



INDIAN MINERAL INDUSTRY AT A GLANCE 2011-12



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Ministry of Mines

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Indian Mineral Industry at a Glance

2011-12



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PREFACE

"Indian Mineral Industry at a Glance 2011-12" is the thirty third edition in its series. 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.

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. In each section the salient features of the data presented therein 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. are updated for earlier years 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 2003-04 to 2011-12. 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 on mining and minerals not only to those connected with mineral industries but also to others to supplement information.

Nagpur
Dated: 13th December, 2013


(C. S. Gundewar)
Controller General
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(ii) *In certain cases sum of individual items may not tally with the total of the table due to rounding off the figures.*

<u>Symbols and Abbreviations</u>	
(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

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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 1951 and touched the peak level of Rs. 255677 crore in 2011-12. The increase in the value was attributable to both rises in mineral production as well as in mineral prices.

During 2011-12, 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 1951.

The index of mineral production in new series (base 2004-05=100) has declined from 131.06 in 2010-11 to 128.45 in 2011-12 registering a decrease of 2% as compared to 2011-12.

Fuel minerals contributed a major share of 69% in the value of mineral production in 2011-12, followed by metallic minerals about 18% and non-metallic minerals (including minor minerals) 13 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 24% in the value of national output. Next in order was Odisha with a

share of 11% followed by Rajasthan and Andhra Pradesh (9% each); Chhattisgarh (7%); Jharkhand and Gujarat (6% each), Assam (5%); Madhya Pradesh (4%); West Bengal, Goa, Uttar Pradesh and Maharashtra (3% each); Tamil Nadu, Meghalaya and Karnataka (2% each) in the total value of mineral production while other 16 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 2011-12 was at Rs. 255677 crore showing an increase of about 2.5% in comparison with the previous year. Public sector accounted for around 59% of the total value of mineral production during the year. The total number of reporting mines in 2011-12 (excluding those of petroleum (crude), natural gas (utilised), atomic and minor minerals) increased by about 4% as compared to previous year and totalled 3234. Of these, 573 mines belonged to coal & lignite, 633 to metallic minerals and 2028 to non-metallic minerals.

Growth during 1951 to 2011-12

The mining sector has shown significant growth since 1951. The value of mineral production reached the level of Rs. 255677 crore in 2011-12 from Rs. 80 crore in 1951. 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. 52 crore in 1951 to Rs. 175497 crore in 2011-12. Similarly, the value of metallic minerals rose from Rs. 19 crore to Rs. 46902 crore and non-metallic minerals including minor minerals from Rs. 9 crore to Rs. 33278 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 540 Million tonnes in 2011-12 was more than 15 times of its production at 35 million tonnes recorded in 1951. The production of lignite at 42 million tonnes was substantially higher than the that of 34 thousand tonnes in 1951. The production of petroleum (crude) at 38 million tonnes during 2011-12 was also significantly higher than that of the 269 thousand tonnes in 1951. Natural gas (utilised), which had no production in 1951, recorded a production of 47559 m.cu.m. in 2011-12.

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 1951 to 167 million tonnes in 2011-12. The production of

bauxite increased from 68 thousand tonnes in 1951 to 12877 thousand tonne in 2011-12, chromite from 17 thousand tonnes to 3764 thousand tonnes, manganese ore from 1398 thousand tonnes to 2349 thousand tonnes, lead concentrates from 2 thousand tonnes to 161 thousand tonnes and zinc concentrates from 2 thousand tonnes to 1412 thousand tonnes. The production of silver, a by-product, was at 207142 kg. as compared to 454 kg. in 1951.

Non-Metallic Minerals

In the non-metallic group of minerals, the production of limestone at 257 million tonnes in 2011-12 was more than 48 times of the output recorded in 1951. The production of apatite & phosphorite rose from less than a thousand tonne in 1951 to 2330 thousand tonnes during 2011-12, barytes from 11 thousand tonnes to 1723 thousand tonnes, dolomite from 14 thousand tonnes to 5417 thousand tonnes, gypsum from 207 thousand tonnes to 3189 thousand tonnes, kaolin from 70 thousand tonnes to 2734 thousand tonnes, magnesite from 119 thousand tonnes to 218 thousand tonnes and steatite from 34 thousand tonnes to 959 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	tonnes	-	10588	10588
Ore	tonnes	-	174	174
Metal				
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 (Concl...				
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 ₂ O ₅	tonnes	1603	63284	64887
Vermiculite	tonnes	1704007	803003	2507010
Wollastonite	tonnes	2487122	14082751	16569873
Zircon	tonnes	1347470	1786482	3133952

Mining Leases as on 31-3-2012[@] (By Principal Minerals)				
Mineral	No. of Mining Leases Granted/Executed	% to Total Leases	Area (‘000 ha)	% to Total Area
Total	11456	100	530	100
Limestone	2109	18	161	30
Iron Ore	798	7	97	18
Silica Sand	684	6	33	6
Bauxite	343	3	30	6
Manganese Ore	343	3	23	4
China Clay	700	6	21	4
Quartz	2247	20	19	4
Steatite	505	4	17	3
Dolomite	542	5	8	2
Mica	307	3	7	1
Fireclay	269	2	6	1
Others	2609	23	108	21

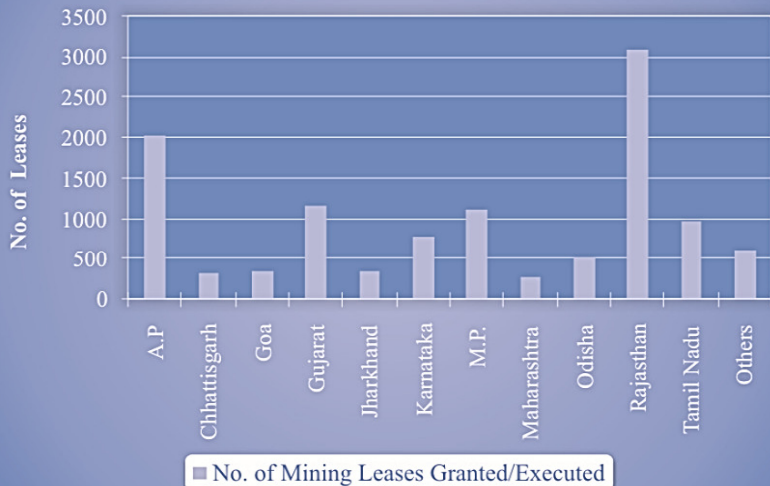
@ Excluding fuel, atomic and minor minerals.

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

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

Note : The total no. of mining leases includes 2950 leases expired on or before 31.03.2012.

Mining Leases as on 31-3-2012 (By Principal States)



Mining Leases as on 31-3-2012[@] (By Principal States)				
State	No. of Mining Leases Granted/Executed	% to Total Leases	Area ('000 ha)	% to Total Area
All States	11456	100	530	100
Rajasthan	3085	27	116	22
Odisha	496	4	75	14
Andhra Pradesh	2031	18	70	13
Karnataka	762	7	59	11
Jharkhand	332	3	37	7
Madhya Pradesh	1105	10	33	6
Gujarat	1162	10	29	6
Goa	336	3	24	5
Chhattisgarh	320	3	23	4
Maharashtra	255	2	16	3
Tamil Nadu	972	8	13	2
Others	600	5	35	7

@ Excluding fuel, atomic and minor minerals.

Note : The total no. on mining leases includes 2950 leases expired on or before 31.03.2012.

Concentration of Mining Leases as on 31-3-2012 [@] (By Potential)					
Potential Bearing Districts	No. of Districts	No. of Mining Leases Granted/ Executed	% to Total Leases	Area ('000 ha)	% to Total Area
Total	284	11456	100	530	100
Low	223	2892	25	197	37
Medium	32	2156	19	100	19
High	29	6408	56	233	44

[@] Excluding fuel, atomic and minor minerals.

Note : The total no. on mining leases includes 2950 leases expired on or before 31.03.2012.

High : > 100 mining leases in a district

Medium : 50 – 100 mining leases in a district

Low : < 50 mining leases in a district

Distribution of Mining Leases as on 31-3-2012[@] (By Sectors)				
Sector	No. of Mining Leases Granted/Executed	% to Total Leases	Area ('000 ha)	% to Total Area
Total	11456	100	530	100
Public Sector	549	5	161	30
Private Sector	10907	95	369	70

Distribution of Mining Leases as on 31-3-2012[@] (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	11456	100	530	100
0-50	38	523	5	61	11
51-200	14	1578	14	57	11
201-400	4	1262	11	66	12
401-2000	6	3823	33	168	32
>2000	2	4270	37	178	34

[@] Excluding fuel, atomic and minor minerals.

Note : The total no. on mining leases includes 2950 leases expired on or before 31.03.2012.

Distribution of Mining Leases as on 31-3-2012[@] (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	11456	100	530	100
0-10	7132	62	28	5
10-20	1076	9	16	3
20-50	1372	12	45	9
50-100	922	8	68	13
100-200	449	4	63	12
200-500	300	3	92	17
Above 500	205	2	218	41

@ Excluding fuel, atomic and minor minerals.

Note : The total no. on mining leases includes 2950 leases expired on or before 31.03.2012.

Number of Reporting Mines, 2002-03 to 2011-12 (By Mineral Groups)				
Year	Total*	Coal & Lignite	Metallic Minerals	Non-Metallic Minerals
2002-03	3146	562	591	1993
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	3234	573	633	2028

**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, 2011-12[@] (By Principal Minerals)			
Mineral	Total	'A' Category	'B' Category
Total	82	30	52
Apatite	1	-	1
Asbestos	3	1	2
Barytes	2	-	2
Chalk	1	-	1
Chromite	5	5	-
Copper Ore	3	3	-
Gold	4	3	1
Lead & Zinc	6	6	-
Manganese Ore	13	8	5
Mica	23	2	21
Steatite	21	2	19

@ Excluding fuel, atomic & minor minerals.

