

# 8 Production

## MINERALS

The mineral production (excluding atomic minerals) in India increased by 2.2% (as per index of mineral production base year 2004-05) during 2016-17 as compared to the previous year due to increase in the production of coal, lignite, among fuel minerals; chromite, gold, iron ore, lead concentrates, manganese ore, zinc concentrates, among metallic minerals and diamond, garnet (abrasive), kyanite, limeshell, limestone and selenite among non-metallic minerals. However, the production of minerals like natural gas (utilised), petroleum (crude), bauxite, copper ore and concentrates, tin concentrates, fluorite, graphite, magnesite, marl, phosphorite, sillimanite, vermiculite and wollastonite, etc. decreased during 2016-17 (Table-1).

### Fuel Minerals

The production of **coal** at 663 million tonnes during 2016-17 increased by about 4% as compared to the level of previous year. Chhattisgarh, Odisha, Jharkhand, Madhya Pradesh, Telangana, Maharashtra, West Bengal and Uttar Pradesh continue to be the principal producing states accounting for almost entire production of coal in the country during 2016-17. While Meghalaya, Assam and Jammu & Kashmir together reported less than 1% production. The production of **lignite** at 45.23 million tonnes reported an increase of 3% over the previous year.

Major quantity of 26.20 million tonnes or 58% of the output was reported from Tamil Nadu and the rest of 19.03 million tonnes or 42% together from Gujarat (23%) and Rajasthan (19%).

The production of **petroleum (crude)** at 36.01 million tonnes decreased marginally by 2.2% during 2016-17 as compared to that of the previous year. Offshore regions remain the largest producing area and contributed 51% of total production of petroleum (crude) followed by Rajasthan 23%, Gujarat 13% and Assam 12%. The remaining 1% contributed by other few states. During 2016-17, production of **natural gas (utilised)** at 31,897 m c m reported a decrease of about 1.1% as compared to the level of previous year. Offshore region, the largest source for natural gas in the country accounted for 70.17% of the total

production while Assam 9.44 percent. The remaining was contributed by other few states.

### Metallic Minerals

The value of production of metallic minerals in 2016-17 at ₹ 40,017 crore increased by about 19% over the previous year mainly due to higher production reported in gold, chromite, iron ore (total) and manganese ore. Among the principal metallic minerals, iron ore contributed ₹ 25,139 crore or 63%, lead (concentrate) & zinc (concentrate) together ₹ 5,305 crore or 13%, chromite ₹ 3,645 crore or about 9%, manganese ore ₹ 1,603 crore or about 4%, silver ₹ 1,832 crore or 4.6%, bauxite ₹ 1,417 crore or 4% and the remaining value was from copper (concentrate), gold and tin concentrates in the total value of metallic minerals.

The production of **iron ore** at about 192 million tonnes in 2016-17 increased by 21% over the previous year. Production of iron ore (52%) was contributed from Odisha, Chhattisgarh (16%) and Karnataka (14%), and Jharkhand (11%) during the year. The remaining 7% production was reported from Andhra Pradesh, Goa, Madhya Pradesh, Maharashtra and Rajasthan.

The production of **chromite** at 3.73 million tonnes in 2016-17 increased by 28% as compared to the previous year. Odisha reported almost entire output of chromite in the country. A nominal production was also reported from Karnataka and Maharashtra. The production of **copper ore** at 3.85 million tonnes was 2% lower, while that of **copper concentrate** at 135 thousand tonnes in 2016-17 decreased by 11% as compared to the previous year. The average metal content in copper conc. was 23.88% Cu. The production of **manganese ore** at 2.39 million tonnes in 2016-17 increased about 10% as compared to that in the previous year. Of the total production of manganese ore in 2016-17, Madhya Pradesh continued to be the largest producer by contributing 27%, followed by Maharashtra & Odisha 25% each. The remaining production was reported by Andhra Pradesh, Karnataka, Jharkhand, Rajasthan and Telangana.

