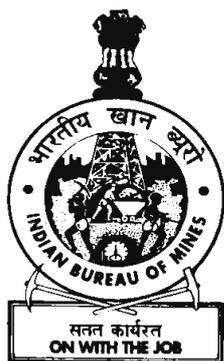


PRODUCTION



Indian Minerals Yearbook 2013

(Part- I : GENERAL REVIEWS)

52nd Edition

PRODUCTION

(FINAL RELEASE)

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

Indira Bhavan, Civil Lines,
NAGPUR – 440 001

PHONE/FAX NO. (0712) 2565471
PBX : (0712) 2562649, 2560544, 2560648
E-MAIL : cme@ibm.gov.in
Website: www.ibm.gov.in

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MINERALS

India's mineral production (excluding atomic minerals) during 2012-13 was valued at ₹2,85,761 crore and this is marginally high as compared to that of the previous year. Increase in production of coal, lignite, bauxite, chromite, lead conc., zinc conc., silver, ball clay, calcite, clay (others), diamond, dolomite, felspar, kaolin, laterite, limestone, ochre, quartz, quartzite and sand (others) was the primary cause for higher value of mineral production in 2012-13. The increase in value of minerals could also be attributed to increase in average prices of important minerals like copper conc., manganese ore, phosphorite, barytes, chalk, fluorite, garnet (abrasive), gypsum, magnesite, pyrophyllite, silica sand and shale.

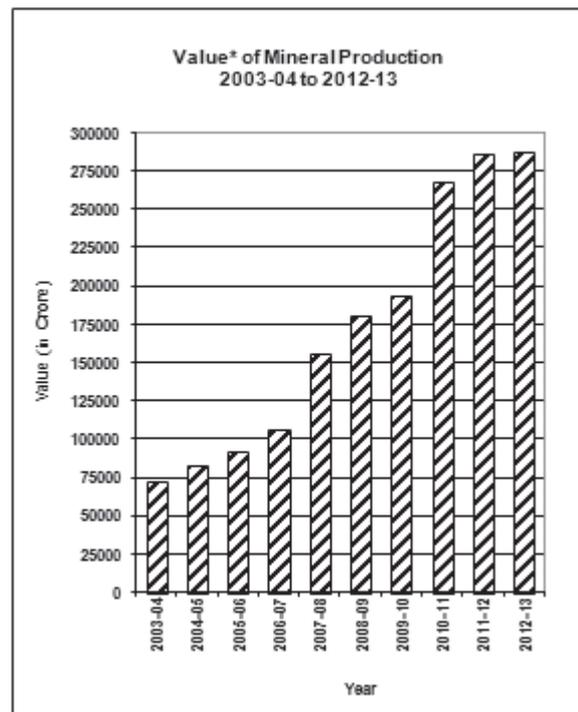
Out of the total value of mineral production, fuel minerals contributed the major share of about ₹1,82,689 crore or 64%. The rest was accrued from metallic minerals ₹43,592 crore or about 15%, non-metallic minerals ₹ 6,989 crore or about 3% and minor minerals ₹52,491 crore or about 18% (Table-1).

Fuel Minerals

The value of production for fuel minerals in 2012-13 at ₹1,82,689 crore increased by about 2% as compared to that of the preceding year. The production of **coal** at 556 million tonnes during 2012-13 increased marginally by 3% as compared to the level of previous year. Chhattisgarh, Jharkhand, Odisha, Madhya Pradesh, Andhra Pradesh, Maharashtra, West Bengal and Uttar Pradesh continued to be the principal producing States accounting for about 99% of the total production of coal in the country during 2012-13. The remaining production was reported from Meghalaya, Assam, Arunachal Pradesh and Jammu & Kashmir. The production of **lignite** at 46 million tonnes registered an increase of 10% over that of the previous year. Major quantity of 24.8 million tonnes or 53% of the output of lignite was reported from Tamil Nadu and the

rest that is 21.6 million tonnes or 47% was from Gujarat and Rajasthan.

The production of **petroleum (crude)** at 38 million tonnes decreased marginally during 2012-13 from that of the previous year. Offshore regions remained the largest producing area and contributed 49% to the total production of petroleum (crude) while from the inland region substantial production was reported from Rajasthan 23%, Gujarat 14%, and Assam 13 percent. The remaining nominal production was jointly shared by Andhra Pradesh, Tamil Nadu and Arunachal Pradesh. During 2012-13, the production of **natural gas (utilised)** at 40,679 m cu m was reportedly less by 14% as compared to the level of the previous year. Offshore region, which is the largest source for natural gas accounted for 78% of the total production which is followed by Assam 7%, Gujarat 5%, Andhra Pradesh and Tamil Nadu (3% each). The remaining 4% was contributed by Rajasthan, Tripura, West Bengal and Arunachal Pradesh.



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Metallic Minerals

The value of production for metallic minerals in 2012-13 at ₹43,592 crore decreased by 7% over that of the previous year due to lower production reported in gold (primary) and iron ore. Among the principal metallic minerals, iron ore contributed ₹33,227 crore or 76%, lead (concentrate) & zinc (concentrate) together ₹2,725 crore or 6%, chromite ₹2,448 crore or about 6%, silver ₹2,123 crore or 5%, manganese ore ₹1,265 crore or 3%, bauxite ₹710 crore or about 2%, copper (concentrate) ₹631 crore and gold ₹461 crore or 1% each while a negligible share was from tin concentrates.

The production of **iron ore** at about 136 million tonnes in 2012-13 decreased by 19% from that of the previous year. About 39% of the total production was shared by Public Sector Companies like SAIL, NMDC, OMC etc. The share of Private Sector was 61%. Almost the entire production of iron ore (97%) was accrued from Odisha, Chhattisgarh, Goa, Jharkhand and Karnataka during the year. The remaining production was reported from Andhra Pradesh, Madhya Pradesh, Maharashtra and Rajasthan.

The production of **chromite** at 2.95 million tonnes in 2012-13 increased marginally as compared to the previous year. Almost the entire output of chromite (99.8%) in the country was reported from Odisha and nominal production was reported from Karnataka. Mining of chromite was mostly dominated by six principal producers, viz, Tata Steel, OMC, IMFA, FACOR, Balasore Alloys Ltd and JSL whose joint contribution to the total production was 93% during 2012-13. Three Public Sector companies viz. OMC, MML and Industrial Development Corpn. of Orissa Ltd (IDCOL) together reported 24% of the total production in 2012-13. The production of **copper concentrate** at 124 thousand tonnes in 2012-13 decreased by 5% as compared to the previous year. Average metal content in copper conc. was 23.74% Cu. The production of **manganese ore** at 2.32 million tonnes in 2012-13 decreased by about 4% as compared to that of the previous year. MOIL continued to be the largest producer of manganese ore with a share of 49% of the total production in 2012-13 and is followed by Tata Steel (13%), RBSSDP & F.N. Das (10%), M.L. Rungta (6%) and S.R. Ferro Alloys (3%). Of the total production of manganese

ore in 2012-13, Madhya Pradesh and Maharashtra contributed 30% and 29% respectively followed by Odisha 23%, Andhra Pradesh 16% and Karnataka 1% while a nominal production was reported from Rajasthan, Jharkhand and Goa.

