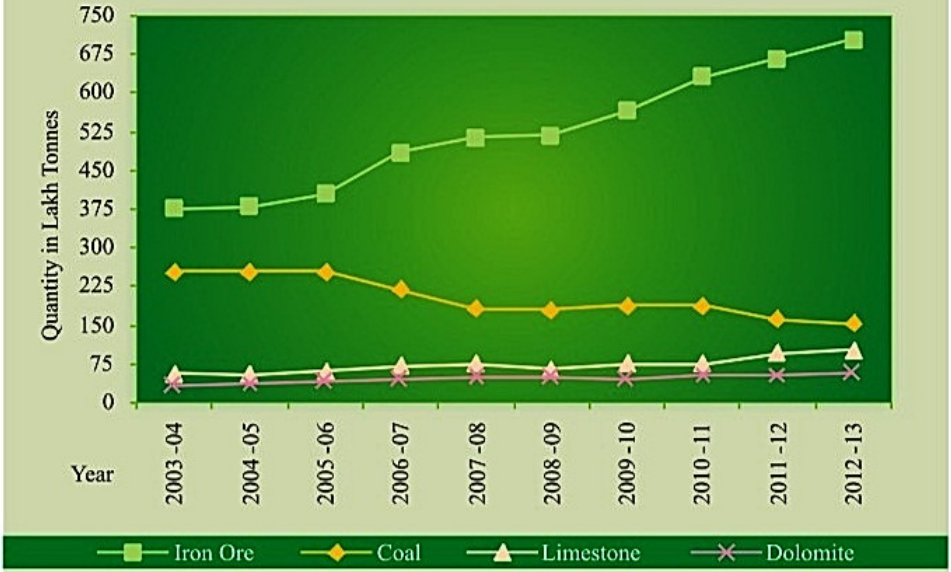
Year	Iron Ore*	Coal*@	Lime-stone*	Dolomite	Manganese Ore	Ferro-Alloys	Bauxite	Fire clay	Fluorite
2003-04	374	252	54	2988	101	265	1	N.A.	N.A.
2004-05	378	252	53	3644	169	259	1	N.A.	N.A.
2005-06	402	252	59	3740	123	395	1	N.A.	N.A.
2006-07	484	217.7	69.6	4330	139	418	1	20	3
2007-08	513.0	179.7	73.2	4580	108	449	1	21	2
2008-09	516.6	177.7	62.3	4790	148	538	1	35	3
2009-10	564.2	185.7	72.5	4360	135	574	1	35	1
2010-11(R)	629.5	186.3	72.5	5290$	151	571	1	29	3
2011-12(R)	663.7	160.5	93.2	5310$	254	630	1	11	2
2012-13(P)	702.5	150.7#	100.6	5410$	254	631	1	11	2

* *Lakh tonnes. @ Relates to despatches of coal. (R) Revised (P) Provisional*

\# *Provisional coal statistics, 2012-13, Office of the Coal Controller, Kolkata.*

$ *The figures for iron & steel and pelletisation (iron & steel) added.*

Consumption of Minerals in Iron & Steel Industry



Consumption of Minerals in Cement Industry, 2003-04 to 2012-13

('000 tonnes)

Year	Limestone[*#]	Coal[*@]	Gypsum[*]	Quartz [$]	Bauxite	Iron Ore	Kaolin	Fireclay
2003-04	1185	146	41	304	423	832	203	270
2004-05	1264	162	43	290	504	985	207	273
2005-06	1320	147	49	289	516	950	238	262
2006-07	1570	147	57	293	693	1066	243	262
2007-08	1680	152.7	59.5	293	615	1022	270	247
2008-09	1720	131.2	65.6	298	1144	1074	339	245
2009-10	2030	131.2	69.8	279	1043	1294	642	245
2010-11(R)	2320	141.8	82.1	332	1082	1494	665	286
2011-12(R)	2400	128.8	88.6	357	1040	1548	665	276
2012-13(P)	2430	135.5 [#]	86.6	608	993	1468	665	239

* *Lakh tonnes. #: Limestone and other calcareous material. (R) Revised (P) Provisional*

@ *Relates to despatches of coal. $ Includes Quartz, Quartzite and Silica Sand.*

Provisional coal statistics, 2012-13, Office of the Coal Controller, Kolkata.