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The production of **gold** at 1,594 kg (excluding gold recovery from imported concentrates) in 2016-17 increased by 20% as compared to the previous year. Karnataka was the leading producer of gold accounting for almost 99% output, while 1% was reported from Jharkhand. The production of **bauxite** at 24.67 million tonnes in 2016-17 decreased by 12% as compared to the previous year. During the year under review, Odisha accounted for 49% of the total output followed by Gujarat 23%, Jharkhand 9%, Chhattisgarh & Maharashtra 8% each. The remaining production was reported from Goa, Karnataka, Madhya Pradesh and Tamil Nadu. During 2016-17, the production of **lead concentrate** at 268 thousand tonnes increased by 12% and that of **zinc concentrate** at 1,484 thousand tonnes increased marginally over the previous year. Average metal content produced in lead concentrate was 56.32% Pb and in zinc concentrate it was 50.92% Zn. Rajasthan was the only state reporting production of lead concentrate and zinc concentrate during 2016-17.

### Non-Metallic Minerals

The value of production of non-metallic minerals at ₹ 7,415 crore during 2016-17 decreased by 2% as compared to the previous year. Limestone with a contribution of 90% of the total value of non-metallic minerals, retained its leading position in 2016-17 in the group. The other important non-metallic minerals in value terms were phosphorite/rock phosphate (5%) and diamond, garnet (abrasive), sillimanite and magnesite (about 1% each).

The production of **limestone** at 313 million tonnes in 2016-17 increased by 2% over the previous year. Limestone is widely produced in 18 states of the country. As much as 87% of the total output in 2016-17 was contributed by eight principal states viz. Rajasthan (21%), Madhya Pradesh & Andhra Pradesh (11% each), Chhattisgarh & Karnataka (10% each), Gujarat, Tamil Nadu & Telangana (8% each). The remaining 13% of the total production was shared by other limestone producing states.

The production of **phosphorite/rock phosphate** at 1,181 thousand tonnes decreased by 25% in 2016-17 as compared to the previous year. Rajasthan contributed 94% of the total output of phosphorite/rock phosphate during 2016-17, while rest accrued

from Madhya Pradesh. The production of **magnesite** at 299 thousand tonnes during 2016-17 decreased by 9% as compared to the previous year. Tamil Nadu reported 75% of the production and Uttarakhand 20% and Karnataka produced remaining quantity during the year under review.

### 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 2,020 reporting mines (excluding atomic, minor minerals and petroleum (crude) & natural gas) in India located in 21 states during 2016-17. Among them, 512 mines belonged to coal & lignite, 644 to metallic minerals and 864 to non-metallic minerals. There were 637 mines in public sector and the rest of 1,383 mines were in private sector.

### Employment

The estimated average daily employment of labour engaged in Mining sector (excluding atomic and minor minerals) was 4,88,694 in 2016-17. Of this, 3,31,544 or 68% were in public sector and 1,57,150 or 32% in private sector. Fuel minerals accounted for 78%, metallic minerals 16% and non-metallic minerals 6% of the total labour force during the year.

### Role of Public Sector

The public sector has played important role in the overall mineral production in 2016-17. The share of public sector in fuel minerals was dominant in 2016-17.

The entire production of copper ore & conc. among metallic minerals and diamond, fluorite, selenite and sulphur in respect of non-metallic minerals was reported from the public sector. By and large, the entire production of lignite and gold (ore and primary) came from public sector during 2016-17. Public Sector also had a sizeable contribution in production of phosphorite 99%, coal 95%, natural gas (utilised) 78%, petroleum (crude) 71%, tin conc. 83%, graphite 76%, magnesite 54% and manganese ore 44% (Table-2).

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**Table - 1: Mineral\* Production in India, 2014-15 to 2016-17  
(By Mineral Groups & Minerals)**

(Value ₹'000)

