

Indian Mineral Industry at a Glance

2021-22



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PREFACE

"Indian Mineral Industry at a Glance 2021-22" is the 41th edition in its series. 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, and Production of Mineral- based Products and Mining Machinery for ease of reference. The salient features of the data presented in each section are highlighted at the beginning of the section. The Indian Mineral Industry at a Glance pocket book is handy and a ready-reckoner with important features of the mining sector. It is stated that some of the figures of GDP/GVA, consumption, foreign trade, employment, mineral based product etc. pertaining to previous years are updated based on latest data.

The publication has been brought out by the Mining and Mineral Statistics Division of the Bureau. This Division, in addition to the extensive data available with it, has also utilised the data furnished by the Mineral Development and Regulation Division on Afforestation for Section-1 and Mining Machinery for Section-8. Similarly, Mineral Economics Division has furnished data on Mineral Resources and 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 2011-12 to 2021-22.

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; Ministry of Chemical and Fertilizer and Central Statistical Office for providing the valuable information for this publication.

During the year 2014-15, 31 non-metallic minerals were notified as minor minerals by the Central Government w.e.f. 10.02.2015. The figures of such minerals for the year 2014-15 were available for the period from April 2014 to January 2015. Therefore, the figures of these minerals are of the period of 10 months (April 2014 to January 2015) and not comparable with those of previous years.

This publication is compiled as a reference material on mining and minerals related information to all those who are directly or indirectly associated with the mining and mineral sector.

Place: Nagpur

Dated:

**Controller General
Indian Bureau of Mines**

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

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

Symbols and Abbreviations

(e)	Estimated
N.A.	Not Available
(R)	Revised
++	Negligible
-	Nil
(P)	Provisional
%	Percentage
kg	Kilogram
t	Tonne
'000t	Thousand Tonne
m.t.	Million Tonne
m.cu.m.	Million Cubic Metres
R.O.M.	Run-of-mine
Av.	Average
m.m.	Milli metre
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 7 decades since 1951 and touched the level of Rs. 2,12,989 crores in 2021-22 (*Table-10*). The increase in the value was attributable to both rises in mineral production as well as in mineral prices.

The production of principal minerals like coal, lignite, petroleum(crude), bauxite, chromite, copper ore and concentrates, iron ore, lead and zinc concentrates, manganese ore, silver, diamond, limestone, phosphorite, sillimanite etc. had gone up whereas that of gold, kyanite etc. declined as compared with 1951 to the year 2021-22 (*Table -92*).

The index of mineral production (base 2011-12=100) has increased from 101.0 in 2020-21 to 113.3 in 2021-22 showing with increase of 12 % as compared to the previous year (*Table -16*).

During the year 2021-22, the value of production of metallic minerals was Rs.1,26,428 crores or about 59% of the total value of all minerals while that of non-metallic & minor minerals was Rs. 86,561 crores or 41% of the total value of all minerals (*Table-11*).

The Public Sector of the total value of MCDR minerals in India was accounted for around 26% whereas private sector contributed 74% of the total value of MCDR minerals (*Table -14*). The total number of mines in 2021-22 (excluding atomic, fuel and minor minerals) was reported 1323 (Metallic-563 & Non-metallic-760 mines) (*Table -8*).

Growth during 1951 to 2021-22

The mining sector has shown significant growth since 1951. The value of mineral production (excluding atomic and fuel minerals) touched at Rs. 2,12,989 crore in 2021-22 from Rs. 80 crore in 1951(*Table-10*). This was due to significant achievements made in the production of almost all metallic, non-metallic minerals and minor minerals. The value of metallic minerals rose from Rs. 19 crore and that of non-metallic minerals (including minor minerals) from Rs. 9 crore in 1951 to Rs. 1,26,428 crore and to Rs. 86,561 crore respectively in the year 2021-22.

The performance of some important minerals such as fuel, metallic and non-metallic minerals in the last 7 decade is shown under Appendix-I at the end of this publication (*Table -92*).

Fuel Minerals:

During the year 2021-22, the production of coal at 778 million tonne was more than 22 times of its production at 35 million tonne in 1951. The production of lignite at 47492 thousand tonne was substantially higher than that of 34 thousand tonne in 1951. The production of petroleum (crude) at 30 million tonne was more than 110 times of its production at 269 thousand tonnes in 1951. Natural gas (utilised) was recorded a production of 34024 m.cu.m. gas in 2021-22 whereas in 1951 its production was reported nil and 171 m.cu.m. gas in 1961 (*Table -92*).