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

'B' Other than 'A'

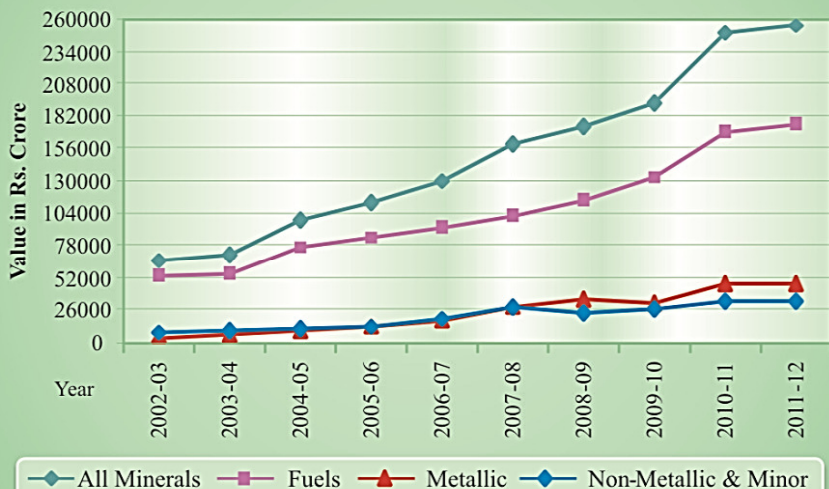
Decennial Growth in the Value of Mineral Production, 1951 to 2011-12[@] (By Groups) (Rs. Crore)				
Year	Total	Fuels	Metallic Minerals	Non-Metallic and Minor Minerals
1951	80	52	19	9
1961	181	121	31	29
1971	503	348	69	87
1981	3739	3023	297	420
1991-92	20754	16993	1634	2127
2001-02	60948	49324	3978	7646
2011-12	255677	175497	46902	33278

@ Excluding atomic minerals.

Value of Mineral Production, 2002-03 to 2011-12[@] (By Mineral Groups) (Rs. Crore)				
Year	All Minerals	Fuels	Metallic Minerals	Non-Metallic and Minor Minerals
2002-03	66875	53043	4679	9153
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	249406	168581	47639	33186
2011-12	255677	175497	46902	33278

@ Excluding atomic minerals.

Value of Mineral Production (By Groups)



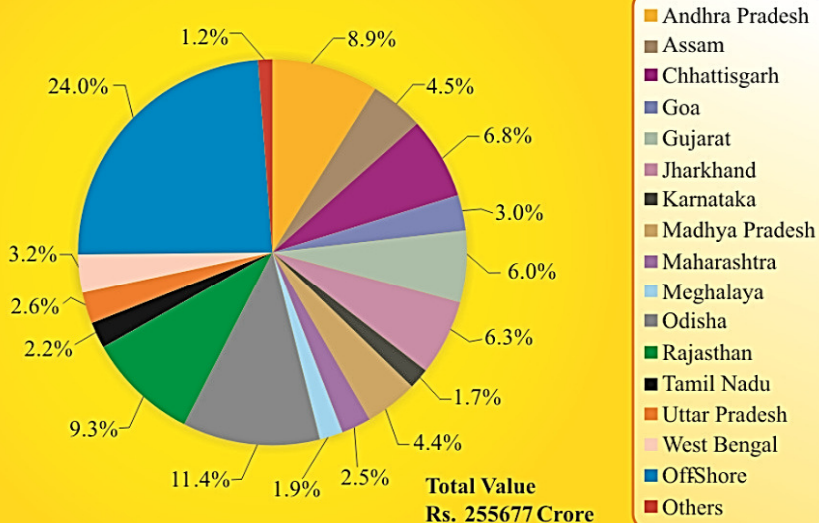
Value of Mineral Production[@]		
(By Minerals)		
	(Rs. Crore)	
Minerals	2002-03	2011-12
All Minerals	66875	255677
Coal	24187	70172
Petroleum (crude)	18406	69545
Iron Ore	2965	37965
Natural Gas (utilised)	8707	30443
Lignite	1743	5338
Limestone	1557	3653
Chromite	467	2652
Lead & Zinc Concentrates	361	2236
Manganese Ore	239	1171
Apatite & Phosphorite	201	644
Copper Concentrates	218	617
Bauxite	218	552
Gold	166	550
Barytes	25	165
Dolomite	90	152
Garnet (abrasive)	10	135
Gypsum	29	132
Others	7286	29555

[@] Excluding atomic minerals.

Value of Mineral Production[@] (By States)			(Rs. Crore)
State	2002-03	2011-12	
India	66875	255677	
Andhra Pradesh	5911	22657	
Assam	3039	11476	
Chhattisgarh	4586	17480	
Goa	496	7625	
Gujarat	5203	15449	
Jharkhand	5922	16147	
Karnataka	1077	4467	
Madhya Pradesh	3755	11257	
Maharashtra	2831	6294	
Meghalaya	618	4924	
Odisha	3474	29241	
Rajasthan	2701	23752	
Tamil Nadu	1899	5636	
Uttar Pradesh	2728	6693	
West Bengal	2407	8273	
Off-Shore	18571	61259	
Others	1657	3047	

@ Excluding atomic minerals.

Value of Mineral Production (By States), 2011-12



Value of Mineral Production,[@] 2002-03 to 2011-12 (By Sectors) (Rs. Crore)			
Year	Total	Public Sector	Private Sector
2002-03	66875	51405	15470
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	249406	141001	108405
2011-12	255677	150199	105478

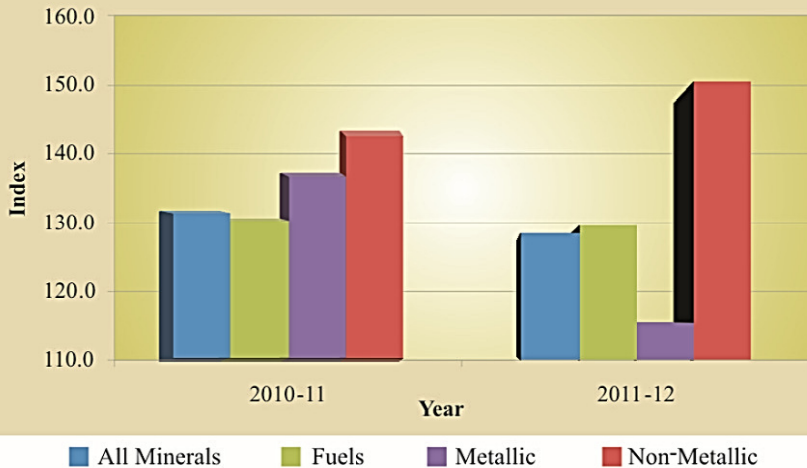
@ Excluding atomic minerals.

Value of Mineral Production & Number of Mines, 2011-12 (By Sectors)			
	Total *	Public Sector	Private Sector
No. of Mines	2661	221	2440
Total Value #	52393	18631	33762
Metallic #	46902	17152	29750
Non-metallic #	5491	1479	4012

* Excluding fuel, atomic & minor minerals.

Value in Rs. Crore.

**Index of Mineral Production
(By Groups)
(Base 2004-05=100)**



Index of Mineral Production, 2002-03 to 2011-12
(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

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

Wholesale Price Index, 2002-03 to 2011-12
(By Groups)

(Base 2004-05 = 100)

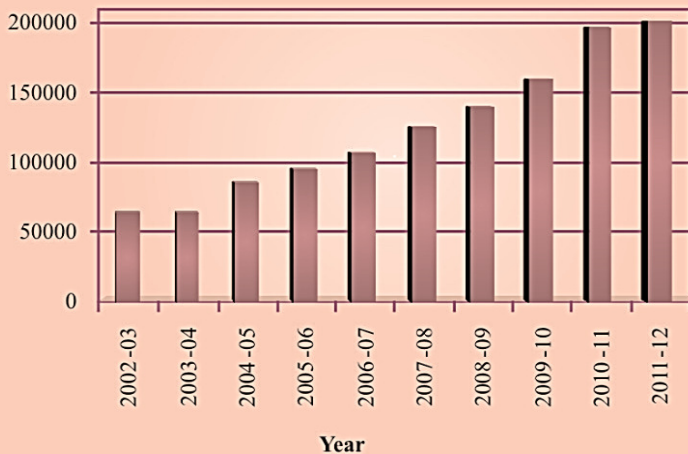
Year	All Commodities	Minerals	Metallic Minerals	Other Minerals	Mineral Oils
2002-03	N.A.	N.A.	N.A.	N.A.	N.A.
2003-04	N.A.	N.A.	N.A.	N.A.	N.A.
2004-05	100.00	100.00	100.00	100.00	100.00
2005-06	104.47	115.15	127.92	104.78	116.73
2006-07	111.35	136.61	162.14	108.38	127.40
2007-08	116.63	152.78	192.77	116.14	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

Gross Domestic Product at Current Prices (All Sector)



Gross Domestic Product at Current Prices (For Mining & Quarrying sector)

GDP from Mining & Quarrying (Rs. Crore)



Gross Domestic Product (GDP) at Current Prices (Rs. Crore)			
Year	Total GDP	Mining & Quarrying	Percentage
2002-03	2343864	62982	2.7
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	7266967	196092	2.7
2011-12	8353495	201076	2.4

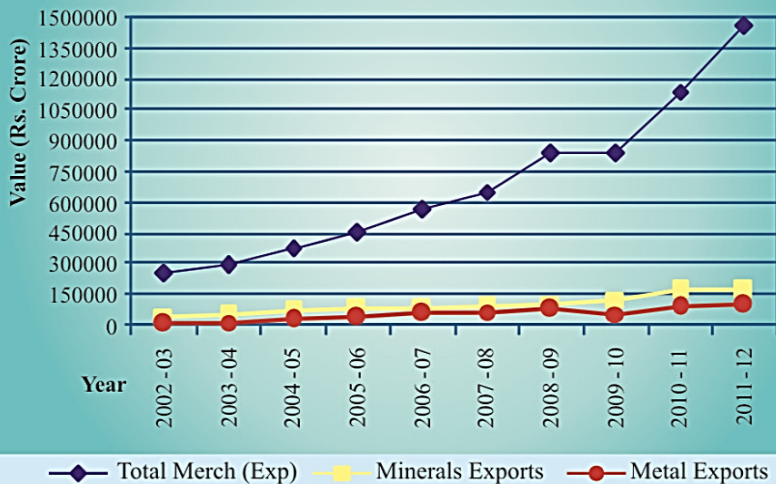
Exports Total Merchandise: Minerals & Metals