The production of **gold** at 1588 kg (excluding gold recovered from imported concentrates) in 2012-13 has declined sharply by 28% as compared to the previous year. Karnataka was the leading producer of gold accounting for almost entire output while a nominal production was reported from Jharkhand. The production of **bauxite** at 15.3 million tonnes in 2012-13 increased 13% as compared to the previous year. During 2012-13, three major companies, namely, NALCO, BALCO and HINDALCO, engaged in bauxite mining and jointly contributed 65% of the total production. During the year under review, Odisha accounted for 36% of the total output of bauxite followed by Gujarat 20%, Jharkhand & Maharashtra 13% each, Chhattisgarh 12% and Madhya Pradesh 5 percent. The remaining production was reported from Goa, Karnataka and Tamil Nadu. During 2012-13, the production of **lead concentrate** at 184 thousand tonnes increased by 14% and that of **zinc concentrate** at 1493 thousand tonnes increased by 6% over that of the previous year. The average metal content in lead concentrate was 56.55% Pb and that in zinc concentrate was 50.88% Zn. Rajasthan was the only state that reported production of lead concentrate and zinc concentrate during 2012-13.

Non-Metallic Minerals

The value of production of non-metallic minerals at ₹6,989 crore during 2012-13 increased by 14% as compared to the previous year. Limestone with contribution of 62% of the total value of non-metallic minerals, retained its leading position in 2012-13 in the group. The other non-metallic minerals in the order of importance in value terms, were phosphorite/rock phosphate (11%), barytes (8%), dolomite (3%), garnet (abrasive) & gypsum (2% each) and kaolin, ball clay, talc/soapstone/steatite, silica sand, laterite, ochre, feldspar, diamond, magnesite and sillimanite (1% each). The remaining contribution was from other non-metallic minerals (Table-1).

The production of **limestone** at 280 million tonnes in 2012-13 registered an increase of 7% over

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that of the previous year. Limestone is widely produced in 17 states of the country. As much as 86% of the total output in 2012-13 was contributed by seven principal producing states viz. Andhra Pradesh (22%), Rajasthan (19%), Madhya Pradesh (12%), Gujarat & Tamil Nadu (about 9% each), Karnataka (8%) and Chhattisgarh (7%). The remaining 14% of the total production was shared by other limestone producing states. About 54% of the total production was reported by principal producers in private sector. They are Ultra Tech Cement Ltd (15%), Ambuja Cement, Jaiprakash Associates Ltd & The ACC Ltd (7% each), Shree Cement Ltd (5%), The India Cement Ltd (4%), Madras Cements Ltd, Dalmia Cement (Bharat) Ltd & Binani Cement Ltd (3% each).

The production of **phosphorite/rock phosphate** at 2,124 thousand tonnes decreased by 6% in 2012-13 as compared to the previous year. The entire production was from Public Sector. Jhamarkotra mine of Rajasthan State Mines & Minerals Ltd in Rajasthan alone reported 79% production of phosphorite/rock phosphate during 2012-13. The production of **dolomite** at 6713 thousand tonnes in 2012-13 increased by 12% as compared to the preceding year. Five principal producers viz. SAIL (14%), Rashtriya Ispat Nigam Ltd (8%), South West Mining Ltd (7%), Tata Steel (6%) and Bisra StoneLime Co. Ltd (4%) together accounted for about 40% of the dolomite produced in 2012-13. Chhattisgarh, Andhra Pradesh and Odisha were the principal dolomite producing states and accounted for 28%, 23% and 13% respectively of the total production. The remaining (36%) production was contributed by Karnataka, Madhya Pradesh, Gujarat, Jharkhand, Maharashtra and Rajasthan during the year.

The production of **kaolin** in 2012-13 at 3,679 thousand tonnes increased by 20% over that of the previous year. Nearly 54% of the total output of kaolin in 2012-13 was reported from Gujarat followed by Kerala 24% and Rajasthan 16%. Production of **gypsum** at 3.5 million tonnes in 2012-13 decreased by 11% as compared to that of the previous year. Almost the entire production of gypsum was reported from Rajasthan (99%) while a nominal output was reported from Jammu & Kashmir. Two public sector companies, namely, Rajasthan State Mines & Minerals Ltd and Fertiliser Corporation

of India Ltd accounted for nearly the entire production. The production of **magnesite** at 213 thousand tonnes during 2012-13 decreased by 5% as compared to the previous year.

The production of **talc/soapstone/steatite** in 2012-13 at 939 thousand tonnes decreased by about 6% over the previous year. Rajasthan, the principal producing state accounted for 81% of the total production in 2012-13. Five principal producers in Rajasthan, namely, Associated Soapstone Distributing Co. (P) Ltd (26%), Udaipur Mineral Development Syndicate (P) Ltd (22%), M/s Ratan Lal Deedwaniya (4%), Nalwaya Mineral Industries Pvt. Ltd and Rajasthan Minerals & Company (3% each) together accounted for 58% in the total production of talc/soapstone/steatite in 2012-13.