Mineral	Unit	2014-15 <sup>#</sup>		2015-16		2016-17 <sup>#</sup> (P)	
		Quantity	Value <sup>s</sup>	Quantity	Value <sup>s</sup>	Quantity	Value <sup>s</sup>
<b>All Minerals</b>			<b>1946647806</b>		<b>1910697333</b>		<b>1014261229</b>
<b>Fuel Minerals <sup>ss</sup></b>			<b>974498700</b>		<b>958816900</b>		<b>NA</b>
Coal	'000 t	609179	892871700	639230	883822100	662792	NA
Lignite	'000 t	48270	81627000	43842	74994800	45230	NA
Natural Gas (ut.)	m c m	33659	NA	32249	NA	31896	NA
Petroleum (crude)	'000 t	37462	NA	36941	NA	36008	NA
<b>Metallic Minerals</b>			<b>379091115</b>		<b>336217086</b>		<b>400172892</b>
Bauxite	t	22493671	11922367	28123789	15437694	24664632	14170420
Chromite	t	2164163	18800279	2915584	21214490	3727777	36438254
Copper Ore	t	3505348	-	3907823	-	3846427	-
Copper Conc.	t	107604	5289409	151837	6548318	134788	6403534
Gold Ore	t	447278	-	562956	-	582280	-
Gold	kg	1441	3602722	1323	3214623	1594	4362410
Iron Ore	'000 t	129321	276636789	158108	223206636	192081	251388688
Lead & Zinc Ore	t	9362659	-	10453038	-	11881236	-
Lead Conc.	t	197668	5640013	261857	7885122	268051	9669168
Zinc Conc.	t	1489374	31572181	1473811	34943088	1484245	43385607
Manganese Ore	t	2369481	13661799	2166947	8545510	2393182	16026609
Silver	kg	327647	11947028	426443	15212374	460811	18320759
Tin Conc.	kg	24685	18528	13541	9231	12120	7443
<b>Non-Metallic Minerals</b>			<b>79148013</b>		<b>75720336</b>		<b>74145326</b>
Apatite	t	930	2065	110	387	-	-
Phosphorite	t	1607215	3759071	1571863	3763823	1181307	3894738

(Contd.)

PRODUCTION

Table - 1: (Contd.)

Mineral	Unit	2014-15 <sup>#</sup>		2015-16		2016-17 <sup>#</sup> (P)	
		Quantity	Value	Quantity	Value	Quantity	Value
Ball Clay (mm)	t	1910060	920542	-	-	-	-
Barytes (mm)	t	910963	2693456	-	-	-	-
Calcite (mm)	t	91783	34079	-	-	-	-
Chalk (mm)	t	94467	49974	-	-	-	-
Clay (others) (mm)	t	2248184	384286	-	-	-	-
Diamond	ct	36107	613504	36044	621441	36516	639596
Diaspore (mm)	t	12207	25480	-	-	-	-
Dolomite (mm)	t	6209476	2251761	-	-	-	-
Dunite (mm)	t	75050	108474	-	-	-	-
Felspar (mm)	t	1343366	360546	-	-	-	-
Fireclay (mm)	t	712792	131090	-	-	-	-
Felsite (mm)	t	324	242	-	-	-	-
Fluorite (graded)	t	2946	13761	2333	12965	1175	6166
Flint Stone	t	244	79	253	76	26	8
Garnet (abrasive)	t	91394	800998	82001	648124	85411	758300
Graphite (r.o.m.)	t	116712	83996	135528	106487	122437	85054
Gypsum (mm)	t	2477849	1283871	-	-	-	-
Kaolin (mm)	t	3861380	1100154	-	-	-	-
Kyanite	t	6255	12185	2901	14180	3254	13632
Sillimanite	t	66273	456050	69942	509314	68137	534098
Laterite (mm)	t	4650597	888225	-	-	-	-
Limestone	'000 t	293273	58000375	307001	68673970	313196	66883775
Lime Kankar (mm)	t	111382	21089	-	-	-	-
Limeshell	t	16353	37137	10353	28613	12343	33588
Magnesite	t	285009	748792	327663	827072	299167	735655
Marl	t	2179488	257598	2389707	319957	2203701	316310
Mica (crude) (mm)	t	636	21892	-	-	-	-
Mica (waste & scrap) (mm)**	t	11852	-	-	-	-	-
Ochre (mm)	t	2203708	816164	-	-	-	-
Pyrophyllite (mm)	t	147431	121085	-	-	-	-

(Contd.)