Consumption of Minerals in Refractory Industry, 2003-04 to 2012-13

('000 tonnes)

Year	Dolomite	Fire clay	Magnesite*	Quartz & Quartzite	Bauxite & Diaspore	Chromite*	Kyanite & Sillimanite	Kaolin
2003-04	372	162	154	48	193	13	17	18
2004-05	372	178	220	48	220	21	20	27
2005-06	373	188	215	61	295	21	24	24
2006-07	373	179	239	59	295	23	28	23
2007-08	63	182	239	53	304	23	20	28
2008-09	63	182	312	54	318	24	17	28
2009-10	63	163	229	65	128	24	18	33
2010-11(R)	213	171	163	43	118	45	15	34
2011-12(R)	213	182	138	46	280	25	15	35
2012-13(P)	375	181	112	68	280	41	21	33

** Includes consumption in iron & steel industry.*

Section – 7

Production of Mineral-Based Products

Production of Mineral-based Products, 2003-04 to 2012-13

Section – 7

Production of Mineral-Based Products

Cement and Asbestos-Cement Products

The output of cement in the country has almost doubled during 2012-13 at 2406 lakh tonnes as compared to 1170 lakh tonnes in 2003-04 and it was nearly 8% higher as compared to the level of previous year.

Ceramic Products

The total production of ceramic products consisting of glazed tiles and insulators showed increasing trend from 783 thousand tonnes in 2003-04 to a highest level of 1634 thousand tonnes in the year 2011-12 and then decreased to 1520 thousand tonnes in the year 2012-13. The output of glazed tiles at 744 thousand tonnes in 2003-04 recorded an increasing trend till 2011-12 and was at 1464 thousand tonnes during 2012-13. Production of insulators recorded a fluctuating trend during the decade and was at the level of 56 thousand tonnes during 2012-13.

Fertilisers and Sulphuric Acid

The output of fertilisers witnessed fluctuations during the decade and reported the production of 16.3 million tonnes in 2012-13.The production of sulphuric acid at 5730 thousand tonnes was 2.4% lower in 2012-13 as compared to the previous year.

Production of Cement and Asbestos-Cement Products, 2003-04 to 2012-13[@]

Year	Cement	Asbestos-Cement Products*
	Production (Lakh tonnes)	Production ('000 tonnes)
2003-04	1170	1480
2004-05	1253	1736
2005-06	1405	2050
2006-07	1547	2232
2007-08	1676	2448
2008-09	1814	2382
2009-10	2007	2606
2010-11	2097	2468
2011-12	2235	N.A.
2012-13(P)	2406	N.A.

** Includes the production of asbestos cement sheets and Asbestos cement pressure & building pipes, etc.*

Source: Department of Industrial Policy and Promotion.

@ Production figures pertain to the units included in the sample/frame for Index of Industrial Production with base year 2004-05.

Production of Ceramic Products, 2003-04 to 2012-13@ ('000 tonnes)		
Year	Glazed Tiles	Insulators (H.T. and L.T.)
2003-04	744	39
2004-05	827	40
2005-06	1077	44
2006-07	1340	41
2007-08	1365	55
2008-09	1381	56
2009-10	1452	61
2010-11	1478	68
2011-12	1573	61
2012-13(P)	1464	56

Source: Department of Industrial Policy and Promotion.

@ Production figures pertain to the units included in the sample/frame for Index of Industrial Production with base year 2004-05.

Production of Fertilisers, 2003-04 to 2012-13 ('000 tonnes)		
Year	Phosphatic	Nitrogenous
2003-04	3632	10634
2004-05	4067	11335
2005-06	4221	11354
2006-07	4517	11578
2007-08	3807	10900
2008-09	3464	10870
2009-10	4321	11900
2010-11	4223	12157
2011-12	4104	12259
2012-13*	3876	12399

Source: Annual report 2012-13,
Department of Fertilisers,
Ministry of Chemicals and Fertilisers.
** :Figures reported are estimated.*

Production of Sulphuric Acid, 2003-04 to 2012-13[@] ('000 tonnes)	
Year	Production
2003-04	6076
2004-05	6665
2005-06	6974
2006-07	7156
2007-08	6569
2008-09	6395
2009-10	7444
2010-11	5670
2011-12	5870
2012-13(P)	5730

Source: Department of Industrial Policy and Promotion.