Reporting Mines

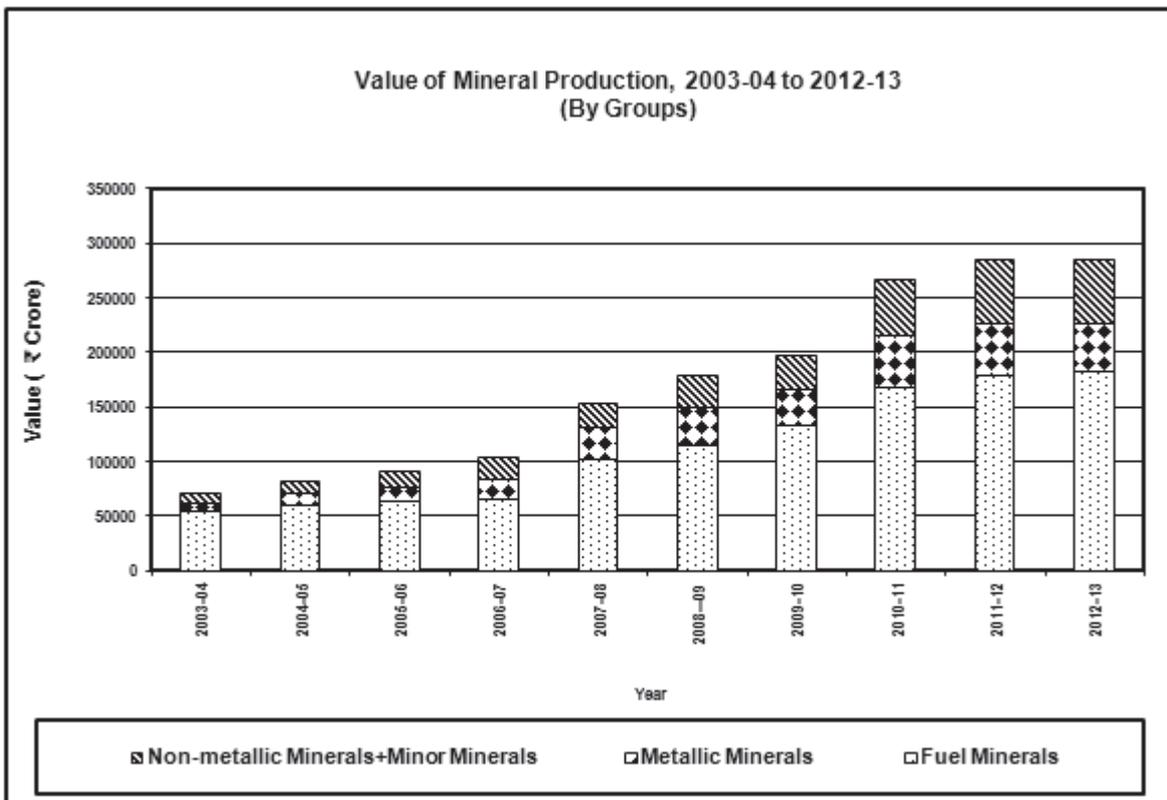
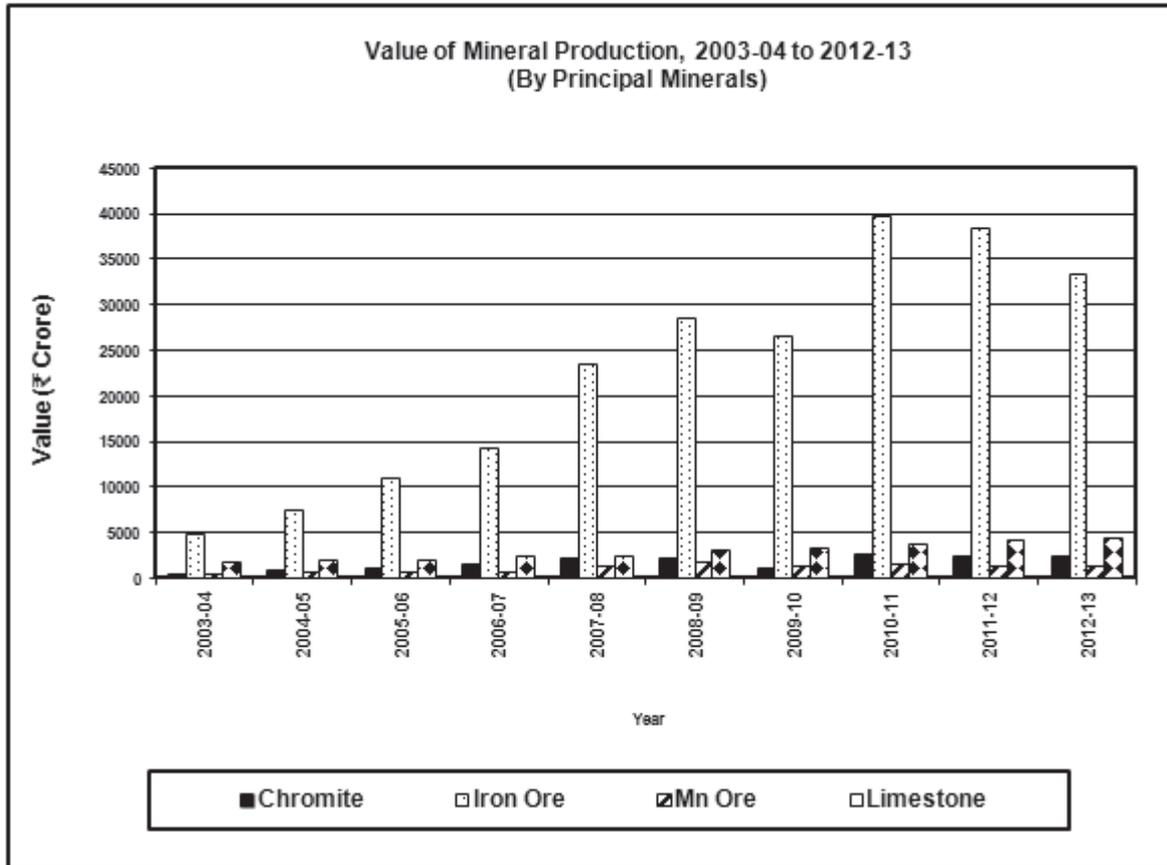
Reporting mine is defined as “A mine reporting production or reporting ‘nil’ production during a year but engaged in developmental work, such as, overburden removal, underground driving, winzings, sinking work, exploration by pitting, trenching or drilling as evident from the MCDR returns”.

There were 3,693 reporting mines (excluding atomic & minor minerals and petroleum (crude) & natural gas) in India located in 22 states that reported production during 2012-13. Among them, 575 mines belonged to coal & lignite, 635 to metallic minerals and 2,483 to non-metallic minerals. There were 774 mines in Public Sector and the rest 2,919 mines in private sector. The reporting mines were concentrated mainly in eleven states, namely, Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu and West Bengal and these accounted for 94% of the total reporting mines.

Employment

The estimated average daily employment of labour engaged in mining sector (excluding atomic and minor minerals) was 5,35,982 in 2012-13. Of this, 4,17,862 or 78% were in Public Sector and 1,18,120 or 22% in Private Sector. Fuel minerals category accounted for 74% of the total labour force employed during the year while metallic minerals 15% and non-metallic minerals accounted for 15% and 11% respectively.

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**Table – 1 : Mineral* Production in India, 2010-11 to 2012-13
(By Mineral Groups & Minerals)**

(Value ₹'000)

Mineral	Unit	2010-11		2011-12		2012-13 (P)	
		Quantity	Value	Quantity	Value	Quantity	Value
All Minerals		-	2670323852	-	2845703275	-	2857605674
Fuel Minerals		-	1685812674	-	1789219941	-	1826892354
Coal	'000t	532694	620210400	539950	701719100	556402	747186600
Lignite	'000t	37733	43307200	42332	53376500	46453	55114100
Natural Gas (utilised)	m cu m	52219	334253819	47559	342107011	40679	336420537
Petroleum (crude)	'000t	37684	688041255	38090	692017330	37862	688171117
Metallic Minerals		-	476387940	-	470320151	-	435918590
Bauxite	t	12722820	5122151	13599566	6126011	15360464	7097373
Chromite	t	4325699	25964208	2923435	24244988	2950115	24481704
Copper Ore	t	3601984	-	3479189	-	3638751	-
Copper Conc.	t	136856	4733515	130456	5385751	123655	6307619
Gold Ore	t	741522	-	491562	-	470561	-
Gold	kg	2399	4345197	2194	5311592	1588	4607379
Iron Ore	'000t	207157	396141714	168582	383570264	136019	332267357
Lead & Zinc Ore	t	7539999	-	8041881	-	8582015	-
Lead Conc.	t	147625	2000435	161854	2454497	184485	3291429
Zinc Conc.	t	1427231	17930226	1414009	19862214	1492781	23958034
Manganese Ore	t	3056385	14684000	2411871	11777000	2322214	12648711
Silver	kg	148303	5438695	207144	11561772	374046	21233064
Tin Conc.	kg	60643	27799	48765	26062	47776	25920
Non-Metallic Minerals		-	53983130	-	61258314	-	69889861
Agate	t	19	10	476	238	493	247
Apatite	t	3846	8345	3053	6459	572	1208
Phosphorite	t	2097490	5014699	2259726	7496300	2124326	7733072
Asbestos	t	268	13341	276	13347	387	17900
Ball Clay	t	1086714	390238	1646516	693714	1855654	917005
Barytes	t	2338806	2698279	1776980	1685965	1738824	5621010
Calcite	t	38826	14104	54081	20835	72076	25003
Chalk	t	177197	65799	178736	70458	166931	74562
Clay (others)	t	730752	70342	1417684	128017	1987136	228715
Corundum	kg	-	-	37000	130	-	-
Diamond	ct	11222	106776	18490	198240	31989	366471
Diaspore	t	26082	32003	23818	35654	16030	24896
Dolomite	t	5839710	1870047	5968554	1737037	6712840	2131604
Dunite	t	23716	6879	38774	25450	86495	75777
Felspar	t	546472	154676	835526	255408	1291493	383189
Fireclay	t	856741	136668	983155	158016	816692	152309
Felsite	t	1670	2420	1117	2590	1196	1346
Fluorite	t	59954	50147	5010	12270	3107	13448