(Rs. Crore)

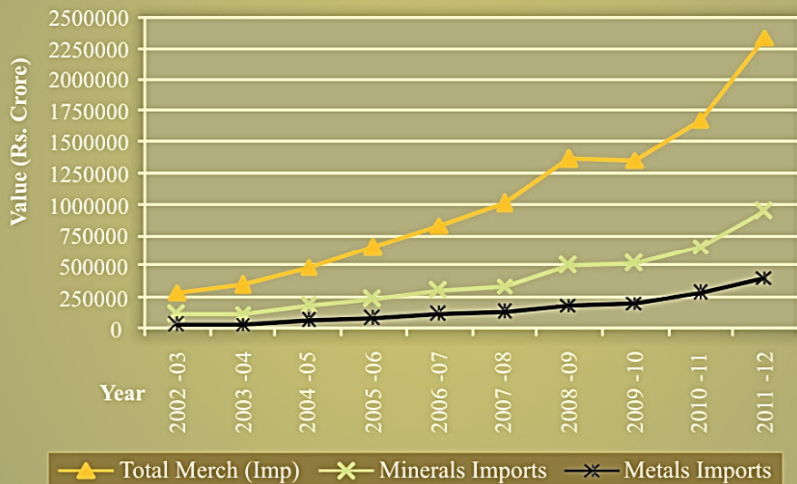
Year	Total Merchandise	Minerals	% Share	Metals	% Share
2002-03	255137	46618	18	13578	5
2003-04	293367	49914	17	17089	6
2004-05	375340	69374	18	35106	9
2005-06	456418	79790	17	39657	9
2006-07	571779	80931	14	62621	11
2007-08	655864	95022	14	66361	10
2008-09	840755	109296	13	82239	10
2009-10	845534	127831	15	57975	7
2010-11	1142922	174370	15	94052	8
2011-12	1465959	175310	12	102500	7

Exports

Total Merchandise : Minerals & Metals



Imports Total Merchandise : Minerals & Metals



Imports Total Merchandise : Minerals & Metals (Rs. Crore)					
Year	Total Merchandise	Minerals	% Share	Metals	% Share
2002-03	297206	117294	39	31647	11
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

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, 2002-03 to 2011-12, (Principal Minerals)	Coal	: 38
	Lignite	: 39
	Petroleum (Crude)	: 40
	Natural gas (Utilised)	: 41
	Bauxite	: 42
	Chromite	: 43
	Copper Ore & Concentrates	: 44
	Gold Ore and Gold	: 45
	Iron Ore	: 46
	Lead & Zinc Ore and Concentrates	: 47
	Manganese Ore	: 48
	Apatite & Phosphorite	: 49
	Barytes	: 50

Diamond	: 51
Dolomite	: 52
Fireclay	: 53
Gypsum	: 54
Kaolin	: 55
Kyanite	: 56
Limestone	: 57
Magnesite	: 58
Mica (Crude)	: 59
Sillimanite	: 60
Steatite	: 61

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 540 million tonnes during 2011-12. The production of lignite also maintained a rising trend during the decade ending 2011-12 except in 2005-06 and 2008-09 and it was 42 million tonnes during 2011-12. The production of petroleum (crude) at 38 million tonnes, was increasing during the decade except a marginal decrease in 2005-06 & 2008-09. The output of natural gas (utilised) was increasing during the decade except in 2004-05, 2006-07 and 2011-12 and it was 47559 m.cu.m. during 2011-12.

Metallic Minerals

The production of bauxite showed gradual increase during the decade till 2007-08, then started declining and ended up with 13 million tonnes in 2011-12 showing a marginal increase over the previous year. The production of chromite had a mixed trend during the decade and at 3.8 million in 2011-12, it decreased by 13% as compared to the previous year. The output of copper concentrates revealed a fluctuation trend during the decade and its production in 2011-12 at 130 thousand tonnes decreased by 5% in 2011-12 over the preceding year. Maintaining an upward

production trend during the decade till 2007-08 and then showing fluctuations, the output of iron ore in 2011-12 at 167 million tonnes decreased by 19% over 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 by 23% to 2.3 million tonnes at the end of 2011-12. The production of lead concentrates at 161 thousand tonnes in 2011-12 was highest and that of zinc concentrates at 1412 thousand tonnes was second highest ever in the decade.

Non-Metallic Minerals

Fluctuating trend in the production of apatite & phosphorite was observed during the decade ending 2011-12. Its production was at 2.3 million tonnes in 2011-12 was highest ever with an increase of 11% compared to the previous year. The production of barytes fluctuated during the decade ending 2011-12 and stood at 1723 thousand tonnes registering a fall of 26% as compared to the highest level in the previous year. The production of diamond showed mixed trend and it was 18 thousand carats during 2011-12. The production trend in dolomite was increasing till 2007-08 and thereafter showed mixed trend. It declined to 5.4 million tonnes in 2011-12 showing a decrease of 7% as compared to the previous year.

The trend in production of fireclay was fluctuating during the decade ending 2011-12 and its output at 760 thousand tonnes at the end of decade was 11% lower as compared to the previous year. The output of gypsum had a mixed trend during the decade ending 2011-12 and it was 3189 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 823 thousand tonnes in 2002-03 to 2734 thousand tonnes in 2011-12. The output of kyanite maintained a fluctuating trend of production during the decade and at 4 thousand tonnes in 2011-12 it decreased by 33% as compared to the previous year.

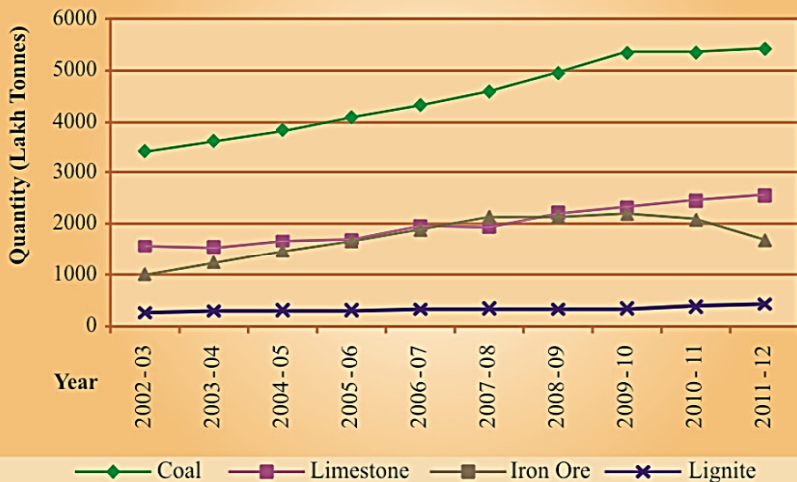
The production of limestone has showed an increasing trend during the decade ending 2011-12 except a marginal decrease in 2003-04 and 2007-08. Its production at 257 million tonnes in 2011-12 was 4% higher over the preceding year. The production of magnesite, however showed mixed trend during the decade ending 2011-12 and it was 218 thousand tonnes during 2011-12, about 8% less than the previous year. The output of mica (crude) also showed a fluctuating trend during the decade ending 2011-12 and was 1.8 thousand tonnes at the end of it from 4.6 thousand tonnes in 2007-08. The output of steatite with a fluctuating trend during the decade ending 2011-12 was highest at 959 thousand tonnes at the end it.

Production of Coal, 2002-03 to 2011-12				
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)	No. of* Mines	Labour* Employed (Av. Daily)**
2002-03	3413	24187	556	413467
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	354458
2011-12	5400	70172	559	354458

* *Excluding Meghalaya*

** *Data relates to calendar year*

Production of Principal Minerals



Production of Lignite, 2002-03 to 2011-12				
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)	No. Of Mines	Labour Employed (Av. Daily)
2002-03	260	1743	6	9127
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

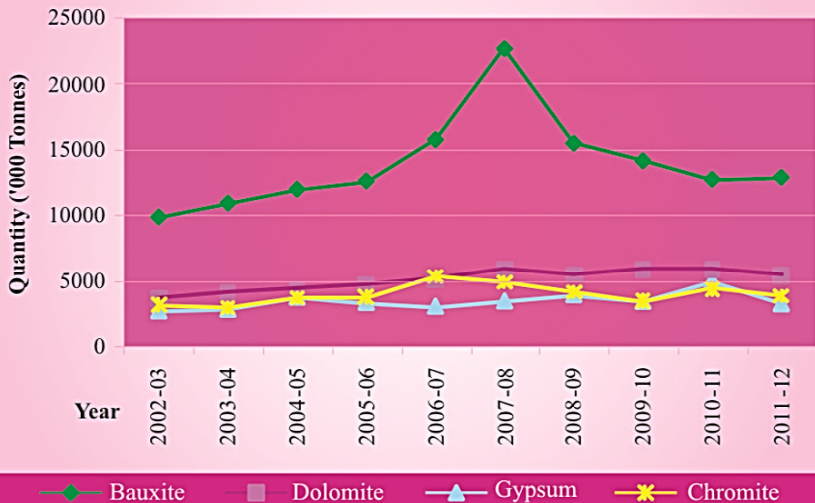
Production of Petroleum (Crude), 2002-03 to 2011-12		
Year	Quantity (‘000 tonnes)	Value (Rs. Crore)
2002-03	33044	18406
2003-04	33373	18589
2004-05	34015	36080
2005-06	32190	40479
2006-07	33988	45679
2007-08	34118	49694
2008-09	33508	53385
2009-10	33690	60789
2010-11	37684	68804
2011-12	38090	69545

Production of Natural Gas (Utilised), 2002-03 to 2011-12		
Year	Quantity (m.cu.m.)	Value (Rs. Crore)
2002-03	29964	8707
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	30443

Production of Bauxite, 2002-03 to 2011-12

Year	Quantity (’000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	9867	218	177	6247
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	12877	552	155	7028