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Table -1 : (Concl'd)

Mineral	Unit	2014-15 <sup>#</sup>		2015-16		2016-17 <sup>#</sup> (P)	
		Quantity	Value	Quantity	Value	Quantity	Value
Quartz (mm)	t	1381406	351054	-	-	-	-
Quartzite (mm)	t	583095	325692	-	-	-	-
Silica Sand (mm)	t	3047485	877497	-	-	-	-
Moulding Sand	t	6383	1671	26042	6117	27686	6416
Sand (others) (mm)	t	2100563	243975	-	-	-	-
Shale (mm)	t	2792904	224542	-	-	-	-
Slate (mm)	t	218	197	-	-	-	-
Steatite (mm)	t	774281	950316	-	-	-	-
Selenite	t	207	456	3103	6206	4327	9211
Siliceous Earth	t	-	-	47386	20735	69379	63722
Sulphur***	t	464672	-	473322	-	560827	-
Vermiculite	t	19336	12479	23279	10556	6543	6122
Wollastonite	t	186524	162113	175348	150313	166186	158935
<b>Minor Minerals<sup>@</sup></b>			<b>513909978</b>		<b>539943011</b>		<b>539943011</b>

\* Excluding the minerals declared as prescribed substances under the Atomic Energy Act, 1962.

# : Excludes the data of 31 minerals for February and March 2015, declared as Minor Minerals vide Notification dated 10<sup>th</sup> February 2015.

\$ : Excludes the value of Petroleum (crude) & Natural Gas (utilised) for 2014-15 and 2015-16 and also excludes the value of all fuel minerals for 2016-17.

(mm) : Declared as minor minerals vide Gazette Notification dated 10<sup>th</sup> February 2015.

\*\* Includes mine waste and waste obtained while dressing of crude mica at the mine site.

\*\*\* Obtained as by-product from fertilizer plants and oil refineries.

@ : (i) Figures for earlier years have been repeated as estimates, wherever necessary, because of non-receipt of data.

(ii) Includes estimated value of 31 minerals declared as Minor vide Gazette Notification dated 10<sup>th</sup> February 2015 for the year 2015-16 and 2016-17.

NA : Not Available

## : The value of fuel minerals production is not received from source agency, hence not reflected in the year 2016-17.

\$\$ : Value figures exclude the value of Petroleum (crude) & Natural Gas (utilised)

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**Table - 2: Mineral Production (Quantity), 2015-16 and 2016-17  
(By Sectors)**

Mineral	Unit	All India		Public sector		Private sector		% share of public sector in total production		Overall increase (+) or decrease (-) in production in 2016-17 over 2015-16
		2015-16	2016-17	2015-16	2016-17	2015-16	2016-17	2015-16	2016-17	
		(P)		(P)		(P)				2015-16
<b>Fuel Minerals</b>										
Coal	'000 t	639230	662792	606677	628716	32553	34076	94.91	94.86	3.69
Lignite	'000 t	43842	45230	43133	44644	709	586	98.38	98.70	3.17
Natural Gas (Utilised)	m.c.m.	32249	31896	24014	25025	8235	6871	74.46	78.46	-1.09
Petroleum (Crude)	'000 t	36941	36008	25586	25476	11355	10532	69.26	70.75	-2.53
<b>Metallic Minerals</b>										
Bauxite	tonne	28123789	24664632	6620334	7580421	21503455	17084211	23.54	30.73	-12.30
Chromite	tonne	2915584	3727777	1076524	1271894	1839060	2455883	36.92	34.12	27.86
Copper Conc.	tonne	151837	134788	151837	134788	-	-	100.00	100.00	-11.23
Copper Ore	tonne	3907823	3846427	3907823	3846427	-	-	100.00	100.00	-1.57
Gold (Total)	kg	1323	1594	1310	1579	13	15	99.02	99.06	20.48
Gold Ore	tonne	562956	582280	558803	576699	4153	5581	99.26	99.04	3.43
Iron Ore (Total)	'000 t	158108	192081	62860	68250	95248	123831	39.76	35.53	21.49
Lead & Zinc Ore	tonne	10453038	11881236	-	-	10453038	11881236	-	-	13.66
Lead Conc.	tonne	261857	268051	-	-	261857	268051	-	-	2.37
Manganese Ore	tonne	2166947	2393182	1098719	1051912	1068228	1341270	50.70	43.95	10.44
Silver	kg	426443	460811	122	169	426321	460642	0.03	0.04	8.06
Tin Conc.	kg	13541	12120	9268	10006	4273	2114	68.44	82.56	-10.49
Zinc Conc.	tonne	1473811	1484245	-	-	1473811	1484245	-	-	0.71
<b>Non-Metallic Minerals</b>										
Apatite	tonne	110	-	-	-	110	-	-	-	-
Diamond	carat	36044	36516	36044	36516	-	-	100.00	100.00	1.31
Fluorite Graded	tonne	2333	1175	2333	1175	-	-	100.00	100.00	-49.64
Flint Stone	tonne	253	26	-	-	253	26	-	-	-89.72
Garnet (Abrasive)	tonne	82001	85411	25460	32687	56541	52724	31.05	38.27	4.16
Graphite R.O.M.	tonne	135528	122437	90275	92901	45253	29536	66.61	75.88	-9.66
Kyanite	tonne	2901	3254	201	977	2700	2277	6.93	30.02	12.17
Limeshell	tonne	10353	12343	-	0	10353	12343	-	0.00	19.22
Limestone	'000 t	307001	313196	12222	10483	294779	302713	3.98	3.35	2.02
Magnesite	tonne	327663	299167	208979	162851	118684	136316	63.78	54.43	-8.70
Marl	tonne	2389707	2203701	-	-	2389707	2203701	-	-	-7.78
Moulding Sand	tonne	26042	27686	-	-	26042	27686	-	-	6.31
Phosphorite	tonne	1571863	1181307	1515333	1172509	56530	8798	96.40	99.26	-24.85
Sillimanite	tonne	69942	68137	18514	24942	51428	43195	26.47	36.61	-2.58
Selenite	tonne	3103	4327	3103	4327	-	-	100.00	100.00	39.45
Siliceous Earth	tonne	47386	69379	-	-	47386	69379	-	-	46.41
Sulphur	tonne	473322	560827	473322	560827	-	-	100.00	100.00	19.58
Vermiculite	tonne	23279	6543	968	1691	22311	4852	4.16	25.84	-71.89
Wollastonite	tonne	175348	166186	-	-	175348	166186	-	-	-5.23