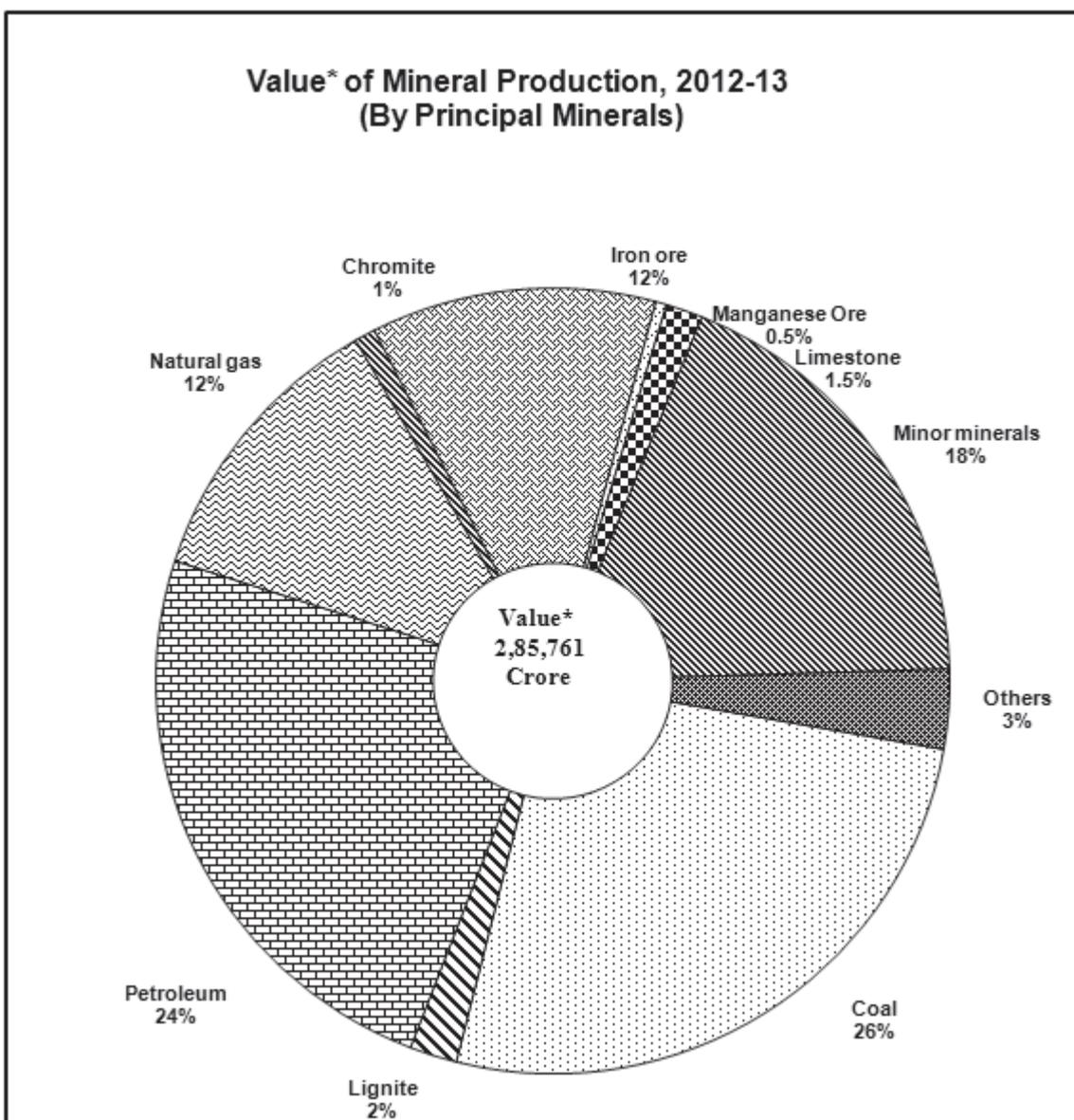
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Table - 1 (Concl.d.)

Mineral	Unit	2010-11		2011-12		2012-13 (P)	
		Quantity	Value	Quantity	Value	Quantity	Value
Garnet (abrasive)	t	2126337	1274864	1717904	981625	1277971	1262859
Graphite (r.o.m.)	t	115697	50380	153339	69449	132156	68052
Gypsum (r.o.m.)	t	4918170	1475454	3978806	1686042	3537755	1709725
Iolite	kg	4	40	-	-	-	-
Kaolin	t	2727946	737101	3076795	652368	3678930	991168
Kyanite	t	5954	6291	4064	4802	1066	1249
Sillimanite	t	48784	407406	59206	522737	43736	360411
Laterite	t	1220304	147948	2815275	395548	3372636	545379
Limestone	'000t	246336	36349567	262568	40768303	279736	43216622
Lime Kankar	t	383817	84903	311219	59469	217918	38529
Limeshell	t	30410	32159	33225	40788	23228	39801
Magnesite	t	235762	378217	224104	354977	213377	362697
Marl	t	4399379	307556	4140577	272904	4360302	266915
Mica (crude)	t	1333	44505	1899	68670	1255	39628
Mica (waste & Scrap)	t	7311	-	14186	-	14669	-
Ochre	t	1218261	240374	1576265	276937	1794475	452495
Pyrophyllite	t	240082	83123	255891	139510	245399	149108
Pyroxenite	t	253205	126179	86031	33113	54257	16817
Quartz	t	497546	112108	782575	173890	1041133	259646
Quartzite	t	118117	45750	272141	139207	364894	206952
Silica Sand	t	3380968	444684	4867667	714062	3690016	823828
Sand (others)	t	2057119	109682	2625111	162965	2628935	186154
Salt (rock)	t	1200	2971	-	-	-	-
Shale	t	3081622	103993	3439775	139066	3048568	155697
Slate	t	-	-	-	-	278	263
Talc/Steatite/Soapstone	t	902686	618286	998438	878590	939022	825559
Selenite	t	6736	5726	13047	16105	7577	9968
Sulphur	t	236998	-	381146	-	449004	-
Vermiculite	t	19234	13132	10194	7085	7689	5544
Wollastonite	t	183381	145958	184445	159974	141550	127033
Minor Minerals		-	454140108	-	524904869	-	524904869

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* Excluding Atomic Minerals

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Role of Public Sector

The value of mineral production (excluding atomic minerals and minor minerals) in Public Sector was at ₹1,56,644 crore or 55% of the overall value of mineral production in 2012-13. The share of Public Sector in the total value of fuel minerals was 75%, while its share in metallic minerals and in non-metallic minerals during the year was 39% and 28% respectively.