Production of Principal Minerals



Production of Chromite, 2002-03 to 2011-12				
Year	Quantity (’000 tonnes)	Value (Rs.Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	3069	467	20	5536
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	3764	2652	20	5851

Production of Copper Ore and Concentrates, 2002-03 to 2011-12					
Year	Copper Ore Quantity (‘000 tonnes)	Copper Concentrates		No. of Mines	Labour Employed (Av. Daily)
		Quantity (‘000 tonnes)	Value (Rs. Crore)		
2002-03	3071	152	218	7	2950
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	3478	130	617	4	3546

Production of Gold Ore and Gold, 2002-03 to 2011-12							
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)		
2002-03	612	2799	354	3153	166	3	2944
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	2192	-	2192	550	4	3499

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

Production of Iron Ore, 2002-03 to 2011-12				
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	991	2965	242	34667
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	1673	37965	294	45106

Production of Lead & Zinc Ore and Concentrates, 2002-03 to 2011-12

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)		
2002-03	3075	59	52	486	309	8	3067
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	161	246	1412	1989	6	4601

Production of Manganese Ore, 2002-03 to 2011-12

Year	Quantity (’000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	1678	239	133	13837
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	2349	1171	144	13928

Production of Apatite and Phosphorite,2002-03 to 2011-12				
Year	Quantity (’000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	1213	201	12	1883
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	2330	643	7	1688

Production of Barytes, 2002-03 to 2011-12

Year	Quantity (‘000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	680	25	16	586
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	1723	165	7	484

Production of Diamond, 2002-03 to 2011-12				
Year	Quantity (‘000 carats)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	84	40	2	320
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

Production of Dolomite, 2002-03 to 2011-12				
Year	Quantity (‘000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	3630	90	101	2688
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	5417	152	165	2894

Production of Fireclay, 2002-03 to 2011-12				
Year	Quantity (‘000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	514	7	88	1011
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	760	13	65	655

Production of Gypsum, 2002-03 to 2011-12				
Year	Quantity (‘000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	2653	29	42	447
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	3189	132	35	339

Production of Kaolin, 2002-03 to 2011-12				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	823	91	117	3796
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	2734	63	71	1501

Production of Kyanite,2002-03 to 2011-12				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	5	0.5	5	95
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	2	34

Production of Limestone, 2002-03 to 2011-12				
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	1557	1557	556	20838
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	20036
2011-12	2567	3653	659	23202

Production of Magnesite, 2002-03 to 2011-12				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	278	35	19	2414
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	218	34	11	764

Production of Mica (Crude), 2002-03 to 2011-12				
Year	Quantity (’000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	1.2	3.3	32	501
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	1.8	6.2	34	436

Production of Sillimanite, 2002-03 to 2011-12				
Year	Quantity ('000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	13	4	4	1846
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	58	52	4	1763

Production of Steatite, 2002-03 to 2011-12				
Year	Quantity (‘000 tonnes)	Value (Rs. Crore)	No. of Mines	Labour Employed (Av. Daily)
2002-03	688	39	186	4207
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	959	79	118	3259

Section–3

Production of Metals & Alloys

Production of Metals and Alloys, 2002-03 to 2011-12	Iron & Steel	: 65
	Ferro-Alloys	: 66
	Alumina and Aluminium	: 67
	Copper	: 68
	Gold and Silver	: 69
	Lead & Zinc	: 70

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 to 80.4 million tonnes in 2011-12. Similarly, the upward trend in production of semi-finished steel was also observed during the decade ending 2011-12 except in the years 2007-08 and 2008-09. It increased to 27.9 million tonnes in 2011-12 showing an increase of 11% over the previous year.

Ferro-Alloys

Increasing trend in production of ferro-chrome was observed during the decade ending 2011-12 except in 2004-05 and its production at 943 thousand tonnes was marginally higher as compared to previous year. The output of ferro-manganese with a fluctuating trend increased marginally during 2011-12 and that of ferro-silicon increased 10% over the previous year as compared to 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 since 2002-03 to 2011-12 except in 2006-07 and 2009-10. In 2011-12 it was 3931 thousand tonnes with an

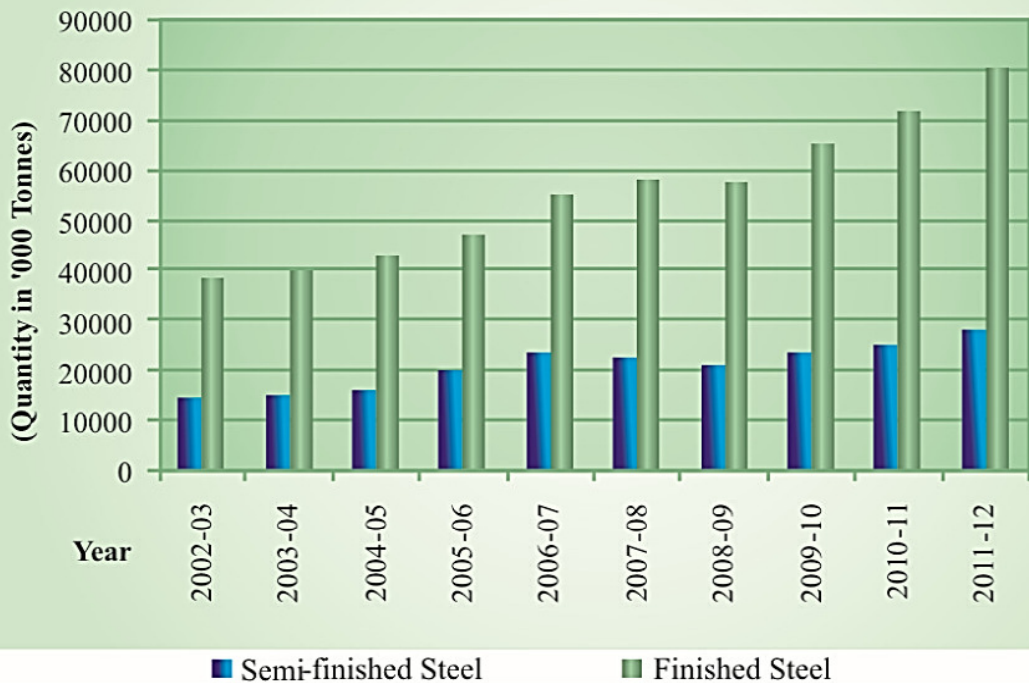
increase of 10% as compared to that in the previous year. The production of aluminium increased steadily during the decade and it was 1654 thousand tonnes in 2011-12, more than double of the level in 2002-03.

The production of copper (blister)/anode was highest at 311 thousand tonnes in 2005-06 and then declined steeply to 19 thousand tonnes in 2011-12. The production of copper (cathode) at 505 thousand tonnes registered a marginal decrease and that of copper (CCWR) at 288 thousand tonnes during 2011-12 was 4% 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 11284 kg. in 2011-12 it was about 21% higher than that of the preceding year. The production of silver, a by-product, reached the peak level of 263.9 tonnes during 2011-12 and was 36% higher as compared to the previous year.

The output of lead (primary) fluctuated during the decade ending 2011-12 and reached to highest level of 92 thousand tonnes at the end of it registering an increase of 61% as compared to that in previous year. No production of lead (secondary) was reported during the decade ending 2011-12. The output of zinc ingots maintained a rising trend during the decade except in 2004-05 and rose by about 6% during 2011-12 to 784 thousand tonnes as compared to that in the previous year.

Production of Iron & Steel



Production of Iron and Steel, 2002-03 to 2011-12 ('000 tonnes)		
Year	Semi-finished Steel [@]	Finished Steel*
2002-03	14491	38694
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

[@] *Semi-finished steel including Steel ingots*

* *Including C.R. Sheets*

Source: Joint Plant Committee, Kolkata

Production of Principal Ferro-Alloys, 2002-03 to 2011-12 ('000 tonnes)			
Year	Ferro-Chrome	Ferro-Manganese	Ferro-Silicon
2002-03	271	202	45
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

Source: Joint Plant Committee, Kolkata.

Production of Alumina & Aluminium, 2002-03 to 2011-12 ('000 tonnes)		
Year	Alumina	Aluminium
2002-03	2570	689
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

Production of Copper, 2002-03 to 2011-12				
('000 tonnes)				
Year	Blister/ Anode	Electrolytic Wire Bar	Cathode	CCWR
2002-03	195	2	379	202
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

CCWR: Continuous Cast Wire Rod.

Production of Gold and Silver, 2002-03 to 2011-12 (Kilograms)		
Year	Gold	Silver
2002-03*	8500	90002
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*	11284	263908

**Includes production reported from HINDALCO Industries Ltd.*

Production of Lead and Zinc, 2002-03 to 2011-12 ('000 tonnes)			
Year	Lead (Primary)	Lead (Secondary)	Zinc Ingots
2002-03	39	-	236
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

Section – 4

Foreign Trade

Exports of Principal Minerals, 2002-03 to 2011-12	Chromite	: 76
	Granite	: 77
	Value of Exports of granite (By Principal Countries)	: 78
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	Value of Exports of Iron ore (By Principal Countries)	: 80
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Imports of Principal Minerals, 2002-03 to 2011-12	Mica	: 83
	Asbestos	: 84
	Coal	: 85
	Petroleum (Crude)	: 86
	Rock Phosphate	: 87
	Sulphur	: 88

Direction of Trade	Value of Exports of Minerals, 2011-12	: 89
	Value of Exports of Metals, 2011-12	: 90
	Value of Imports of Minerals, 2011-12	: 91
	Value of Imports of Metals, 2011-12	: 92
	Exports, Imports & Net Trade in Minerals & Metals	: 93-94
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Section-4

Export

The value of exports of minerals from India, which continued its growth every year of the decade, increased marginally to Rs. 175310 crore during 2011-12 as compared to 2010-11. It was more than thrice of the value of exports at the beginning of the decade i.e. 2002-03. Diamond accounted for 77% of the total value of exports of minerals during 2011-12 followed by iron ore 13% and granite 4 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 fluctuated from 60% to 77% during the period 2007-08 to 2011-12.

The export of iron ore had fluctuating trends throughout the decade and at 47 million tonnes during 2011-12, it was almost at the same level of previous year.