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**Minor Minerals**

The estimated value of minor minerals at ₹ 53,994 crore during the year 2015-16 and 2016-17 remained same.

**Index of Mineral Production**

The index of mineral production (excluding atomic minerals) (with base year 2004-05=100) for 2016-17 at 132.2 displayed a growth of 2.2% as compared to the previous year (Table-3).

**Table - 3 : Index of Mineral Production, 2014-15 to 2016-17  
(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)
2014-15	126.5	159.5	109.1	92.1	175.4	128.54
2015-16	129.3	166.0	106.7	108.9	178.1	128.54
2016-17 (P)	132.2	171.6	104.5	130.1	179.5	128.54

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

**Gross Value Added from Mining & Quarrying Sector**

The Ministry of Statistics & Programme Implementation has released the new series of national accounts, revising the base year from 2004-05 to 2011-12 in the year 2015. The industry-wise estimates are now presented as Gross Value

Added (GVA) at basic prices. Certain changes have been made in this series including for Mining & Quarrying Industry. During 2016-17 Mining and Quarrying Industry accounted for about 2.2% of the GVA at current prices. The GVA at current and constant prices for the period from 2014-15 to 2016-17 is given in Tables - 4 and 5.

**Table - 4 : Gross Value Added at Basic Price, 2014-15 to 2016-17  
(At Current Prices)**

(in ₹ crore)

Industry	2014-15 (NS)	2015-16 (NS)	2016-17 (PE)	% Change in 2016-17 over the previous year
<b>GVA (All)</b>	<b>11481794</b>	<b>12458642</b>	<b>13669914</b>	<b>9.7</b>
Mining & Quarrying	314177	296253	301921	1.9

Source : CSO.

NS : New Series Estimates

PE : Provisional Estimates

**Table - 5 : Gross Value Added at Basic Price, 2014-15 to 2016-17  
(At 2011-12 prices)**

(in ₹ crore)

Industry	2014-15 (NS)	2015-16 (NS)	2016-17 (PE)	% Change in 2016-17 over the previous year
<b>GVA (All)</b>	<b>9719023</b>	<b>10490514</b>	<b>11185440</b>	<b>6.6</b>
Mining & Quarrying	293821	324740	330485	1.8

Source : CSO.