Metallic Minerals:

The production of all metallic minerals, except gold, registered a spectacular growth during the last 70 years. The production of iron ore increased from 4.1 million tonne in 1951 to 254 million tonne in 2021-22. The production of bauxite increased from 68 thousand tonne in 1951 to 22 million tonne in 2021- 22, chromite from 17 thousand tonne to 3.8 million tonne, manganese ore from 1398 thousand tonne to 2692 thousand tonne, lead concentrates from 2 thousand tonne to 368 thousand tonne and zinc concentrates from 2 thousand tonne to 1594 thousand tonne, copper ore from 375 thousand tonnes to 3570 thousand tonnes. The production of silver, a by-product in the country, was at 647156 kg. in 2021- 22 as compared to 454 kg.in 1951. However, the production of primary gold decreased from 7041 kilogram in 1951 to 1407 kilogram in 2021-22 (*Table-92*).

Non-Metallic Minerals:

In the non-metallic minerals, the production of limestone at 392 million tonne in 2021-22 was more than about 74 times of its production 5.2 million tonnes in 1951. The production of apatite & phosphorite was sharply touched highest level at 1395 thousand tonnes in 2021-22, magnesite from 119 thousand tonne to 113 thousand tonne in last 7 decade. The production of diamond also increased from 2 thousand carat in 1951 to 266 thousand carat. In 2021-22 while the production of kyanite was declined from 43 thousand tonne in the year 1951 to 9 thousand tonne in the year 2021-22 (*Table -92*).

Table -1 Mineral Reserves and Resources				
Mineral	Unit	As on 01.04.2020(P)		
		Reserves (A)	Remaining Resources (B)	Total (A+B)
Alexandrite	--	N.E.	N.E.	N.E.
Andalusite	1000 Tonnes	-	126050	126050
Antimony Ore	Tonne	7503	11180	18683
Metal	Tonne	75	180	255
Apatite	Tonne	29395	21080904	21110299
Asbestos	Tonne	-	22908067	22908067
Bauxite	1000 Tonne	646493	4311754	4958248
Borax	Tonne	0	74204	74204
Chromite	1000 Tonnes	78535	253150	331685
Cobalt (Ore)	Million Tonnes	-	45	45
Copper Ore	1000 Tonne	163891	1496979	1660870
Metal	1000 Tonne	2162	10036	12197
Diamond	Carats	847559	30876432	31723991
Diatomite	1000Tonnes	-	2885	2885
Emerald	Kilogram	-	55869	55869
Fluorite	Tonne	404241	20588239	20992480
Garnet	Tonne	8590472	47416654	56007126

Mineral Reserves and Resources (Contd...)				
Mineral	Unit	As on 01.04.2020(P)		
		Reserves (A)	Remaining Resources (B)	Total (A+B)
Gold				
Ore(Primary)	Tonne	23728100	494506270	518234370
Metal(Primary)	Tonne	93	515	607
Ore(Placer)	Tonne	-	26121000	26121000
Metal(Placer)	Tonne	-	6	6
Graphite	Tonne	8563411	203060176	211623587
Iron Ore(Hematite)	1000 Tonnes	6209034	17848870	24057905
Iron Ore(Magnetite)	1000 Tonnes	202823	11024791	11227614
Kyanite	Tonne	846865	104835455	105682321
Lead-Zinc				
Ore	1000 Tonnes	103275	663222	766497
Lead Metal	1000 Tonnes	1900	10970	12870
Zinc Metal	1000 Tonnes	7438	25732	33170
Lead + Zinc Metal	1000Tonnes	-	143	143
Limestone	1000 Tonnes	19028470	208560789	227589259
Magnesite	1000 Tonnes	66070	393047	459117
Manganese Ore	1000 Tonnes	75041	428583	503624
Marl	Tonne	68145000	31053477	99198477

Mineral Reserves and Resources (Contd...)