Granite emerged as one of the leading foreign exchange earner during the decade. Its value of exports at Rs. 6382 crore in 2011-12 was more than twice of the value in 2002-03 and registered an increase of about 14% as compared to 2011-12.

The exports of manganese ore fluctuated during the decade ending 2011-12. The exports during 2011-12 were 75 thousand tonnes which were lower by 24

percent whereas the value of exports of manganese ore decreased by 45% as compared to the preceding year.

Other notable mineral items exported from India during 2011-12 were alumina, barytes, chromite, coal, coke, lead ore & conc., titanium ores & conc., precious & semi-precious stones, zinc ore & concentrates, etc.

Imports

The value of imports of minerals and metals went up steeply from Rs. 148941 crore in 2002-03 to the level of Rs. 1362740 crore in 2011-12. During the year 2011-12, the share of petroleum (crude) in the total value of imports of minerals was 68% and that of diamond was 14%, coal 8% and natural gas and copper ore & concentrates 3% each. The value of import of petroleum (crude) was Rs. 643689 crores in 2011-12 and that of diamond was Rs. 132292 crore.

India imported 103 million tonnes of coal valued at Rs. 78827 crore in 2011-12. The quantity of imports of petroleum (crude) went up steadily from 83.7 million tonnes in 2002-03 to 165.7 million tonnes in 2011-12. The value of imports of petroleum (crude) alone was at Rs. 643689 crore which accounted for 68% in the total value of imports of minerals in 2011-12.

The imports of rock phosphate fluctuated during the decade ending 2011-12. The quantity of imports of rock phosphate at 9.73 million tonnes increased significantly by 87% and the value also increased to Rs. 8315 crore in 2011-12 which was more than the double as compared to the previous year.

The imports of sulphur (excluding precipitated, sublimed and colloidal) were at the level at 1.4 million tonnes in 2002-03, fluctuated during the decade and it was about 2.04 million tonnes during 2011-12. The value of imports (excluding precipitated, sublimed and colloidal) was Rs. 2283 crore in 2011-12.

Coke, copper ores & concentrates, iron ore, asbestos, precious and semi-precious stones, manganese ore, marble and molybdenum ores & concentrates natural gas etc. were the other important minerals imported into India in 2011-12.

Exports of Chromite, 2002-03 to 2011-12		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2002-03	1098	261
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

Exports of Granite, 2002-03 to 2011-12		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2002-03	2184	2375
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

Value of Exports of Granite, 2007-08 to 2011-12 (By Principal Countries) (Rs. Crore)					
Country	2007-08	2008-09	2009-10	2010-11	2011-12
All Countries	4287	4815	4994	5593	6382
China	804	1129	1221	1904	1920
USA	1015	800	685	742	934
Germany	183	261	279	248	309
Italy	342	294	242	288	288
Turkey	117	136	189	229	277
UK	202	193	215	190	233
Belgium	162	192	209	179	201
UAE	166	225	222	172	185
Hong Kong	145	156	210	141	172
Chinese Taipei / Taiwan	139	94	109	101	165
Others	1012	1335	1413	1399	1698

Exports of Iron Ore, 2002-03 to 2011-12		
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)
2002-03	571	4200
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

Value of Exports of Iron Ore, 2007-08 to 2011-12 (By Principal Countries) (Rs. Crore)					
Country	2007-08	2008-09	2009-10	2010-11	2011-12
All Countries	23400	21725	28366	21416	22184
China P Rp	21753	19913	24264	19900	20100
Japan	1016	1176	1484	533	1264
Korea Rp	264	214	299	406	478
Netherlands	56	-	41	63	153
Bangladesh	18	24	41	++	114
Others	293	398	2237	514	75

Exports of Manganese Ore, 2002-03 to 2011-12		
Year	Quantity (‘000 tonnes)	Value (Rs. Crore)
2002-03	336	69
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

Exports of Marble, 2002-03 to 2011-12		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2002-03	253	189
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

Exports of Mica, 2002-03 to 2011-12		
Year	Quantity (`000 tonnes)	Value (Rs. Crore)
2002-03	35	64
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

Imports of Asbestos, 2002-03 to 2011-12		
Year	Quantity (`000 tonnes)	Value (Rs. Crore)
2002-03	99	150
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

Imports of Coal, 2002-03 to 2011-12		
Year	Quantity ('000 tonnes)	Value (Rs. Crore)
2002-03	23026	4994
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

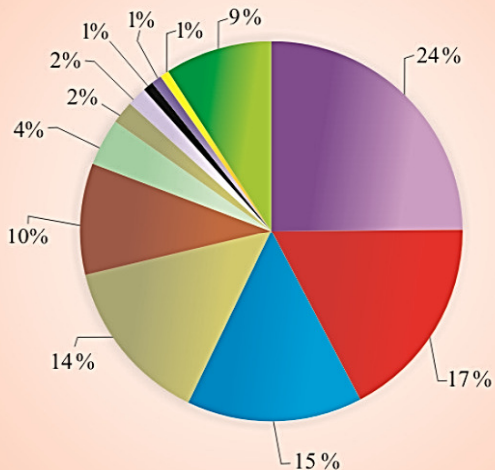
Imports of Petroleum (Crude), 2002-03 to 2011-12		
Year	Quantity (Lakh tonnes)	Value (Rs. Crore)
2002-03	837	77726
2003-04	932	86512
2004-05	967	118932
2005-06	993	172429
2006-07	1068	213088
2007-08	1153	257462
2008-09	1300	346845
2009-10	1536	365901
2010-11	1531	421616
2011-12	1657	643689

Imports of Rock Phosphate, 2002-03 to 2011-12		
Year	Quantity (‘000 tonnes)	Value (Rs. Crore)
2002-03	3889	889
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

Imports of Sulphur*, 2002-03 to 2011-12		
Year	Quantity (`000 tonnes)	Value (Rs. Crore)
2002-03	1388	403
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	2037	2283

** Excluding sublimed , ppt and colloidal.*

Value of Minerals Export, 2011-12 (By Principal Countries)



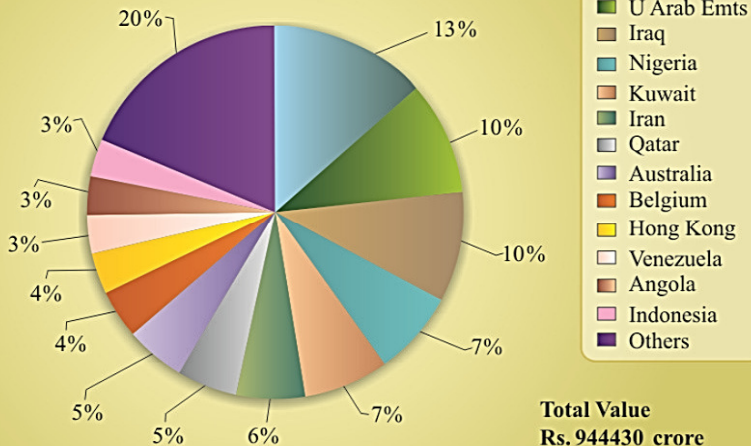
- Hong Kong
- U Arab Emts
- U S A
- China P Rp
- Belgium
- Israel
- Japan
- Thailand
- U K
- Switzerland
- Singapore
- Others

**Total Value
Rs. 175310 crore**

Value of Exports of Minerals, 2011-12 (By Principal Countries)		
Country	Value (Rs. Crore)	Percentage Contribution
Total	175310	100
Hong Kong	43584	25
U Arab Emirates	30594	17
U S A	26007	15
China P Rp	24745	14
Belgium	16721	10
Israel	7017	4
Japan	3413	2
Thailand	2894	2
U K	1568	1
Switzerland	1529	1
Singapore	1338	1
Others	15900	9

Value of Exports of Metals, 2011-12 (By Principal Countries)		
Country	Value (Rs. Crore)	Percentage Contribution
Total	102500	100
China P Rp	13647	13
U S A	11038	11
U Arab Emirates	7732	8
Belgium	5136	5
Korea Rp	4739	5
Germany	3715	4
Italy	3254	3
Saudi Arabia	2749	3
Malaysia	2487	2
UK	2295	2
Indonesia	2184	2
Nepal	1872	2
Netherlands	1778	2
Spain	1649	2
Others	38225	37

Value of Minerals Import, 2011-12 (By Principal Countries)



Value of Imports of Minerals, 2011-12 (By Principal Countries)		
Country	Value (Rs. Crore)	Percentage Contribution
Total	944430	100
Saudi Arabia	125066	13
U Arab Emirates	94690	10
Iraq	90253	10
Nigeria	69106	7
Kuwait	69042	7
Iran	55777	6
Qatar	48764	5
Australia	48554	5
Belgium	39426	4
Hong Kong	33459	4
Venezuela	32029	3
Angola	31491	3
Indonesia	30709	3
Others	176064	19

Value of Imports of Metals, 2011-12 (By Principal Countries)		
Country	Value (Rs. Crore)	Percentage Contribution
Total	418310	100
Switzerland	143451	34
U Arab Emirates	55065	13
South Africa	34313	8
China P Rp	29994	7
Australia	17892	4
U S A	13889	3
U K	13740	3
Korea Rp	13144	3
Japan	10897	3
German F R/Germany	10011	2
Russia	8732	2
Hong Kong	4623	1
Chinese Taipei/Taiwan	4583	1
Malaysia	4537	1
Others	53439	13

Exports, Imports and Net Trade in Minerals and Metals, 2002-03 to 2011-12
(Rs. Crore)

Year	Minerals and Metals (Including Petroleum)			Minerals (Excluding Petroleum Crude)		
	Exports	Imports	Difference	Exports	Imports	Difference
2002-03	60196	148941	-88745	46618	39568	+7050
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

Exports, Imports and Net Trade in Minerals and Metals, 2002-03 to 2011-12 (Rs. Crore)						
Year	Petroleum Crude			Metals		
	Exports	Imports	Difference	Exports	Imports	Difference
2002-03	++	77726	-77726	13578	31647	-18069
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	-643689	102500	418310	-315810

Share of Principal Minerals in the Value of Mineral Exports, 2007-08 to 2011-12										
Exports										
Year	Exports of all Minerals (Rs. Crore)	Percentage Share of Principal Minerals								
		Diamond*	Iron Ore	Granite	Alumina	Precious & Semi-Precious Stones	Zinc Ores & Conc.	Chromite	Bauxite	Others
2007-08	95022	60	25	5	1	1	1	1	1	5
2008-09	109296	66	20	4	1	1	++	1	++	7
2009-10	127831	67	22	4	1	1	++	1	++	4
2010-11	174370	77	12	3	2	1	++	++	++	5
2011-12	175310	77	13	4	1	1	++	++	++	4

* Includes mostly cut, industrial and powder.