The entire production of copper ore & conc. among metallic minerals and diamond, fluorite, selenite & sulphur in respect of non-metallic minerals was by the Public Sector. By and large, the entire production of lignite, gold (total), barytes, gypsum, kyanite and sand (others) came from Public Sector during 2012-13. Public Sector also sizeably contributed in the production of coal (91%), phosphorite/rock phosphate (91%), tin conc. (87%), dunite (81%), magnesite (74%), petroleum (crude) (69%) and natural gas (ut.) (64%) (Table-2).

**Table – 2 : Mineral Production (Quantity), 2011-12 and 2012-13
(By Sectors)**

Mineral	Unit	All India		Public sector		Private sector		% share of public sector in total production		% overall increase (+) or decrease (-) in production in 2012-13 over 2011-12
		2011-12	2012-13	2011-12	2012-13	2011-12	2012-13	2011-12	2012-13	2011-12
Fuel Minerals										
Coal	'000 t	539950	556402	490755	509240	49195	47162	90.89	91.52	3.05
Lignite	'000 t	42332	46453	41095	46156	1237	297	97.08	99.36	9.73
Natural Gas (Ut.)	m.cu.m.	47559	40679	25950	26188	21609	14491	54.56	64.38	-14.47
Petroleum (Crude)	'000 t	38090	37862	27563	26222	10527	11640	72.36	69.26	-0.60
Metallic Minerals										
Bauxite	t	13599566	15360464	5852699	6440397	7746867	8920067	43.04	41.93	12.95
Chromite	t	2923435	2950115	608620	700007	2314815	2250108	20.82	23.73	0.91
Copper Conc.	t	130456	123655	130456	123655	-	-	100.00	100.00	-5.21
Copper Ore	t	3479189	3638751	3479189	3638751	-	-	100.00	100.00	4.59
Gold (Total)	kg	2194	1588	2183	1583	11	5	99.50	99.69	-27.62
Gold Ore	t	491562	470561	484439	466791	7123	3770	98.55	99.20	-4.27
Iron Ore (Total)	'000 t	168582	136019	56610	52553	111972	83466	33.58	38.64	-19.32
Lead & Zinc Ore	t	8041881	8582015	-	-	8041881	8582015	-	-	6.72
Lead Conc.	t	161854	184485	-	-	161854	184485	-	-	13.98
Manganese Ore	t	2411871	2322214	1136087	1142824	1275784	1179390	47.10	49.21	-3.72
Silver	kg	207144	374046	202	145	206942	373901	0.10	0.04	80.57
Tin Conc.	kg	48765	47776	34534	41584	14231	6192	70.82	87.04	-2.03
Zinc Conc.	t	1414009	1492781	-	-	1414009	1492781	-	-	5.57
Non-Metallic Minerals										
Agate	t	476	493	-	-	476	493	-	-	3.57
Apatite	t	3053	572	136	-	2917	572	4.45	-	-81.26
Asbestos	t	276	387	-	-	276	387	-	-	40.22
Ball Clay	t	1646516	1855654	98421	14294	1548095	1841360	5.98	0.77	12.70
Barytes	t	1776980	1738824	1702821	1697323	74159	41501	95.83	97.61	-2.15
Calcite	t	54081	72076	-	-	54081	72076	-	-	33.27

(Contd.)

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Table - 2 (Concl.d.)

Mineral	Unit	All India		Public sector		Private sector		% share of public sector in total production		% overall increase (+) or decrease (-) in production in 2012-13 over 2011-12
		2011-12	2012-13	2011-12	2012-13	2011-12	2012-13	2011-12	2012-13	2011-12
Chalk	t	178736	166931	-	-	178736	166931	-	-	-6.60
Clay (Others)	t	1417684	1987136	-	-	1417684	1987136	-	-	40.17
Corundum	kg	37000	-	-	-	37000	-	-	-	-
Diamond	ct	18490	31989	18490	31989	-	-	100.00	100.00	73.01
Diaspore	t	23818	16030	0	0	23818	16030	0.00	0.00	-32.70
Dolomite	t	5968554	6712840	2110925	1942691	3857629	4770149	35.37	28.94	12.47
Dunite	t	38774	86495	32937	69795	5837	16700	84.95	80.69	123.07
Felsite	t	1117	1196	-	-	1117	1196	-	-	7.07
Felspar	t	835526	1291493	2629	12078	832897	1279415	0.31	0.94	54.57
Fireclay	t	983155	816692	5052	6978	978103	809714	0.51	0.85	-16.93
Fluorite	t	5010	3107	5010	3107	-	-	100.00	100.00	-37.98
Garnet (Abrasive)	t	1717904	1277971	31688	34137	1686216	1243834	1.84	2.67	-25.61
Graphite (r. o. m.)	t	153339	132156	57205	69477	96134	62679	37.31	52.57	-13.81
Gypsum	t	3978806	3537755	3962835	3537362	15971	393	99.60	99.99	-11.09
Kaolin (Total)	t	3076795	3678930	26995	13333	3049800	3665597	0.88	0.36	19.57
Kyanite	t	4064	1066	4064	1058	-	8	100.00	99.25	-73.77
Laterite	t	2815275	3372636	84048	61498	2731227	3311138	2.99	1.82	19.80
Lime Kankar	t	311219	217918	-	-	311219	217918	-	-	-29.98
Limeshell	t	33225	23228	14975	11497	18250	11731	45.07	49.50	-30.09
Limestone	'000 t	262568	279736	13202	12700	249366	267036	5.03	4.54	6.54
Magnesite	t	224104	213377	167773	158858	56331	54519	74.86	74.45	-4.79
Marl	t	4140577	4360302	-	-	4140577	4360302	-	-	5.31
Mica (Crude)	kg	1898852	1254914	-	-	1898852	1254914	-	-	-33.91
Mica (Waste & Scrap)	kg	14186	14669	-	-	14186	14669	-	-	3.40
Ochre	t	1576265	1794475	-	-	1576265	1794475	-	-	13.84
Phosphorite	t	2259726	2124326	2079942	1942985	179784	181341	92.04	91.46	-5.99
Pyrophyllite	t	255891	245399	1189	595	254702	244804	0.46	0.24	-4.10
Pyroxenite	t	86031	54257	-	-	86031	54257	-	-	-36.93
Quartz	t	782575	1041133	14453	14972	768122	1026161	1.85	1.44	33.04
Quartzite	t	272141	364894	-	-	272141	364894	-	-	34.08
Sand (Others)	t	2625111	2628935	2592171	2621913	32940	7022	98.75	99.73	0.15
Shale	t	3439775	3048568	34350	39000	3405425	3009568	1.00	1.28	-11.37
Silica Sand	t	4867667	3690016	109173	93537	4758494	3596479	2.24	2.53	-24.19
Sillimanite	t	59206	43736	25677	17490	33529	26246	43.37	39.99	-26.13
Selenite	t	13047	7577	13047	7577	-	-	100.00	100.00	-41.93
Slate	t	-	278	-	-	-	278	-	-	-
Talc/Steatite/ Soapstone	t	998438	939022	-	-	998438	939022	-	-	-5.95
Sulphur	t	381146	449004	381146	449004	-	-	100.00	100.00	17.80
Vermiculite	t	10194	7689	1542	1520	8652	6169	15.13	19.77	-24.57
Wollastonite	t	184445	141550	-	-	184445	141550	-	-	-23.26

PRODUCTION

Minor Minerals

The share of minor minerals in the value of mineral production at ₹52,490 crore in 2011-12 increased by 15.6% as compared to that in the previous year.