Mineral	Unit	As on 01.04.2020(P)		
		Reserves (A)	Remaining Resources (B)	Total (A+B)
Molybdenum Ore	Tonne	-	27203398	27203398
Contained MoS ₂	Tonne	-	16891	16891
Nickel Ore	Million Tonnes	-	189	189
Perlite	1000 Tonnes	-	2406	2406
Platinum group of metals (PGM)	Tonnes of Metal Contained	-	21	21
Potash	Million Tonnes	-	23091	23091
Pyrite	1000 Tonnes	-	1674401	1674401
Rare Earth Elements (REE)	Tonne	-	459727	459727
Rock Phosphate	Tonne	30876093	280377392	311253485
Rock Salt	1000Tonnes	3860	8920	12780
Ruby	Kilogram	-	5349	5349
Sapphire	Kilogram	-	450	450
Sillimanite	Tonne	8262300	64005091	72267391
Silver Ore	Tonne	170446020	398197732	568643752
Metal	Tonne	7707	22561	30268

Mineral Reserves and Resources (Contd...)				
Mineral	Unit	As on 01.4.2020(P)		
		Reserves (A)	Remaining Resources (B)	Total (A+B)
Sulphur (Native)	1000 Tonnes	-	210	210
Tin				
Ore	Tonne	2101	83720794	83722895
Metal	Tonne	974	102783	103757
Titanium	Tonne	15998625	411108526	427107150
Tungsten				
Ore	Tonne	-	89432464	89432464
Metal	Tonne	-	144650	144650
Vanadium				
Ore	Tonne	-	24633855	24633855
Contained V ₂ O ₅	Tonne	-	64594	64594
Vermiculite	Tonne	1590996	765227	2356223
Wollastonite	Tonne	2680978	22427488	25108466
Zircon	Tonne	669466	1674435	2343901

Source: National Mineral Inventory as on 01.04.2020

(P): provisional N.E : Not Estimated

Note: Figures are rounded-off.

Table -2 Mining Leases as on 31-3-2022[@](p) (By Principal Minerals)				
Mineral	No. of Mining Leases Granted / Executed	% to Total Leases	Area ('000ha)	% to Total Area
Total	3095	100	278008.94	100
Limestone	1856	59.97	160922.08	57.88
Bauxite	335	10.82	23817.25	8.57
Iron Ore	321	10.37	50142.48	18.04
Manganese Ore	217	7.01	10503.80	3.78
Vermiculite	55	1.78	951.30	0.34
Magnesite	36	1.16	2313.54	0.83
Siliceous Earth	35	1.13	271.71	0.10
Graphite	32	1.03	1342.11	0.48
Garnet	28	0.90	154.68	0.06
Limeshell	25	0.81	1072.15	0.39
Others	155	5.01	26,517.84	9.54

Source: Data as received from respective State Government Departments (DGMs/DMGs etc).