Share of Principal Minerals in the Value of Mineral Imports, 2007-08 to 2011-12								
Imports								
Year	Imports of All Minerals (Rs. Crore)	Percentage Share of Principal Minerals						
		Petroleum (Crude)	Diamond*	Coal	Copper Ore & Conc.	Natural Gas	Coke	Others
2007-08	349507	74	9	6	5	3	1	4
2008-09	514509	67	15	8	3	3	1	3
2009-10	524830	70	14	7	4	2	1	2
2010-11	669010	63	23	6	3	2	++	3
2011-12	944430	68	14	8	3	3	1	3

** Includes mostly cut, industrial and powder.*

**Share of Principal Countries in the Value of Exports of
Diamond, 2007-08 to 2011-12**

Exports of Diamond (Mostly Cut)

Year	Value of Exports (Rs. Crore)	Percentage Share of Principal Importing Countries							
		Hong Kong	UAE	USA	Belgium	Israel	Thai- land	Singa- pore	Others
2007-08	57178	33	13	22	14	7	2	1	8
2008-09	72092	30	22	18	11	5	2	2	10
2009-10	85126	30	29	18	9	4	1	2	7
2010-11	134064	25	35	13	7	3	1	++	16
2011-12	133881	32	22	18	12	5	2	1	8

**Share of Principal Countries in the Value of Imports of Diamond,
2007-08 to 2011-12
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
2007-08	31183	39	13	12	15	6	4	11
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

**Production, Exports/Imports and Apparent Consumption
as Percentage of Total Availability, 2011-12
(By Selected Minerals)**

Mineral	Total Availability * ('000 tonnes)	Percentage Share of			
		Gross Production	Imports	Exports	Apparent Consumption
Barytes	1727	100	-	60	40
Steatite	964	99	1	10	90
Iron Ore	168267	99	1	28	72
Bauxite	12956	99	1	3	97
Silica sand	4464	97	3	-	100
Limestone	265226	97	3	1	99
Chromite	3900	97	3	6	94
Coal	642791	84	16	-	100
Magnesite	290	75	25	5	95
Manganese Ore	4311	54	46	2	98
Rock Phosphate	12056	19	81	-	100
Petroleum (crude)	203802	19	81	-	100
Sulphur & Pyrites	2419	16	84	7	93
Asbestos	378	-	100	-	100

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

Section – 5

Average Daily Employment in Mines

Average Daily Employment in Mines

Average Daily Employment in Mines (By Groups), 2002-03 to 2011-12	: 103
Average Daily Employment in Metallic Minerals Mines, 2011-12 (By Sectors)	: 104
Average Daily Employment in Non Metallic Minerals Mines, 2011-12 (By Sectors)	: 105
Average Daily Employment in Mines (By Category / Sector), 2011-12	: 106

Section-5

Average Daily Employment in Mines

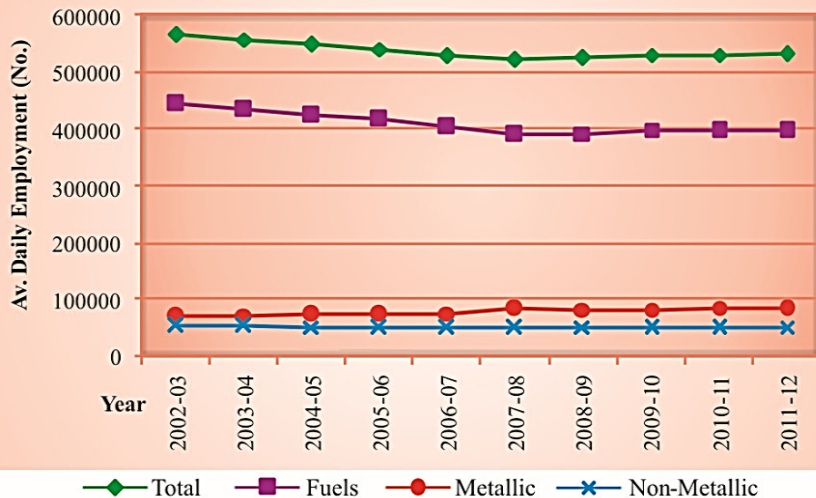
The average daily employment of labour at around 5.67 lakh persons during 2002-03, was shrinking till 2007-08 and then increased marginally every year during the decade ending 2011-12. Among the major group of minerals, fuel accounted for 75% to the total employment during 2011-12, metallic minerals 16% and non-metallic minerals 9 percent. The average daily employment of labour in 2011-12 was 533243 which were marginally higher 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 2011-12. Iron ore accounted for 54% of the total employment in metallic group of minerals, followed by manganese ore 17%, bauxite 8%, chromite 7%, lead & zinc concentrates about 6% and copper concentrates and gold 4 percent each. The share of limestone in the labour employed in non-metallic minerals was 45% followed by steatite, garnet (abrasive) and dolomite (6% each), silica sand 4%, sillimanite, apatite & phosphorite (together), kaolin and chalk about 3% 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) 428 mines of category 'A' employed 88 thousand persons while 2233 mines of 'B' category employed about 47

thousand persons in 2011-12. The contribution of category 'A' and category 'B' mines to the total value of MCDR minerals in 2011-12 was 78% and 22% respectively. About 42 thousand persons were engaged in 221 public sector mines and 93 thousand persons engaged in 2440 private sector mines in 2011-12. The shares of public and the private sectors in the total value of metallic and non-metallic minerals production were 36% and 64% respectively.

Average Daily Employment in Mines (By Mineral Groups)



Average Daily Employment in Mines, 2002-03 to 2011-12 (By Groups)				
Year	Total	Fuels*	Metallic Minerals	Non-metallic Minerals
2002-03	567367	444942	69268	53157
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	531535	398115	84336	49084
2011-12	533243	398115	83612	51516

*: Calendar year

Source: Fuel - DGMS, Dhanbad

Metallic & Non-metallic - Returns received under MCDR, 1988.

Average Daily Employment in Metallic Minerals Mines, 2011-12 (By Sectors)			
Mineral	Total	Public	Private
Total	83612	30233	53379
Iron Ore	45106	13060	32046
Manganese Ore	13928	7047	6881
Bauxite	7028	1342	5686
Chromite	5851	1758	4093
Lead & Zinc Concentrates	4601	-	4601
Gold	3499	3480	19
Copper Concentrates	3546	3546	-
Tin Concentrates	53	-	53

Average Daily Employment in Non-Metallic Minerals Mines, 2011-12 (By Sectors)			
Mineral	Total	Public	Private
Total	51516	11566	39950
Limestone	23202	3814	19388
Steatite	3259	-	3259
Garnet (Abresive)	3118	1277	1841
Dolomite	2894	761	2133
Silica Sand	1995	127	1868
Sillimanite	1763	1763	-
Apatite & Phosphorite	1688	1648	40
Kaolin	1501	282	1219
Chalk	1395	-	1395
Others	10701	1894	8807

Employment in Mines, 2011-12 (Metallic & Non-Metallic Minerals) (By Category/Sector)			
Category/Sector	No. of Mines	Average Daily Employment for the Group	Value of Production (Rs. Crore)
Total	2661	135128	52393
Category A	428	87567	40929
Category B	2233	47561	11464
Public Sector	221	41799	18631
Private Sector	2440	93329	33762

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

Consumption	Iron & Steel Industry	: 110
of Minerals,	Cement Industry	: 111
2002-03 to	Refractory Industry	: 112
2010-11		

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 2011-12, upward trend of mineral consumption in above minerals was observed in iron & steel industry except in case of coal and fluorite. Significant increase in consumption was noticed in respect of manganese ore (69%), ferro-alloys (11%), limestone (6%), iron ore (5%), and dolomite (1%).

Consumption of bauxite and fire clay maintained almost the level of previous year in 2011-12. The consumption of coal decreased by about 8% in 2011-12 as compared to previous year.

Cement Industry

Important minerals, consumed in cement industry are limestone and other calcareous materials and gypsum. Besides quartz, quartzite & silica sand, bauxite, coal, china clay, fire clay and iron ore are also consumed.

During the year 2011-12 consumption increased in respect of bauxite,
(108)

quartz/quartzite/silica sand, limestone and other calcareous materials while a considerable decrease was observed in case of iron ore (3%), coal (9%) and fireclay (4%).

The consumption of kaolin and gypsum maintained almost the same level.

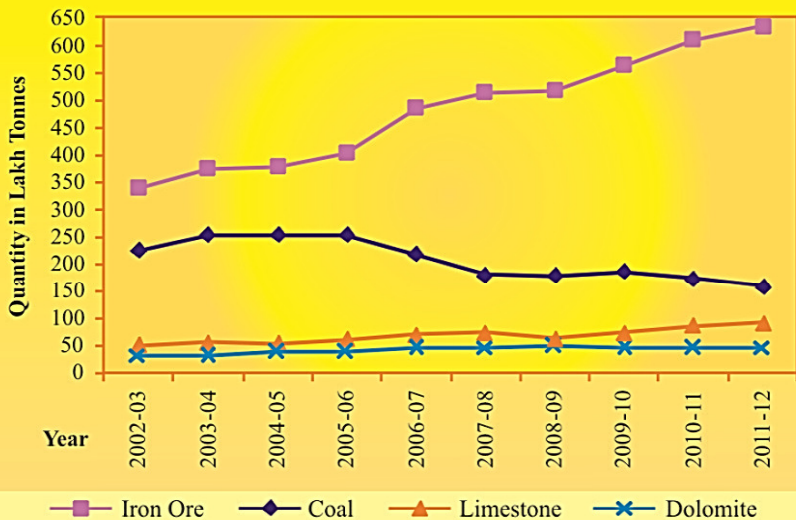
Refractory Industry

During the year 2011-12 chromite, kaolin, fireclay and magnesite showed downward trend of consumption in refractory industry. Consumption of bauxite, diaspore, dolomite, Kyanite & Sillimanite and Quartz & Quartzite maintained the same level of previous year.