Andhra Pradesh with share of 23.5% in the value of minor minerals produced in the country occupy the top position while Gujarat with a share of 23.0% in the value of minor minerals was at second place. Next in the order were Maharashtra 14.6%, Rajasthan 12.9%, Uttar Pradesh 7.6%, Kerala 5.9%, Karnataka 3.9%, Madhya Pradesh 3.7%, Goa 1.6% and Chhattisgarh and Tamil Nadu about 1% each. The remaining states and Union Territories which contributed less than 1% individually, together accounted for the remaining about 1%.

Mineralwise analysis revealed that road metal held the largest share of 38.7% of the total value of minor minerals followed by building stone 21.9%, ordinary sand 16.5%, brick-earth 5.2%, gravel & marble 3.1% each, murrum 2.2%, kankar & limestone 2.1% each, quartzite & sandstone 1.5% and ordinary earth 1.3 percent. The individual share of remaining minerals was less than 1.0% which together accounted for 2.3% of the value of minor minerals.

The share of minor minerals in the value of mineral production was about 17.01% in 2010-11 & 18.45% in 2011-12 (Table 3, 4, & 5).

Table – 3 : Share of Minor Minerals in Total Value of Mineral Production 2009-10 to 2011-12

(Value in ₹'000)			
Year	All minerals	Minor minerals	% share of minor minerals
2009-10	1921148095	220564407	11.48
2010-11	2670323831	454140108	17.01
2011-12	2845703275	524904869	18.45

Table – 4 : Value of Production of Minor Minerals 2009-10 to 2011-12 (By States)

(In ₹'000)			
State	2009-10	2010-11	2011-12 (P)
India	220564407	454140108	524904869
Andhra Pradesh	82873369	110793748	123362441
Arunachal Pradesh	182548	366090	300100
Assam	367860	233140	313805
Bihar	2613871	3141300	1254900
Chhattisgarh	2795885	2789756	3349506
Goa	3104120	6748130	8642394
Gujarat	10437187	122203305	120647712
Haryana	1487198	1487198	1487198
Himachal Pradesh	288365	1063100	907200
Jammu & Kashmir	649201	1416231	1611656
Jharkhand	401448	401448	401448
Karnataka	5845416	6460904	20487499
Kerala	11593931	12272623	31042862
Madhya Pradesh	17024965	16875222	19354008
Maharashtra	1016862	71139570	76644279
Manipur	2866	2866	2866
Meghalaya	72075	72075	72075
Mizoram	6268	15331	22199
Nagaland	1774	1774	1774
Odisha	856767	856767	856767
Punjab	392267	422321	327395
Rajasthan	47505286	59612929	67615290
Sikkim	18787	18787	18787
Tamil Nadu	1168668	1247557	3894860
Tripura	14867	26208	29180
Uttar Pradesh	27495000	32090691	39922149
Uttarakhand	636367	636367	636367
West Bengal (1)	1455113	1455113	1455113
Andaman & Nicobar Islands	190464	170580	189039
Chandigarh	1650	3390	-
Daman & Diu	587	587	-
Puducherry	63375	115000	54000

Source: State/Union Territory Government.

(1) Excluding data in respect of quarry permits issued by district authorities.

Note: Earlier year's figures have been repeated as estimates, wherever necessary, due to non-receipt of data.

PRODUCTION

**Table – 5 : Value of Production of Minor Minerals
2009-10 to 2011-12
(By Minerals)**

(In ₹'000)

Mineral	2009-10	2010-11	2011-12 (P)
All Minerals	220564407	454140108	524904869
Bentonite	542125	3313604	71307
Boulder	1987538	1874786	1783324
Brick-earth	23557050	43542364	27079703
Building Stones	40984085	84857559	114897182
Granite	(18526785)	(26531579)	(54198761)
Other Building stones	(22457300)	(58325980)	(60698421)
Chalcedony or impure quartz pebbles ⁽¹⁾	10800	-	21804
Fuller's Earth	328037	192003	242420
Gravel	11783510	15365158	16100876
Kankar ⁽²⁾	5926896	6779464	11025966
Limeshell ⁽²⁾	11307	50534	43367
Limestone ⁽²⁾	7900950	14185473	10920803
Marble	12794100	13954172	16012403
Murrum	5182095	7962735	11686150
Ordinary clay	1173001	3350593	1654357
Ordinary earth ⁽³⁾	3298568	5823756	6926586
Ordinary sand ⁽⁴⁾	24755577	130189008	86601425
Quartzite and sandstone ⁽⁵⁾	6746712	6274461	7737267
Reh-matti	-	6002	-
Road metal	67315850	106777335	203262171
Salt petre	3935	3935	3895
Shale ⁽⁶⁾	-	-	-
Shingle	79004	214546	312045
Slate ⁽⁶⁾	22209	36497	67187
Stones ⁽⁷⁾	2302787	1946986	2591474
Other Minerals (Not included above) ⁽⁸⁾	3858271	7439137	5863157

Source: State / Union Territory Government.

(1) Used for ball mill purposes or for filling for bore wells or for decorative purposes in buildings.

(2) Used in kilns for manufacture of lime used as building material.

(3) Used for levelling or filling purposes in constructions of embankments, roads, railways, buildings etc.

(4) Other than sand used for prescribed purposes, as (i) refractory and manufacture of ceramic; (ii) metallurgical purposes; (iii) optical purposes; (iv) purposes of stowing in coal mines; (v) for manufacture of silvirete cement; (vi) for manufacture of sodium silicate; (vii) for manufacture of pottery and glass.

(5) Used for purposes of building or for making road metals and house-hold utensils.

(6) Used for building material.

(7) Used for making house-hold utensils.

(8) Items included are those for which value is available from the state govt. but quantity and name of item is not available.

PRODUCTION

Index of Mineral Production

During 2012-13, the index of mineral production (excluding atomic minerals) (with revised base year 2004-05=100) for 2012-13 at 125.46 displayed a negative growth of about

2% as compared to the previous year. The decline in the index was attributed to the fall registered in the index for crude petroleum & natural gas by 4.7% and metallic minerals by 15 percent (Table-6).

**Table - 6 : Index of Mineral Production, 2010-11 to 2012-13
(Excluding Atomic Minerals)**

(Base 2004-05=100)

Year	Index of mineral production (1000)	Coal & lignite (323.25)	Crude petroleum & natural gas (489.08)	Metallic minerals (103.98)	Non-metallic minerals (27.41)	Minor minerals (56.28)
2010-11	131.06	138.75	124.49	136.45	142.49	128.54
2011-12	128.45	141.08	121.63	115.36	150.55	128.54
2012-13 (P)	125.46	145.31	115.96	98.05	158.39	128.54

Note: Figures in parentheses indicate the weights attached to respective groups.

Gross Domestic Product from Mining & Quarrying Sector

The Gross Domestic Product (GDP) accrued from Mining & Quarrying Sector at current price is estimated by deducting input cost incurred in mining operations from the ex-mine sale value of mineral production.

During 2012-13, the Mining & Quarrying Sector accounted for about 2.4% of the total GDP. The contribution of Mining & Quarrying Sector in the GDP during 2012-13 was ₹2,22,416 crore indicating a nominal decrease as compared to the preceding year.

The contribution of MCDR minerals to the GDP of Mining & Quarrying Sector during 2012-13 was about 19.6% of which metallic minerals contribute 17.4% and non-metallic minerals 2.2 percent.