@: Excluding fuel, atomic & minor minerals

(p): provisional

Mining Leases of principal minerals as on 31.03.2022

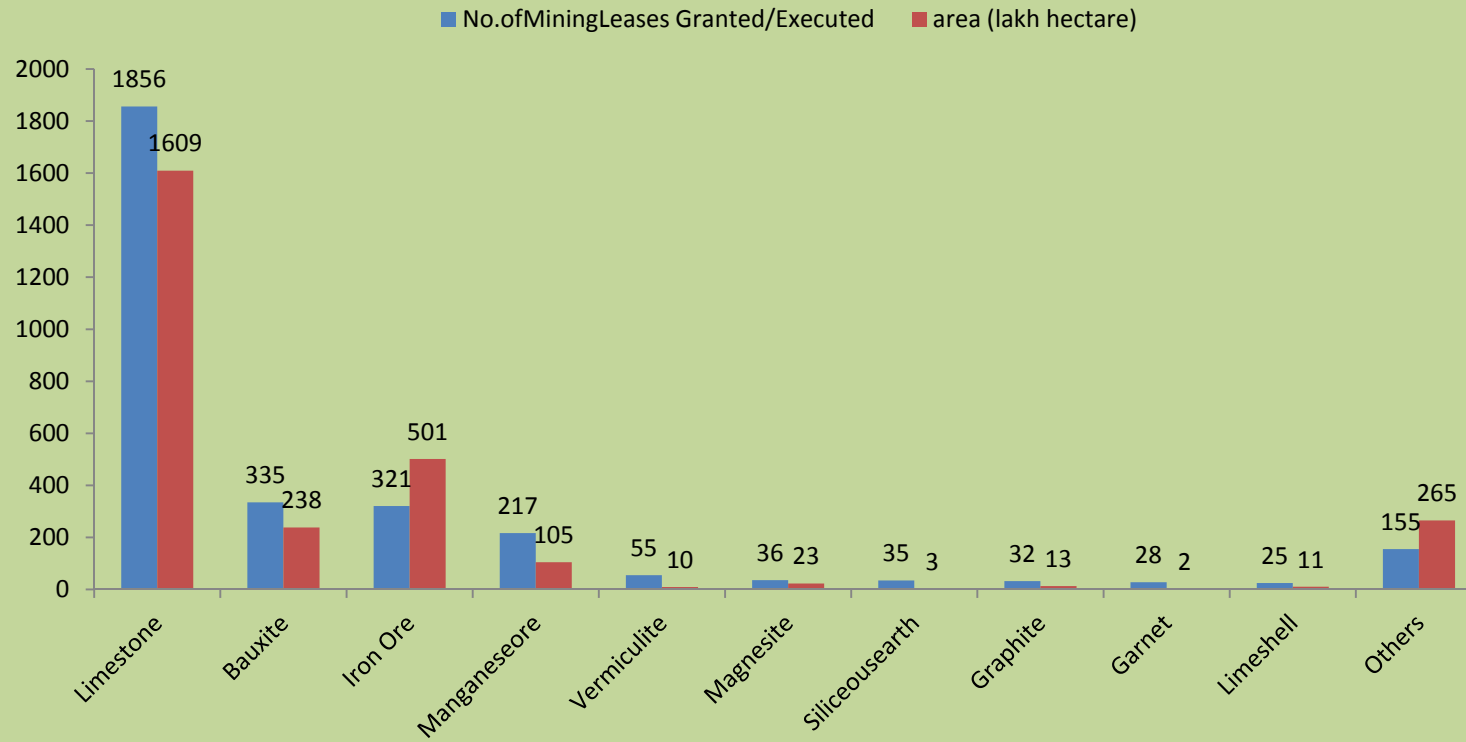


Table -3 Mining Leases as on 31-3-2022^{@(p)} (By Principal States)				
State	No. of Mining Leases Granted / Executed	% to Total Leases	Area ('000ha)	% to Total Area
All States	3095	100	278008.94	100
Madhya Pradesh	613	19.81	37838.75	13.61
Tamil Nadu	459	14.83	9158.7	3.29
Gujarat	440	14.22	26836.82	9.65
Andhra Pradesh	379	12.25	25450.49	9.15
Karnataka	298	9.63	33047.05	11.89
Chhattisgarh	175	5.65	26210.55	9.43
Rajasthan	168	5.43	34528.73	12.42
Maharashtra	130	4.20	12872.74	4.63
Odisha	117	3.78	33872.45	12.18
Jharkhand	100	3.23	18068.24	6.50
Others	216	6.98	20124.42	7.24

Source: Data as received from respective State Government Departments (DGMs/DMGs etc).