Consumption of Minerals in Iron & Steel Industry, 2002-03 to 2011-12 (’000 tonnes)									
Year	Iron Ore *	Coal*	Lime-stone *	Dolomite	Manganese Ore	Ferro-Alloys	Bau-xite	Fire clay	Fluorite
2002-03	338	224	50	3142	212	228	16	N.A.	N.A.
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	609.3	172.0 [@]	84.4	4490	151	571	1	29	2
2011-12	642.2	158.3 [@]	89.6	4550	255	633	1	29	1

* Lakh tonnes. @ Relates to despatches of coal.

Consumption of Minerals in Iron & Steel Industry



Consumption of Minerals in Cement Industry, 2002-03 to 2011-12 ('000 tonnes)								
Year	Limestone*#	Coal*	Gypsum*	Quartz\$	Bauxite	Iron Ore	Kaolin	Fireclay
2002-03	1137	144	38	271	345	828	177	207
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	2320	141.8 [@]	81.1	332	1082	1521	665	286
2011-12	2340	128.8 [@]	81.2	355	1103	1473	665	276

* Lakh tonnes. #: Limestone and other calcareous material.

[@] Relates to despatches of coal. \$ Includes Quartz, Quartzite and Silica Sand.

Consumption of Minerals in Refractory Industry, 2002-03 to 2009-10 ('000 tonnes)								
Year	Dolomite	Fireclay	Magnesite*	Quartz & Quartzite	Bauxite & Diaspore	Chromite*	Kyanite & Sillimanite	Kaolin
2002-03	391	160	144	48	194	22	17	17
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	254	171	229	38	118	45	16	34
2011-12	254	169	203	38	118	26	16	33

* Includes consumption in iron & steel industry.

Section – 7

Production of Mineral-Based Products

Production of Mineral-based Products, 2002-03 to 2011-12	Cement and Asbestos-Cement Products	: 115
	Ceramic Products	: 116
	Fertilizers	: 117
	Sulphuric Acid	: 118

Section – 7

Production of Mineral-Based Products

Cement and Asbestos-Cement Products

The output of cement in the country during 2011-12 at 2235 lakh tonnes was just double as compared to 1118 lakh tonnes at the beginning of the decade and it was 7% 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 758 thousand tonnes at the beginning of the decade to a highest level of 1634 thousand tonnes at the end of it. The output of glazed tiles at 718 thousand tonnes in 2002-03 recorded an increasing trend and was at the peak level of 1573 thousand tonnes during 2011-12. Production of insulators recorded a fluctuating trend during the decade and was at the level of 61 thousand tonnes during 2011-12.

Fertilisers and Sulphuric Acid

The output of fertilisers witnessed fluctuations during the decade and reported the production of 10.9 million tonnes in 2011-12. The production of sulphuric acid at 5870 thousand tonnes was 4% higher in 2011-12 as compared to the previous year.

Production of Cement and Asbestos-Cement Products, 2002-03 to 2011-12[@]		
Year	Cement	Asbestos-Cement Products*
	Production (Lakh tonnes)	Production ('000 tonnes)
2002-03	1118	1387
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.

* 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, 2002-03 to 2011-12[@] ('000 tonnes)		
Year	Glazed Tiles	Insulators (H.T. and L.T.)
2002-03	718	40
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

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, 2002-03 to 2011-12 ('000 tonnes)		
Year	Phosphatic	Nitrogenous
2002-03	3910	10564
2003-04	3632	10634
2004-05	4067	11338
2005-06	4221	11354
2006-07	4517	11578
2007-08	3807	10900
2008-09	3464	10870
2009-10	4321	11900
2010-11	4222	12156
2011-12	2779	8123

*Source: Annual report 2011-12,
 Department of Fertilisers,
 Ministry of Chemicals and Fertilisers.*

Production of Sulphuric Acid, 2002-03 to 2011-12[@] ('000 tonnes)	
Year	Production
2002-03	5988
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

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, 2011-12	Dipper Shovels	: 121
	Front- End Loaders	: 122
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	Locomotives	: 129
	Back Hoes	: 130
	Cranes	: 131
	Surface Miners	: 132

Section – 8

Mining Machinery

During the reporting year, 2011-2012, a total number of 542 opencast mechanised mines were covered for compilation of statement on mining machinery as against 490 mines covered during 2010-11. Hence, there is a increase of 10.61% on the coverage of mines during the year.

Like previous year, the majority of the mechanised mines covered are of limestone, iron ore, steatite, 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 Hauler / Dumper, Front End Loader, Dipper Shovel (Hydraulic), Back Hoe, Motor Grader, Crusher and Bull Dozer; whereas, an increase in the number of mining machinery like Dipper Shovel (Mech.), Drills / Blast holes, Air Compressor, Surface Miners and Cranes is reported during the year.

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

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	134	24	110	9	-	9	125	24	101
1.16-2.30	71	23	48	-	-	-	71	23	48
2.31-3.45	91	29	62	-	-	-	91	29	62
3.46-4.60	193	54	139	20	19	1	173	35	138
>4.60	98	52	46	19	19	-	79	33	46
Total	587	182	405	48	38	10	539	144	395
In Reserve (Nos.)									
< 1.16	9	3	6	-	-	-	9	3	6
1.16-2.30	2	-	2	-	-	-	2	-	2
2.31-3.45	12	1	11	-	-	-	12	1	11
3.46-4.60	32	6	26	4	4	-	28	2	26
>4.60	10	1	9	-	-	-	10	1	9
Total	65	11	54	4	4	-	61	7	54

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

Front End Loaders

Capacity (cu.m.)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 1.16	118	20	98	1	-	1
1.16 – 2.30	323	33	290	18	4	14
2.31 – 3.45	110	42	68	4	1	3
3.46 – 4.60	51	8	43	2	-	2
> 4.60	66	21	45	4	-	4
Total	668	124	544	29	5	24

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

Bulldozers/Ripper Dozers

Capacity (h.p.)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 100	29	5	24	-	-	-
100-200	62	12	50	3	-	3
201-300	75	6	69	5	-	5
301-400	112	36	76	7	3	4
> 400	116	82	34	4	2	2
Total	394	141	253	19	5	14

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12
Motor Graders**

Capacity (h.p.)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 100	7	4	3	-	-	-
100-200	37	7	30	3	-	3
201-300	43	23	20	-	-	-
301-400	10	3	7	1	-	1
> 400	4	4	-	-	-	-
Total	101	41	60	4	-	4

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

Haulers/Dumpers

Capacity (tonnes)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 10	1664	191	1473	55	17	38
10-20	2347	314	2033	101	26	75
21-30	800	147	653	58	2	56
31-40	876	150	726	51	-	51
41-60	434	179	255	31	2	29
61-100	172	94	78	-	-	-
101-150	70	55	15	36	15	21
> 150	60	18	42	7	-	7
Total	6423	1148	5275	339	62	277

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

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	144	22	122	17	-	17
50-100	171	32	139	17	10	7
101-150	395	102	293	54	12	42
151-200	108	33	75	1	-	1
> 200	21	21	-	-	-	-
Total	839	210	629	89	22	67

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

Crushers

Capacity (tonnes/hour)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 10	20	3	17	1	1	-
10-50	31	12	19	1	-	1
51-100	52	7	45	-	-	-
101-300	154	29	125	4	3	1
301-500	27	8	19	-	-	-
> 500	108	41	67	5	-	5
Total	392	100	292	11	4	7

Mining Machinery in Metalliferrous Opencast Mechanised Mines in India, 2011-12									
Air Compressors (Diesel & Electric)									
Capacity (cu.m./min.)	Total			Diesel			Electric		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
In Use (Nos.)									
< 5	123	16	107	77	5	72	46	11	35
5.0 – 10	116	24	92	80	9	71	36	15	21
10.1 – 15	236	54	182	203	48	155	33	6	27
15.1 – 50	58	17	41	35	4	31	23	13	10
50.1 – 100	39	8	31	33	4	29	6	4	2
> 100	84	21	63	75	18	57	9	3	6
Total	656	140	516	503	88	415	153	52	101
In Reserve (Nos.)									
< 5	24	3	21	22	3	19	2	-	2
5.0 – 10	27	2	25	18	1	17	9	1	8
10.1 – 15	46	11	35	42	11	31	4	-	4
15.1 – 50	7	2	5	4	2	2	3	-	3
50.1 – 100	-	-	-	-	-	-	-	-	-
> 100	6	1	5	6	1	5	-	-	-
Total	110	19	91	92	18	74	18	1	17

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

Locomotives

Pay load capacity (tonnes)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 50	1	-	1	-	-	-
50-100	4	-	4	-	-	-
101-150	2	-	2	-	-	-
151-200	-	-	-	-	-	-
> 200	16	14	2	-	-	-
Total	23	14	9	-	-	-

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

Back Hoes

Capacity (cu.m.)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 1.16	434	62	372	19	2	17
1.16 – 2.30	314	51	263	12	2	10
2.31 – 3.45	100	17	83	6	-	6
3.46 – 4.60	38	3	35	4	-	4
> 4.60	20	4	16	6	-	6
Total	906	137	769	47	4	43

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

Cranes

Lifting capacity (tonnes/hour)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 10	105	37	68	2	-	2
10-20	49	24	25	-	-	-
21-50	36	21	15	1	-	1
51-75	24	18	6	-	-	-
> 75	3	-	3	-	-	-
Total	217	100	117	3	-	3

**Mining Machinery in Metalliferrous Opencast
Mechanised Mines in India, 2011-12**

Surface Miners

Capacity (tonnes/hour)	In Use (Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 150	-	-	-	-	-	-
150-200	6	-	6	-	-	-
201-250	5	-	5	-	-	-
251-300	7	-	7	-	-	-
> 300	6	-	6	-	-	-
Total	24	-	24	-	-	-