@ Production figures pertain to the units included in the sample/frame for Index of Industrial Production with base year 2004-05.

Section – 8

Mining Machinery

Mining Machinery, 2012-13

Section – 8

Mining Machinery

During the reporting year, 2012-2013, a total number of 510 opencast mechanised mines were covered for compilation of statement on mining machinery as against 542 mines covered during 2011-12. Hence, there is a decrease of 5.9% on the coverage of mines during the year.

Like previous year, the majority of the mechanised mines covered are of limestone, iron ore, gypsum, bauxite, chromite and others. Conventional method of deep hole blasting with Shovel – Dumper combination are mostly found.

It is observed that there is a decrease in the number of mining machinery like Blast Holes Drills, Dipper Shovel (Hydraulic), Cranes and Locomotives; whereas, an increase in the number of mining machinery like Hauler/Dumper, Back Hoe, Front End Loader, Motor Grader, Dipper Shovel (Mech.), Crusher, Air Compressor, Bull Dozer and Surface Miners is reported during the year. However, there was an overall increase in the number of mining machinery to the extent of 2.12 percent.

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Dipper Shovels (Mechanical and Hydraulic)

Capacity (Cu.m)	Total			Mechanical			Hydraulic		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
In Use (Nos.)									
< 1.16	77	8	69	8	-	8	69	8	61
1.16-2.30	46	10	36	8	-	8	38	10	28
2.31-3.45	71	7	64	20	-	20	51	7	44
3.46-4.60	149	42	107	14	13	1	135	29	106
>4.60	98	44	54	26	17	9	72	27	45
Total	**441**	**111**	**330**	**76**	**30**	**46**	**365**	**81**	**284**
In Reserve (Nos.)									
< 1.16	5	3	2	-	-	-	5	3	2
1.16-2.30	3	-	3	-	-	-	3	-	3
2.31-3.45	7	1	6	-	-	-	7	1	6
3.46-4.60	14	3	11	2	2	-	12	1	11
>4.60	2	-	2	-	-	-	2	-	2
Total	**31**	**7**	**24**	**2**	**2**	-	**29**	**5**	**24**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Front End Loaders

Capacity (cu.m.)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 1.16	106	9	97	1	-	1
1.16 – 2.30	367	33	334	24	3	21
2.31 – 3.45	122	11	111	10	2	8
3.46 – 4.60	66	5	61	4	2	2
> 4.60	45	10	35	2	1	1
Total	**706**	**68**	**638**	**41**	**8**	**33**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Bulldozers/Ripper Dozers

Capacity (h.p.)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 100	30	6	24	-	-	-
100-200	100	15	85	8	3	5
201-300	61	7	54	10	5	5
301-400	145	32	113	10	7	3
> 400	146	70	76	2	-	2
Total	**482**	**130**	**352**	**30**	**15**	**15**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13
Motor Graders

Capacity (h.p.)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 100	8	3	5	-	-	-
100-200	50	7	43	2	-	2
201-300	39	21	18	1	1	-
301-400	4	1	3	1	-	1
> 400	4	4	-	-	-	-
Total	**105**	**36**	**69**	**4**	**1**	**3**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Haulers/Dumpers

Capacity (tonnes)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 10	2307	122	2185	46	18	28
10-20	1698	325	1373	98	33	65
21-30	1005	195	810	76	5	71
31-40	845	108	737	58	16	42
41-60	365	111	254	28	5	23
61-100	205	87	118	-	-	-
101-150	59	12	47	3	-	3
> 150	40	7	33	3	-	3
Total	**6524**	**967**	**5557**	**312**	**77**	**235**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Drills/Blast Holes

Capacity in diameter of the hole/bit (m.m.)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 50	124	29	95	14	1	13
50-100	134	40	94	15	9	6
101-150	336	70	266	47	6	41
151-200	98	29	69	2	1	1
> 200	26	17	9	-	-	-
Total	**718**	**185**	**533**	**78**	**17**	**61**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Crushers

Capacity (tonnes/hour)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 10	24	1	23	2	-	2
10-50	35	6	29	2	-	2
51-100	67	3	64	3	-	3
101-300	169	19	150	7	3	4
301-500	52	8	44	-	-	-
> 500	114	36	78	3	-	3
Total	**461**	**73**	**388**	**17**	**3**	**14**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Air Compressors (Diesel & Electric)