NS: New Series Estimates.

PE: Provisional Estimates.

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**METALS**

**Ferrous Metals**

As per the provisional data received, India produced 108.95 million tonnes of Finished Steel (including C.R. sheets), 38.23 million tonnes of Semi-Finished Steel (including steel ingots), 9.39 million tonnes of Pig Iron, 14.83 million tonnes of Sponge Iron and 0.6 million tonnes of Steel Wires in 2016-17.

The production of Finished Steel (including C.R. sheets), Semi-finished steel (including steel ingots), registered an increase of 11.93%, 2.11% respectively as compared to previous year. On the other hand Pig iron and Sponge iron registered a decrease of 2.55%, 8.93% respectively as compared to previous year.

Production of various items of Iron and Steel for the last three years is given in Table-6.

**Table – 6: Production of Ferrous Metals  
2014-15 to 2016-17**

(In '000 tonnes)

Ferrous Metal	2014-15	2015-16	2016-17 (P)
Finished steel (including C.R. sheets)	106052	97340	108950
Semi-finished steel (including steel ingots)	65793	37445	38236
Pig iron	9701	9635	9389
Sponge iron	19386	16284	14829
Steel wire	583	583	583

*Source: Office of Joint Plant Committee, Kolkata  
Mining & Mineral Statistics Division, Indian Bureau of Mines, Nagpur*

**Table – 7: Production of Ferro-alloys, 2014-15 to 2016-17**

Ferro-alloys	Unit	2014-15	2015-16	2016-17 (P)
Ferro-chrome	tonne	944000	944000	944000
Ferro-manganese	tonne	518000	518000	518000
Ferro-silicon	tonne	90000	90000	90000
Ferro-boron	kg	42000	NA	NA
Ferro-molybdenum	kg	1295294	1459089	1602801
Ferro-niobium	kg	8146	1465	NA
Ferro-titanium	kg	545100	198343	290944
Ferro-vanadium	kg	1035000	937000	1329000
Ferro-aluminium	kg	3736701	3211950	4345278
Ferro-silicon-zirconium	kg	NA	NA	NA
Magnesium Ferro-silicon	tonne	26123	20541	20183
Silico-manganese	tonne	249691	269920	300625
Chromium Metal	kg	NA	NA	NA

*Note: 1. Figures for the latest available month have been repeated as estimates, wherever necessary, due to non-receipt of data.  
2. Figures in respect Iron & Steel items as well as Ferro-chrome, Ferro-manganese and Ferro-silicon have been received from JPC Kolkata.*

*NA : Not available.*

*Source : MSMP, March-2017.*

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### Non-ferrous Metals

The production of aluminium at 2,897 thousand tonnes in 2016-17 registered an increase of 23% as compared to that in the previous year.

Smelting and refining of copper are 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 plants of Vedanta Ltd (formerly Sterlite Industries (India) Ltd) and Hindalco Industries Ltd. The production of copper (blister) at 14,956 tonnes in 2016-17 decreased by 10% as compared to the preceding year. The production of copper (cathodes) at 7,87,657 tonnes in 2016-17 decreased slightly as compared to the previous year. The production of copper (continuous cast wire rods) at 3,71,917 tonnes in 2016-17 decreased by 5% as compared to the previous year.

The production of lead (primary) at 1,42,231 tonnes in 2016-17 decreased slightly by about 2% as compared to the previous year. No production of lead (secondary) was reported during the last seven years. The production of

zinc ingots metal in 2016-17 was 6,72,010 tonnes as against 7,58,944 tonnes in the previous year showing a decrease of 11 percent.