@ Excluding fuel, atomic & minor minerals

(p): provisional

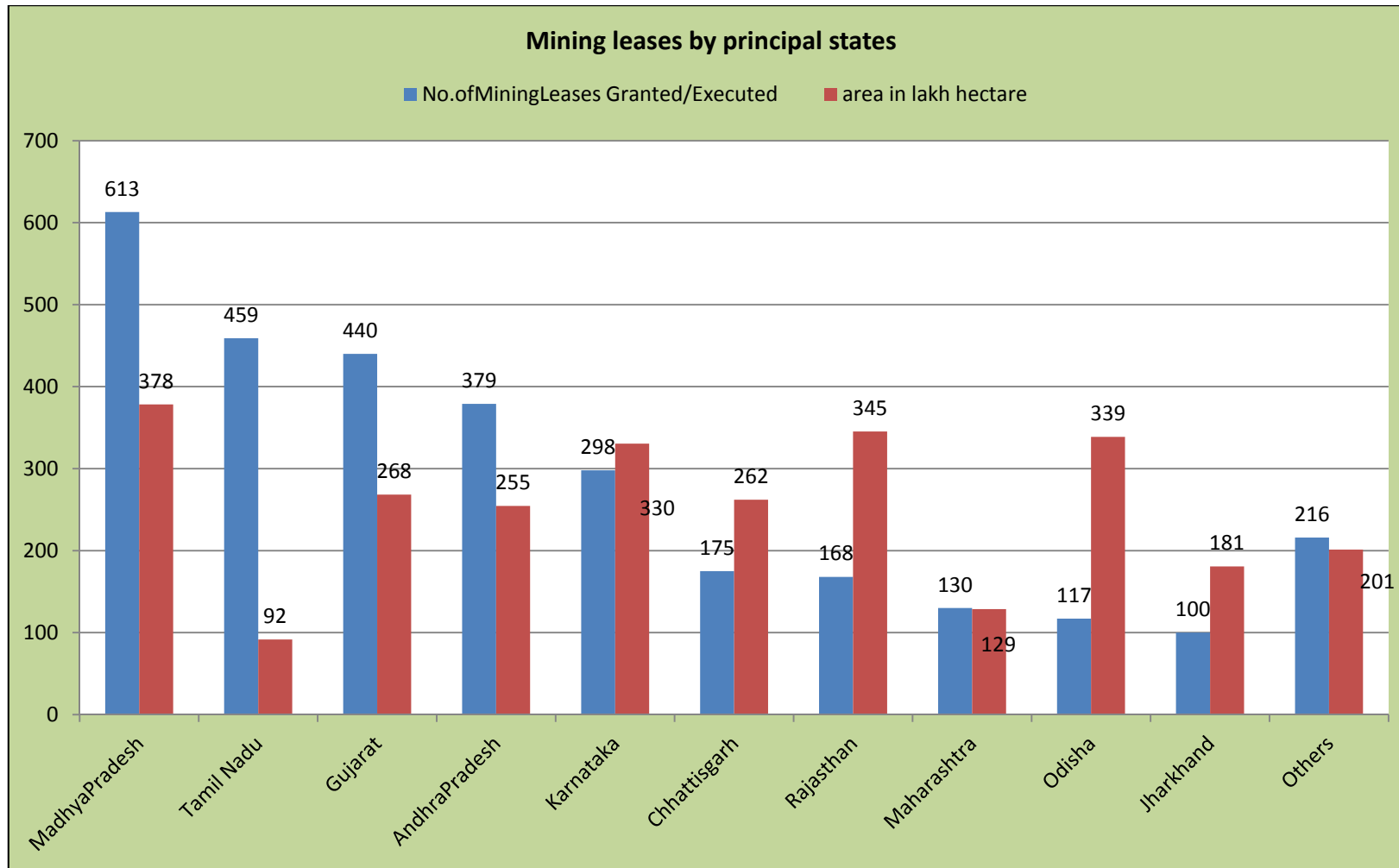


Table-4 Concentration of Mining Leases as on 31-3-2022^{@(p)} (By Potential)					
Potential Bearing Districts	No. of Districts	No. of Mining Leases Granted/ Executed	% to Total Leases	Area ('000ha)	% to Total Area
Total	188	3095	100.00	278008.94	100.00
Low	175	1754	56.67	217615.21	78.28
Medium	8	569	18.39	24556.89	8.83
High	5	772	24.94	35836.84	12.89

Source: Data as received from respective State Government Departments (DGMs/DMGs etc).