As regards contribution of metallic minerals, to the GDP of Mining & Quarrying Sector, iron ore accounted for a maximum of 14% followed by chromite with 1 percent. The contribution of other metallic mineralstogether to GDP of Mining & Quarrying Sector was around 2.5% during the year. Among the non-metallic minerals, the share of limestone was 1% while remaining 1% was jointly contributed by the remaining non-metallic minerals (Table-7).

Statewise analysis reveals that Odisha occupy the top position contributing about 41% to the GDP of MCDR minerals during 2012-13 followed by Chhattisgarh 19%, Rajasthan 12%, Karnataka 9%, Jharkhand & Goa about 5% each, Andhra Pradesh 3%, Madhya Pradesh 2% and Maharashtra, Tamil Nadu & Gujarat about 1% each. Combined share of other States to the GDP of MCDR minerals was about 1% during the year (Table -8).

PRODUCTION

**Table – 7 : Gross Domestic Product at Current Prices, 2010-11 to 2012-13
(By Principal MCDR Minerals)**

(In ₹'000)

Mineral	2010-11(R)	2011-12(R)	2012-13(P)	% change in 2012-13 over previous year	% share of the mineral in the GDP from Mining & Quarrying sector in 2012-13
GDP (All sectors) *	72488600000	83916910000	93888760000	11.9	-
Mining & Quarrying Sector *	2048660000	2227160000	2224160000	-0.1	100.00
MCDR Minerals	450701834	462181946	435765946	-5.7	19.59
Metallic Minerals	410425926	419998370	386835318	-7.9	17.39
Bauxite	3826940	5030680	5828363	15.9	0.26
Chromite	21289689	21352561	21561037	1.0	0.97
Copper Conc.	2456771	3758716	4402087	17.1	0.20
Gold	3340020	4058056	3520038	-13.3	0.16
Iron Ore	352617781	353459998	306184369	-13.4	13.77
Lead Conc.	1156451	1342119	1799753	34.1	0.08
Zinc Conc.	10365464	10860659	13100253	20.6	0.59
Manganese Ore	9913275	8547747	9180434	7.4	0.39
Other Metallic minerals	5459535	11587834	21258984	83.5	0.96
Non-Metallic Minerals	40275908	42183576	48930628	16.0	2.20
Ball Clay	367057	630100	832916	32.2	0.04
Barytes	1910126	1428181	4761558	233.4	0.21
Clay (others)	69386	115804	206896	78.7	0.01
Diamond	73355	179645	332096	84.9	0.01
Dolomite	1581246	1426976	1751113	22.7	0.08
Felspar	111594	210048	315135	50.0	0.01
Fireclay	122722	150652	145211	-3.6	0.01

(Contd.)

PRODUCTION

Table - 7 (Concl.d.)

Mineral	2010-11(R)	2011-12(R)	2012-13(P)	% change in 2012-13 over previous year	% share of the mineral in the GDP from Mining & Quarrying sector in 2012-13
Garnet (Abrasive)	1141171	614301	790297	28.6	0.04
Gypsum	1421576	1655019	1678266	1.4	0.08
Kaolin (Total)	461345	493843	750314	51.9	0.03
Laterite	115096	331192	456646	37.9	0.02
Limestone	26566027	27033462	28656942	6.0	1.29
Magnesite	266485	260979	266655	2.2	0.01
Marl	251916	180963	176991	-2.2	0.01
Ochre	214874	248689	406340	63.4	0.02
Phosphorite	3471669	4464047	4605044	3.2	0.21
Pyrophyllite	61764	121234	129575	6.9	0.01
Quartz	105313	139582	208418	49.3	0.01
Quartzite	42549	135699	201737	48.7	0.01
Sand (Others)	109682	162965	186154	14.2	0.01
Shale	103993	121085	135565	12.0	0.01
Silica Sand	392595	583960	673726	15.4	0.03
Sillimanite	295080	471875	325343	-31.1	0.01
Steatite	443145	528735	496821	-6.0	0.02
Other Non-Metallic Minerals	576142	494540	440869	-10.9	0.02

*Source: CSO.

PRODUCTION

**Table - 8: Gross Domestic Product from Mining & Quarrying Sector
at Current Prices, 2010-11 to 2012-13
(By State/Union Territory)**

(In ₹'000)

State/Union Territory	2010-11(R)	2011-12(R)	2012-13 (p)	% change in 2011-12 over previous year	% share of the State in the GDP of MCDR minerals in 2012-13
GDP (All sectors) *	72488600000	83916910000	93888760000	11.9	-
Mining & Quarrying					
Sector *	2048660000	2227160000	2224160000	-0.1	100.00
MCDR Minerals	450701834	462181946	435765946	-5.7	100.00
Andhra Pradesh	8482756	9309439	13411591	44.1	3.08
Assam	72914	41500	51299	23.6	0.01
Bihar	200759	111084	132380	19.2	0.03
Chhattisgarh	69665832	94844166	84495775	-10.9	19.39
Goa	68097497	64467270	20671540	-67.9	4.74
Gujarat	3470151	3054378	3923139	28.4	0.90
Haryana	-	-	263	-	0.00
Himachal Pradesh	1250554	836433	1102876	31.9	0.25
Jammu & Kashmir	31631	31342	30216	-3.6	0.01
Jharkhand	13529894	20999009	21234727	1.1	4.87
Karnataka	76287958	35957244	39034839	8.6	8.96
Kerala	350868	468288	407842	-12.9	0.09
Madhya Pradesh	9568486	9556447	10329765	8.1	2.37
Maharashtra	4042879	6221209	6437422	3.5	1.48
Meghalaya	247802	1070895	1302532	21.6	0.30
Odisha	160702840	172641533	176481064	2.2	40.50
Rajasthan	29676556	38302858	52169191	36.2	11.97
Tamil Nadu	4408936	3649396	4001739	9.7	0.92
Uttar Pradesh	338475	377055	321828	-14.6	0.07
Uttarakhand	207938	182991	137204	-25.0	0.03
West Bengal	67108	59409	88714	49.3	0.02

*Source: CSO.

PRODUCTION

METALS

Ferrous Metals

As per the provisional data received from the Office of the Joint Plant Committee, Kolkata, India produced 86.4 million tonnes of finished steel (including C.R. sheets), 30 million tonnes of semi-finished steel (including steel ingots), 6.1 million tonnes pig iron, 19.8 million tonnes sponge iron and 0.6 million tonnes steel wires in 2012-13.

The production of finished steel (including C.R.sheets), semi-finished steel (including steel ingots) pig iron and steel wire registered an increase of 7.5%, 7.4%, 5.5% and 0.2% respectively. However, production of sponge iron and steel wire decreased by 3% as compared to the previous year. Production of various items of iron and steel for the last three years is provided in Table - 9.

Ferro-alloys

The production of many kinds of ferro-alloys were not received from IFAPA as well

as from other sources. However, the data received from JPC for some of the ferro-alloys as well as partial coverage of ferro-alloys published in Monthly Statistics of Mineral Production (MSMP) - March, 2013 have been furnished in Table-10.