### Precious Metals

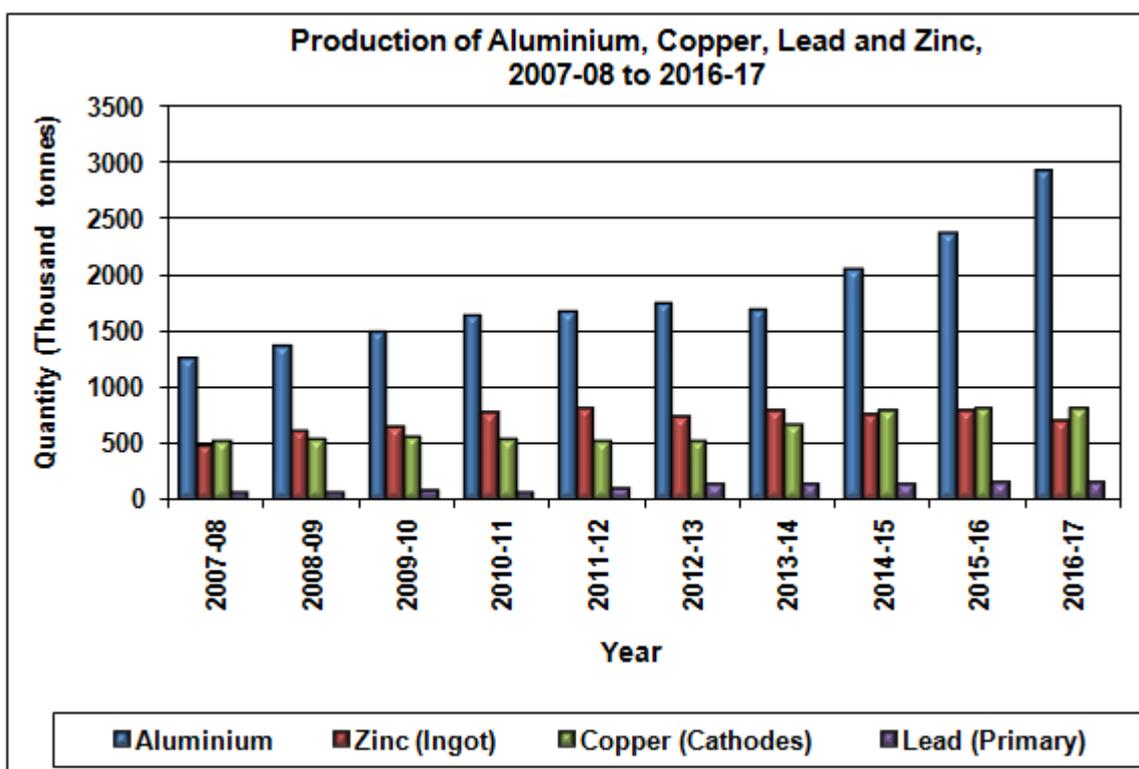
Gold primary is produced from gold ore by HGML in the state of Karnataka. Gold is also recovered as by-product from copper slime of Hindalco Industries Ltd in Gujarat. The total production of gold bullion during the year 2016-17 at 10,081 kg decreased by about 3% as compared to 10,412 kg in the previous year.

Production of silver in India is reported as by-product from lead and zinc concentrates and copper slime and as a co-product of gold refining.

The production of silver at 5,27,874 kg during 2016-17 registered an increase of 7 percent as compared to the preceding year.

### Other Metals

Cadmium is a by-product of zinc smelting. The production of cadmium in 2016-17 was at 35 tonnes. The production of selenium has not been reported during last few years (Table-8).



PRODUCTION

**Table – 8: Production and Value of Non-ferrous Metals, 2014-15 to 2016-17**

(Value in ₹'000)

Metal	Unit of quantity	2014-15		2015-16		2016-17 (P)	
		Quantity	Value	Quantity	Value	Quantity	Value
Aluminium	tonnes	2026803	244049823	2354949	268362923	2896629	319857753
Cadmium	tonnes	69	9610	-	-	35	4463
Copper (blister)	tonnes	16471	NA	16692	NA	14956	NA
Copper (cathode)	tonnes	765568	305302465	790372	265282521	787657	268895193
Copper (continuous cast wire rod)	tonnes	337713	140373262	389587	135417380	371917	130233969
Gold	kg	9988	25320142	10412	25359408	10081	27339280
Lead (primary)	tonnes	127142	18759110	145257	20363511	142231	23270410
Silver	kg	402467	14621606	491178	17326748	527874	20929485
Tin	kg	8674	11709	16675	21677	-	-
Zinc ingot	tonnes	732792	119987141	758944	108928344	672010	128211275

*Source: Data for metals and alloys are obtained from individual producers/Units.*