Capacity (cu.m./min.)	Total			Diesel			Electric		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
In Use (Nos.)									
< 5	120	25	95	89	15	74	31	10	21
5.0 – 10	98	15	83	71	11	60	27	4	23
10.1 – 15	245	54	191	221	51	170	24	3	21
15.1 – 50	70	20	50	49	7	42	21	13	8
50.1 – 100	27	9	18	20	4	16	7	5	2
> 100	115	22	93	106	19	87	9	3	6
Total	**675**	**145**	**530**	**556**	**107**	**449**	**119**	**38**	**81**
In Reserve (Nos.)									
< 5	28	6	22	27	6	21	1	-	1
5.0 – 10	21	1	20	14	-	14	7	1	6
10.1 – 15	34	8	26	30	8	22	4	-	4
15.1 – 50	6	1	5	3	1	2	3	-	3
50.1 – 100	-	-	-	-	-	-	-	-	-
> 100	16	1	15	15	1	14	1	-	1
Total	**105**	**17**	**88**	**89**	**16**	**73**	**16**	**1**	**15**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Locomotives

Pay load capacity (tonnes)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 50	1	-	1	-	-	-
50-100	7	2	5	-	-	-
101-150	-	-	-	-	-	-
151-200	-	-	-	-	-	-
> 200	12	10	2	-	-	-
Total	**20**	**12**	**8**	**-**	**-**	**-**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Back Hoes

Capacity (cu.m.)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 1.16	499	77	422	136	2	134
1.16 – 2.30	346	49	297	18	-	18
2.31 – 3.45	126	18	108	8	1	7
3.46 – 4.60	66	8	58	3	-	3
> 4.60	15	5	10	-	-	-
Total	**1052**	**157**	**895**	**165**	**3**	**162**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Cranes

Lifting capacity (tonnes/hour)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 10	86	27	59	2	-	2
10-20	50	23	27	1	-	1
21-50	32	16	16	1	-	1
51-75	12	2	10	-	-	-
> 75	4	-	4	-	-	-
Total	**184**	**68**	**116**	**4**	-	**4**

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2012-13

Surface Miners

Capacity (tonnes/hour)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 150	16	-	16	-	-	-
150-200	9	-	9	-	-	-
201-250	5	-	5	-	-	-
251-300	7	-	7	-	-	-
> 300	7	-	7	-	-	-
Total	**44**	-	**44**	-	-	-

Appendix - I

Decennial Growth in Production of Important Minerals

Mineral	Unit	1952	1962	1972	1982	1992-93	2002-03	2012-13
Fuels								
Coal	'000 t	36840	61370	75658	128504	241998	341272	556402
Lignite	'000 t	45	211	3067	6673	16618	26018	46453
Natural Gas (Utilised)	m.cu. m.	-	187	927	2861	16116	29964	40679
Petroleum (Crude)	'000 t	263	1078	7373	19734	26950	33044	37862
Metallic Minerals								
Bauxite	'000 t	65	587	1684	1998	5145	9867	15360
Chromite	'000 t	36	67	295	364	1071	3069	2950
Copper Concentrates	'000 t	26	38	46	143	282	152	124
Copper Ore	'000 t	330	492	873	2479	5210	3071	3639
Gold	Kg.	7877	5080	3290	2244	1850	3153	1588
Gold Ore	'000 t	N.A.	712	605	512	389	612	471
Iron Ore	'000 t	4475	19674	35391	42752	57495	99072	136019
Lead Concentrates	'000 t	2	6	5	22	61	59	184
Zinc Concentrates	'000 t	4	10	17	53	301	486	1493
Lead & Zinc Ore	'000 t	N.A.	159	354	974	2782	3075	8582
Manganese Ore	'000 t	1597	1636	1643	1491	1903	1678	2322
Silver	kg.	550	4315	4427	14403	46560	59502	374046

(Contd.)

Decennial Growth in Production of Important Minerals (Concld.)