**Table – 9 : Production of Ferrous Metals
2010-11 to 2012-13**

(In '000 tonnes)

Ferrous Metal	2010-11	2011-12	2012-13 (P)
Finished steel (including C.R. sheets)	68621	75696	81680
Semi-finished steel (including steel ingots)	23561	25273	27928
Pig iron	5683	5371	6870
Sponge iron	25341	24971	23006
Steel wire	571	589	582

Source: Office of Joint Plant Committee, Kolkata.

Table – 10 : Production of Ferro-alloys, 2011-12 and 2012-13

(In tonnes)

Ferro-alloy	2011-12	2012-13
A) Bulk Ferro-alloys		
Ferro-manganese	517000	518000
Silico-manganese	201066	236541
Ferro-silicon	89000	90000
Ferro-chrome/charge-chrome	943000	944000
B) Noble Ferro-alloys		
Ferro-molybdenum	1058	1076
Ferro-vanadium	695	796
Ferro-tungsten	NA	NA
Ferro-silico-magnesium	19491	19205
Ferro-aluminium	5850	4935
Ferro-silico-zirconium	NA	NA
Ferro-titanium	594	629
Ferro-boron	92	42

Source: Monthly Statistics of Mineral Production (MSMP), IBM.

PRODUCTION

Non-ferrous Metals

The production of aluminium at 1,720 thousand tonnes in 2012-13 registered an increase of 4% as against the previous year. Five plants, one in Public Sector and four in Private Sector reported production of aluminium during the year. Smelting and refining of copper is carried out by Hindustan Copper Ltd in their existing plants located at Ghatshila and Raigad. Copper metal is also produced from imported copper concentrates at the plant of Sterlite Industries (India) Ltd and Hindalco Industries Ltd. The production of copper blister at 17,455 tonnes in 2012-13 decreased by 10% as compared to 19,473 tonnes in the previous year. The production of copper cathodes at 493,519 tonnes in 2012-13 decreased by 2% from that of the previous year. The production of copper continuous cast wire rods at 2,85,051 tonnes in 2012-13 decreased by 1% from that of the previous year.

The production of lead (primary) at 1,18,317 tonnes in 2012-13 increased by about 28% as against the previous year. No production of lead (secondary) was reported during the last four years. The production of zinc ingots in 2012-13 was

7,04,228 tonnes as against 7,83,647 tonnes in the previous year showing a decrease of 10 percent.

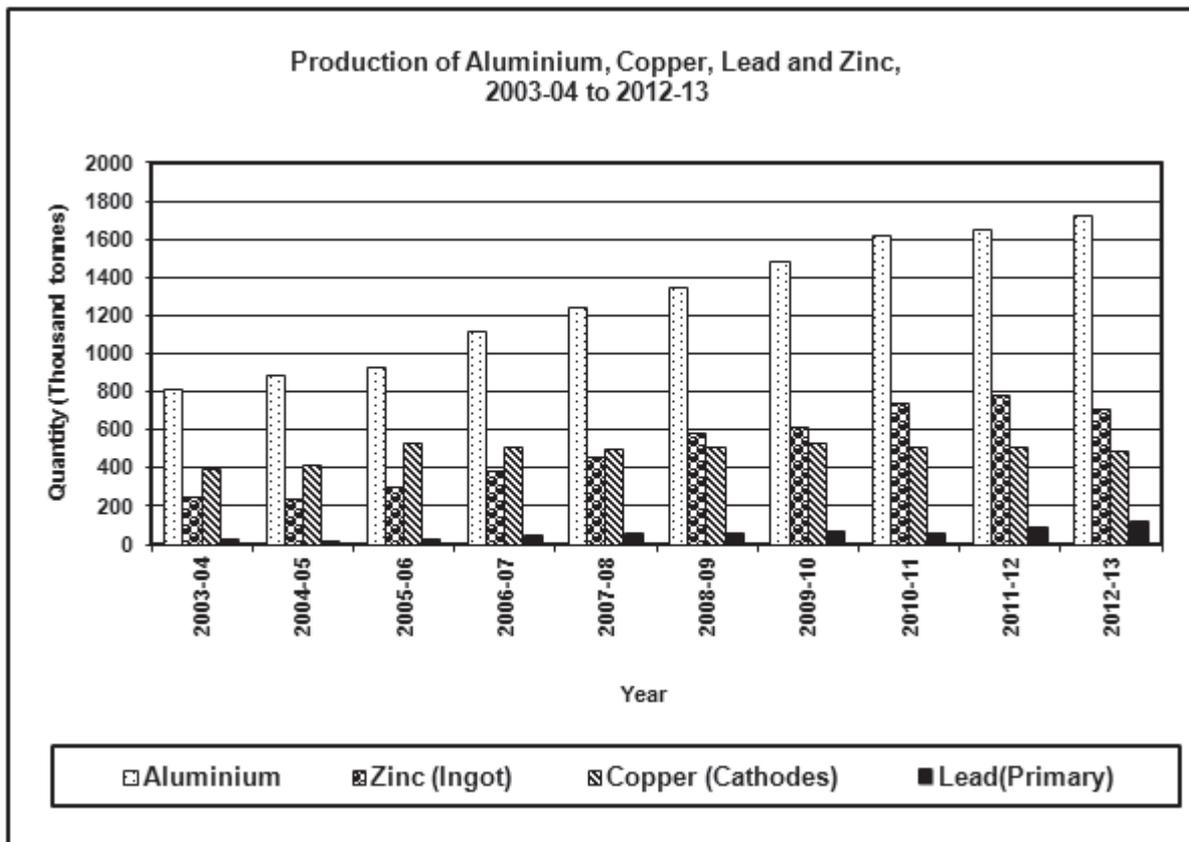
Precious Metals

Gold (primary) is produced from gold ore by HGML in the state of Karnataka. Gold is also recovered as by-product from copper slime by Hindalco Industries Ltd in Gujarat. The total production of gold bullion during the year at 8,304 kg decreased by 26% as compared to 11,286 kg in the previous year.

The entire production of silver in India is reported as by-product from copper slime, lead and zinc concentrates and as a co-product of gold refining from copper slime. The production of silver at 4,34,569 kg registered an increase of 65% as against that of the previous year.

Other Metals

Cadmium is a by-product of zinc smelting. Its production was 391 tonnes in 2012-13 which is 13% less than that of the previous year. Production of selenium has not been reported during the last five years (Table-11).



PRODUCTION

Table – 11 : Production and Value of Non-ferrous Metals, 2010-11 to 2012-13

(Value in ₹'000)

Metal	Unit of quantity	2010-11		2011-12		2012-13(P)	
		Quantity	Value	Quantity	Value	Quantity	Value
Aluminium	tonne	1621033	162844955	1654156	183657246	1720427	202241542
Cadmium	tonne	550	104958	449	85862	391	63392
Copper (blister)	tonne	14245	NA	19473	NA	17455	NA
Copper (cathode)	tonne	512124	190516536	504677	206308438	493519	213917869
Copper (continuous cast wire rod)	tonne	300416	120434292	287550	127010980	285051	135095998
Gold*	kg	9360	17629928	11286	28357440	8304	24128789
Lead (primary)	tonne	57294	6832535	92100	11519013	118317	16164125
Silver*	kg	193376	7093017	263910	14641466	434569	2449026
Tin	kg	24013	25086	23451	26968	13938	15666
Zinc ingot	tonne	740402	86758258	783647	93434560	704228	89403217

Source: Individual producers/units.

** Including by-product recovery from imported copper concentrates.*