@Excluding fuel, atomic & minor minerals

(p): provisional

High: >100 mining leases in a district

Medium: 51–100 mining leases in a district

Low: 1– 50 mining leases in a district

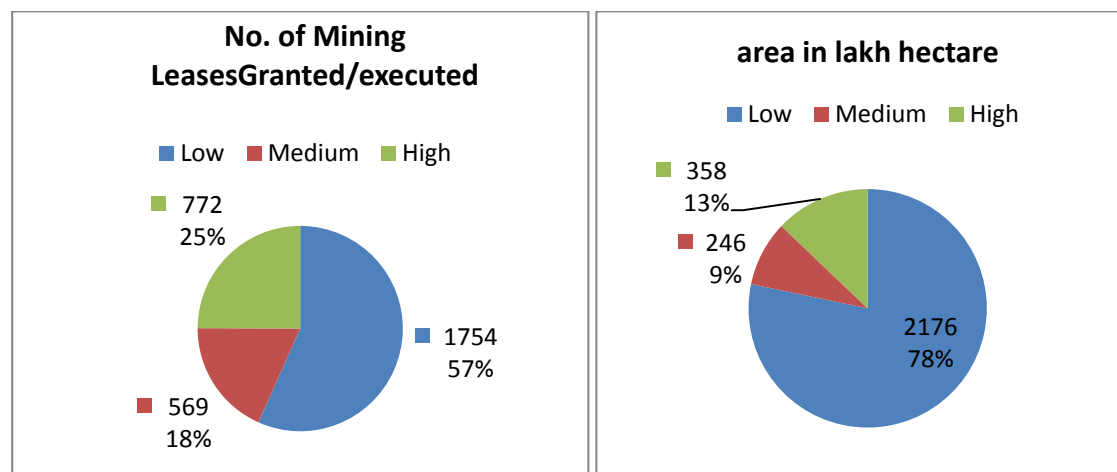


Table -5 Distribution of Mining Leases as on 31-3-2022^{@(p)}				
(By Sectors)				
Sector	No. of Mining Leases Granted/Executed	%to Total Leases	Area Hects	% to Total Area
Total	3095	100	278008.94	100
Public	237	7.66	73189.23	26.33
Private	2858	92.34	204819.71	73.67

Source: Data as received from respective State Government Departments(DGMs/DMGs etc).

Note: The data received from respective regional offices of IBM have also been taken in account wherever necessary. (p): provisional

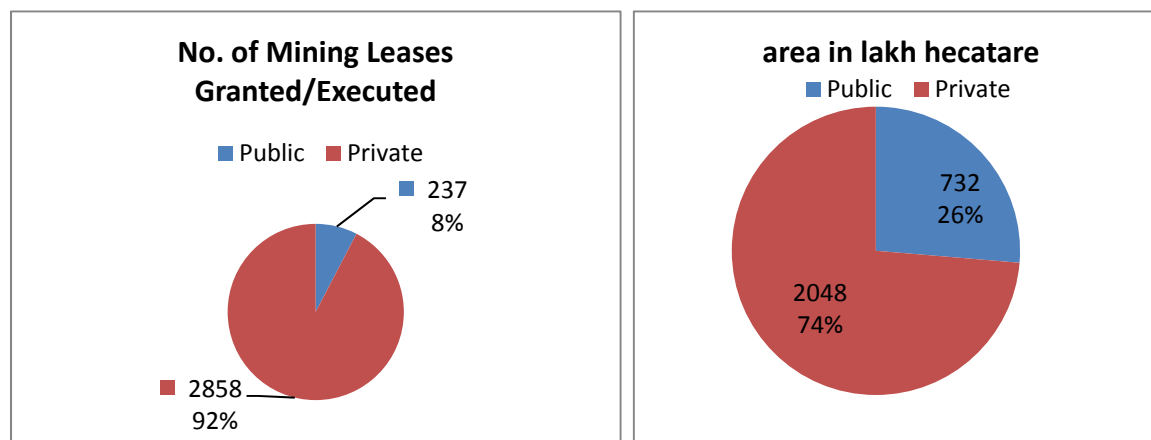


Table-6 Distribution of Mining Leases as on 31-3-2022[@](p) (By Lease Groups)				
Frequency Groups (No. of Leases)	No. of Mining Leases Granted/Executed	% to Total Leases	Area (’000ha)	% to Total Area
Total	3095	100	278008.94	100
>0to2	378	12.21	488.02	0.18
> 2to5	859	27.75	3329.00	1.20
>5to10	365	11.79	2689.51	0.97
> 10to20	332	10.73	4857.11	1.75
>20to50	397	12.83	12978.39	4.67
>50to100	233	7.53	16819.70	6.05
>100to 200	180	5.82	25805.24	9.28
>200to 500	196	6.33	64065.23	23.04
Above 500	15	5.01	146976.74	52.87

Source: Data as received from respective State Government Departments (DGMs/DMGs etc).

Note: The data received from respective regional offices of IBM have also been taken in account wherever necessary.

(p): provisional

Table -7 Distribution of Mining Leases as on 31-3-2022^{@(p)} (By Area Groups)					
Frequency Groups (Area in ha.)	No. of Minerals	No .of Mining Leases Granted/Executed	% to Total Leases	Area (['] 000ha)	%to Total Area
Total	34	3095	100	278008.94	100
1to50	29	311	10.05	31672.03	11.39
51to100	1	55	1.78	951.30	0.34
101to200	-	-	-	-	-
201to300	1	217	7.01	10503.80	3.78
301to 500	2	656	21.19	73959.73	26.6
501to1000	-	-	-	-	-
Above1000	1	1856	59.97	160922.08	57.89