Mineral	Unit	1952	1962	1972	1982	1992-93	2002-03	2012-13
Non-Metallic Minerals								
Apatite & Phosphorite	'000 t	++	29	229	632	707	1213	2125
Barytes	'000 t	10	33	48	364	481	680	1739
Diamond	th. carats	2	1	20	13	18	84	32
Dolomite	'000 t	4	914	1348	2198	3232	3630	6713
Fire Clay	'000 t	121	404	733	878	462	514	817
Gypsum	'000 t	418	1122	1105	962	1802	2653	3538
Kaolin	'000 t	87	175	414	555	668	823	3679
Kyanite	'000 t	27	50	68	38	10	5	1
Sillimanite	'000 t	5	8	4	13	20	13	44
Laterite	'000 t	N.A.	N.A.	N.A.	N.A.	368	638	3373
Limestone	'000 t	5282	16939	26067	34611	80206	155744	279736
Magnesite	'000 t	90	213	251	419	541	278	213
Mica (Crude)	tonnes	7686*	28481	14173	8775	2560	1232	1255
Steatite	'000 t	21	109	211	344	414	688	939

* Relates to dressed mica.

Appendix – II

Decennial Mineral Production

Mineral	Unit	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Fuels											
Coal	'000 t	361246	382615	407039	430832	457082	492757	532042	532694	539950	556402
Lignite	'000 t	27958	30475	30066	31285	33980	32421	34071	37733	42332	46453
Natural Gas(U/L)	m. cu. m.	30908	30820	32202	31747	32417	32845	47496	52219	47559	40679
Petroleum(Crude)	'000 t	33373	34015	32190	33988	34118	33508	33690	37684	38090	37862
Metallic Minerals											
Bauxite	t	10924786	11964011	12595803	15732535	22624960	15460202	14124093	12722820	13599566	15360464
Chromite	t	2904809	3621394	3714284	5295551	4872684	4073479	3425580	4325699	2923435	2950115
Copper Ore	t	2902972	2929074	2642706	3273906	3242371	3452406	3271169	3601984	3479189	3638751
Copper Conc.	t	143135	137003	125392	149584	150187	137514	124577	136856	130456	123655
Gold Ore	t	622468	492748	479353	512609	681243	587215	517520	741522	491562	470561
Gold	kg	3457	3526	3047	2488	2969	2438	2084	2399	2194	1588
Iron Ore	'000 t	122838	145942	165230	187696	213250	212960	218553	207157	168582	136019
Lead &Zinc Ore	t	3644263	3928500	4801184	5139915	5783099	6680698	7101872	7539999	8041881	8582015
Lead Conc.	t	73069	81675	95738	107334	125755	133768	133921	147625	161854	184485
Zinc Conc.	t	590276	666424	889007	947387	1035828	1224077	1279880	1427231	1414009	1492781
Manganese Ore	t	1776153	2386396	1906353	2115507	2696980	2789025	2491950	3056385	2411871	2322214
Silver	kg	37870	10955	27961	53271	80697	105284	138780	148303	207144	374046
Tin Conc.	kg	15576	23503	98734	100835	63218	59778	59016	60643	48765	47776

Decennial Mineral Production (Contd…)

Mineral	Unit	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Non-Metallic Minerals											
Agate	t	55	25	9	38	25	-	11	19	476	493
Apatite	t	10448	8596	9053	9464	6691	6415	5992	3846	3053	572
Phosphorite	t	1435959	1722983	2049277	1993468	1849188	1803954	1605489	2097490	2259726	2124326
Asbestos	t	10107	6392	2323	390	269	315	243	268	276	387
Ball Clay	t	837847	637022	406675	626801	796134	997676	932993	1086714	1646516	1855654
Barytes	t	723075	1159031	1156227	1680695	1076290	1686148	2152552	2338806	1776980	1738824
Calcite	t	122329	66984	73558	105724	86364	67284	49309	38826	54081	72076
Chalk	t	117185	129571	148352	210838	194934	203085	185218	177197	178736	166931
Clay (Others)	t	790191	1240963	805765	1224235	818993	1220783	1056273	730752	1417684	1987136
Corundum	kg	117030	18560	58000	156000	89920	21000	6600	-	37000	-
Diamond	crt	71260	78316	44170	2180	586	536	16891	11222	18490	31989
Diaspore	t	13775	21008	24494	15944	21236	24642	25569	26082	23818	16030
Dolomite	t	4051409	4339306	4750512	5171649	5852296	5509237	5911759	5839710	5968554	6712840
Dunite	t	31040	20756	36621	29708	57989	50935	71642	23716	38774	86495
Felspar	t	332220	379055	426498	479715	488458	534032	496997	546472	835526	1291493
Fireclay	t	657080	662633	535735	497402	544973	495781	548748	856741	983155	816692
Felsite	t	947	683	981	642	550	1238	3049	1670	1117	1196