Appendix - I

Decennial Growth in Production of Important Minerals

Mineral	Unit	1951	1961	1971	1981	1991-92	2001-02	2011-12
<i>Fuels</i>								
Coal	'000 t	34952	56065	71824	123104	229354	327787	539950
Lignite	'000 t	34	64	3660	5966	15811	24813	42332
Natural Gas (Utilised)	m.cu. m.	-	171	764	1997	14441	28038	47559
Petroleum (Crude)	'000 t	269	513	7185	14925	30346	32032	38090
<i>Metallic Minerals</i>								
Bauxite	'000 t	68	476	1517	1955	5013	8689	12877
Chromite	'000 t	17	49	275	344	1082	1549	3764
Copper Concentrates	'000 t	30	33	44	139	262	164	130
Copper Ore	'000 t	375	423	666	2109	5207	3418	3478
Gold	Kg.	7041	4868	3656	2495	2041	2810	2192
Gold Ore	'000 t	N.A.	672	598	523	410	496	492
Iron Ore	'000 t	4152	18705	34311	41618	58534	86226	167289
Lead Concentrates	'000 t	2	6	4	20	53	52	161
Zinc Concentrates	'000 t	2	9	15	53	253	399	1412
Lead & Zinc Ore	'000 t	N.A.	150	297	974	2511	3677	8042
Manganese Ore	'000 t	1398	1405	1841	1532	1640	1587	2349
Silver	kg.	454	5941	3773	17298	35556	57675	207142

(Contd.)

Decennial Growth in Production of Important Minerals (Concl'd.)

Mineral	Unit	1951	1961	1971	1981	1991-92	2001-02	2011-12
<i>Non-Metallic Minerals</i>								
Apatite & Phosphorite	'000 t	++	20	243	565	603	1252	2330
Barytes	'000 t	11	24	59	405	635	916	1723
Diamond	th. carats	2	1	19	15	18	81	18
Dolomite	'000 t	14	729	1320	2068	2949	3251	5417
Fire Clay	'000 t	114	302	623	848	531	496	760
Gypsum	'000 t	207	866	1089	957	1582	2859	3189
Kaolin	'000 t	70	142	330	504	815	815	2734
Kyanite	'000 t	43	27	63	36	20	4	4
Sillimanite	'000 t	4	8	4	12	14	15	58
Laterite	'000 t	5	N.A.	N.A.	N.A.	487	615	1666
Limestone	'000 t	5270	14755	25079	32441	77185	130912	256669
Magnesite	'000 t	119	210	296	463	531	288	218
Mica (Crude)	tonnes	10182*	28347	15099	8534	3593	2026	1807
Steatite	'000 t	34	97	179	367	452	598	959

* Relates to dressed mica.

Appendix – II

Decennial Mineral Production

Mineral	Unit	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
<i>Fuels</i>											
Coal	'000 t	341272	361246	382615	407039	430832	457082	492757	532042	532694	539950
Lignite	'000 t	26018	27958	30475	30066	31285	33980	32421	34071	37733	42332
Natural Gas (Utilised)	m. cu. m.	29964	30908	30820	32202	31747	32417	32845	47496	52219	47559
Petroleum (Crude)	'000 t	33044	33373	34015	32190	33988	34118	33508	33690	37684	38090
<i>Metallic Minerals</i>											
Bauxite	t	9867455	10924786	11964011	12595803	15732535	22624960	15460202	14124093	12722820	12877394
Chromite	t	3068631	2904809	3621394	3714284	5295551	4872684	4073479	3425580	4325699	3764120
Copper Ore	t	3071293	2902972	2929074	2642706	3273906	3242371	3452406	3271169	3601984	3478189
Copper Conc.	t	152099	143135	137003	125392	149584	150187	137514	124577	136856	130458
Gold Ore	t	612346	622468	492748	479353	512609	681243	587215	517520	741522	492192
Gold	kg	3153	3457	3526	3047	2488	2969	2438	2084	2399	2192
Iron Ore	'000 t	99072	122838	145942	165230	187696	213250	212960	218553	207157	167289
Lead & Zinc Ore	t	3074864	3644263	3928500	4801184	5139915	5783099	6680698	7101872	7539999	8041881
Lead Conc.	t	59107	73069	81675	95738	107334	125755	133768	133921	147625	161157
Zinc Conc.	t	486162	590276	666424	889007	947387	1035828	1224077	1279880	1427231	1412291
Manganese Ore	t	1678372	1776153	2386396	1906353	2115507	2696980	2789025	2491950	3056385	2349300

Decennial Mineral Production (Contd...)

Mineral	Unit	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Silver	kg	59502	37870	10955	27961	53271	80697	105284	138780	148303	207142
Tin Conc.	kg	10630	15576	23503	98734	100835	63218	59778	59016	60643	48971
<i>Non-Metallic Minerals</i>											
Agate	t	96	55	25	9	38	25	-	11	19	476
Apatite	t	11426	10448	8596	9053	9464	6691	6415	5992	3846	3053
Phosphorite	t	1201408	1435959	1722983	2049277	1993468	1849188	1803954	1605489	2097490	2326876
Asbestos	t	14139	10107	6392	2323	390	269	315	243	268	280
Ball Clay	t	663296	837847	637022	406675	626801	796134	997676	932993	1086714	1594634
Barytes	t	679628	723075	1159031	1156227	1680695	1076290	1686148	2152552	2338806	1722804
Calcite	t	115612	122329	66984	73558	105724	86364	67284	49309	38826	51499
Chalk	t	132775	117185	129571	148352	210838	194934	203085	185218	177197	176010
Clay (Others)	t	173020	790191	1240963	805765	1224235	818993	1220783	1056273	730752	744561
Corundum	kg	7601	117030	18560	58000	156000	89920	21000	6600	-	-
Diamond	crt	84407	71260	78316	44170	2180	586	536	16891	11222	18489
Diaspore	t	11157	13775	21008	24494	15944	21236	24642	25569	26082	24124
Dolomite	t	3630115	4051409	4339306	4750512	5171649	5852296	5509237	5911759	5839710	5416817
Dunite	t	27731	31040	20756	36621	29708	57989	50935	71642	23716	39233
Felspar	t	239093	332220	379055	426498	479715	488458	534032	496997	546472	660371

Decennial Mineral Production (Contd...)

Mineral	Unit	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Fireclay	t	513980	657080	662633	535735	497402	544973	495781	548748	856741	759746
Felsite	t	1163	947	683	981	642	550	1238	3049	1670	1018
Fluorite (Graded)	t	8825	6555	6291	5577	2053	3970	3176	105232	59954	4856
Fluorite (Conc.)	t	4198	5838	7717	3764	-	3794	6814	-	-	-
Garnet (Abrasive)	t	432093	490893	642329	671541	865618	1275919	1151241	1580617	2126337	1824648
Garnet (Gem)	kg	908	544	90	-	-	-	-	-	-	-
Graphite (R.O.M.)	t	106060	87207	108150	125651	162293	170813	117767	124625	115697	148974
Gypsum	t	2653485	2773813	3684758	3291478	3005572	3400050	3876671	3370322	4918170	3189229
Iolite	kg	-	-	-	-	-	-	-	758	4	-
Jasper	t	4547	2533	1265	536	-	-	99	-	-	-
Kaolin	t	822751	896884	933654	1335744	1460363	1466442	2083731	2798340	2727946	2734349
Kyanite	t	5327	9057	8208	8869	8059	5102	4620	5495	5954	4064
Sillimanite	t	13290	19729	30711	33119	26366	40537	33702	33687	48784	58043
Laterite	t	638220	828179	949973	1040816	1476260	1478590	1237393	1300772	1220304	1665820
Limestone	'000 t	155744	153404	165753	170029	196695	193089	221573	232950	246336	256669
LimeKankar	t	310435	358468	470526	291926	395817	336385	434332	335067	383817	311218

Decennial Mineral Production (Contd...)

Mineral	Unit	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Limeshell	t	119931	135782	138071	110296	103548	128250	97856	62215	30410	33226
Magnesite	t	278267	323977	383953	340674	238981	252849	252880	301070	235762	217662
Marl	t	-	-	-	-	-	4155925	4167452	5908226	4399379	4143975
Mica (Crude)	t	1232	1076	1276	2116	1411	4578	1462	1061	1333	1807
Mica (Waste & Scrap)	t	2342	2928	2497	4754	3170	3505	5685	8098	7311	13690
Ochre	t	773650	959673	919018	1007088	1047831	1233221	766382	1258207	1218261	1352812
Perlite	t	283	279	355	122	68	-	-	-	-	-
Pyrophyllite	t	147233	176254	271225	182526	147807	203707	255699	240747	240082	239811
Pyroxenite	t	256381	240391	265847	340953	301733	289321	281785	279332	253205	87310
Quartz	t	271267	287188	319004	302259	293660	315281	430734	512320	497546	520146
Quartzite	t	39313	66654	97036	109210	102711	95850	97458	112652	118117	181065
Silica Sand	t	2017282	2537669	1962029	2369977	2663289	4303513	2836804	2545988	3380968	4334925
Sand (Others)	t	2026477	1191854	1496160	2277632	1770235	1804306	1808185	2159405	2057119	2625329
Salt (Rock)	t	1620	1813	3073	1871	1714	1216	2011	1836	1200	-
Shale	t	1276207	1897969	2218004	2683853	2849877	2894922	3047063	3033948	3081622	3338919

Decennial Mineral Production (Concl'd.)

Mineral	Unit	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Slate	t	6841	11381	5825	2527	4	7827	8931	-	-	-
Steatite	t	688135	726398	684440	681534	739849	922505	888995	876548	902686	958746
Selenite	t	18759	19740	5169	-	-	3864	15224	14598	6736	12852
Sulphur	t	102977	108856	113904	152090	204186	227311	269572	263124	236998	381146
Vermiculite	t	5499	4493	3377	6674	11827	8910	12647	11662	19234	9746
Wollastonite	t	178298	150814	170292	128582	131572	118666	111581	132385	183381	184445

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.