Decennial Mineral Production (Contd…)

Mineral	Unit	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Fluorite (Graded)	t	6555	6291	5577	2053	3970	3176	105232	59954	5010	3107
Fluorite (Conc.)	t	5838	7717	3764	-	3794	6814	-	-	-	-
Garnet (Abrasive)	t	490893	642329	671541	865618	1275919	1151241	1580617	2126337	1717904	1277971
Garnet (Gem)	kg	544	90	-	-	-	-	-	-	-	-
Graphite (R.O.M.)	t	87207	108150	125651	162293	170813	117767	124625	115697	153339	132156
Gypsum	t	2773813	3684758	3291478	3005572	3400050	3876671	3370322	4918170	3978806	3537755
Iolite	kg	-	-	-	-	-	-	758	4	-	-
Jasper	t	2533	1265	536	-	-	99	-	-	-	-
Kaolin	t	896884	933654	1335744	1460363	1466442	2083731	2798340	2727946	3076795	3678930
Kyanite	t	9057	8208	8869	8059	5102	4620	5495	5954	4064	1066
Sillimanite	t	19729	30711	33119	26366	40537	33702	33687	48784	59206	43736
Laterite	t	828179	949973	1040816	1476260	1478590	1237393	1300772	1220304	2815275	3372636
Limestone	'000 t	153404	165753	170029	196695	193089	221573	232950	246336	262568	279736
LimeKankar	t	358468	470526	291926	395817	336385	434332	335067	383817	311219	217918
Limeshell	t	135782	138071	110296	103548	128250	97856	62215	30410	33225	23228
Magnesite	t	323977	383953	340674	238981	252849	252880	301070	235762	224104	213377
Marl	t	-	-	-	-	4155925	4167452	5908226	4399379	4140577	4360302

Decennial Mineral Production (Concld.)

Mineral	Unit	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Mica (Crude)	t	1076	1276	2116	1411	4578	1462	1061	1333	1899	1255
Mica(Waste &Scrap)	t	2928	2497	4754	3170	3505	5685	8098	7311	14186	14669
Ochre	t	959673	919018	1007088	1047831	1233221	766382	1258207	1218261	1576265	1794475
Perlite	t	279	355	122	68	-	-	-	-	-	-
Pyrophyllite	t	176254	271225	182526	147807	203707	255699	240747	240082	255891	245399
Pyroxenite	t	240391	265847	340953	301733	289321	281785	279332	253205	86031	54257
Quartz	t	287188	319004	302259	293660	315281	430734	512320	497546	782575	1041133
Quartzite	t	66654	97036	109210	102711	95850	97458	112652	118117	272141	364894
Silica Sand	t	2537669	1962029	2369977	2663289	4303513	2836804	2545988	3380968	4867667	3690016
Sand (Others)	t	1191854	1496160	2277632	1770235	1804306	1808185	2159405	2057119	2625111	2628935
Salt (Rock)	t	1813	3073	1871	1714	1216	2011	1836	1200	-	-
Shale	t	1897969	2218004	2683853	2849877	2894922	3047063	3033948	3081622	3439775	3048568
Slate	t	11381	5825	2527	4	7827	8931	-	-	-	278
Steatite	t	726398	684440	681534	739849	922505	888995	876548	902686	998438	939022
Selenite	t	19740	5169	-	-	3864	15224	14598	6736	13047	7577
Sulphur	t	108856	113904	152090	204186	227311	269572	263124	236998	381146	449004
Vermiculite	t	4493	3377	6674	11827	8910	12647	11662	19234	10194	7689
Wollastonite	t	150814	170292	128582	131572	118666	111581	132385	183381	184445	141550

This publication is designed to meet the needs of policy makers, planners, industrialists, economists, academicians, researchers and others connected with planning, exploitation and utilisation of minerals and related activities.