Source: Data as received from respective State Government Departments

@ Excluding fuel, atomic & minor minerals

(p): provisional

Table -8 Number of Reporting Mines, 2011-12 to 2021-22 (By Mineral Groups)				
Year	Total*	Coal &Lignite	Metallic Minerals	Non-Metallic Minerals
2011-12	3473	573	668	2232
2012-13	3978	575	708	2695
2013-14	3979	552	711	2716
2014-15	2117	558	693	866
2015-16	2131	512	715	904
2016-17	2112	495	686	931
2017-18	1981	472	665	844
2018-19	1901	473	611	817
2019-20	1831	461	601	769
2020-21	1815	462	608	745
2021-22	1876	553	563	760

**Excluding Petroleum (crude), Natural Gas(ut.),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*

Table -10 Decennial Growth in the Value of Mineral Production, 1951 to 2021-22[@] (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	284579	178922	47032	58625
2021-22	212989	N.A.	126428	86561

@ Excluding atomic minerals, \$: Excludes the value of fuel minerals for 2021-22

Table-11 Value of Mineral Production, 2011-12 to 2021-22 [@] (By Mineral Groups)				
(Rs.Crore)				
Year	All Minerals	Fuels	Metallic Minerals	Non-Metallic and Minor Minerals
2011-12	284579	178922	47032	58625
2012-13	280006	182689	43164	54153
2013-14	277360	186467	42390	48503
2014-15 [#]	290588	193373	37909	59306
2015-16	284898	189710	33622	61566
2016-17 ^{\$}	109508	N.A.	39760	69748
2017-18 ^{\$}	129279	N.A.	50975	78304
2018-19 ^{\$}	149446	N.A.	64215	85231
2019-20 ^{\$}	165723	N.A.	68298	97425
2020-21 ^{\$}	159748	N.A.	72199	87549
2021-22 ^{\$}	212989	N.A.	126428	86561

@Excluding atomic minerals

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

\$: Excludes the value of fuel minerals

Table -12 Value of Mineral Production		
(By Minerals)		
(Rs.Crore)		
Minerals	2011-12	2021-22 ^{\$}
All Minerals	284579	212989
Coal	70172	N.A
Lignite	5338	N.A
Natural Gas(ut.)	34211	N.A
Petroleum (crude)	69202	N.A
Iron Ore	38357	100826
Limestone	4086	10202
Lead&Zinc	2231	10076
Silver	1156	4213
Chromite	2424	4797
Manganese Ore	1178	2207
Bauxite	613	2528
Copper Conc.	539	1102
Gold	531	676
Apatite & Phosphorite	750	665
Others	53791	75697

\$: Excludes the value of fuel minerals.

Table -13 Value of Mineral Production[@]		
(By States)		
State	2011-12	2021-22 ^{\$}
India	284579	212989
Orissa	28683	62689
Rajasthan	24732	30178
Chhattisgarh	17818	24538
Karnataka	6132	20032
Andhra Pradesh	24147	13754
Telangana	*	11328
Madhya Pradesh	11595	9654
Maharashtra	13791	7412
Jharkhand	16349	5809
West Bengal	8280	5776
Uttar Pradesh	7485	5699
Gujarat	26090	4704
Bihar	141	4307
Kerala	3165	3411
Tamil Nadu	6013	947
Haryana	149	653
Jammu & Kashmir	170	463
Off-shore	64127	-
Others	25712	1633

@: Excluding atomic minerals, \$: Excludes the value of fuel minerals

*State came into existence w.e.f. 2nd June 2014

Table-14 Value of Mineral Production [@] , 2011-12 to 2021-22 (By Sectors)			
(Rs. Crore)			
Year	Total	Public Sector	Private Sector
2011-12	284579	152452	132127
2012-13	280006	156695	123311
2013-14	277360	167886	109474
2014-15 [#]	290588	106446	184142
2015-16 ^{\$\$}	191070	13357	177713
2016-17 ^{\$\$}	109508	15120	94388
2017-18 ^{\$\$}	129279	19567	109712
2018-19 ^{\$\$}	149446	22516	126930
2019-20 ^{\$\$}	165723	20668	145055
2020-21 ^{\$\$}	159748	27659	132089
2021-22 ^{\$\$}	212989	55388	157601

@Excluding atomic minerals

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

\$: Excludes the value of Petroleum (crude) & Natural Gas (utilised)

\$\$: Excludes the value of fuel minerals

Table-15

**Value of Mineral Production &
Number of Mines, 2021-22
(By Sectors)**

	Total*	Public Sector	Private Sector
No. of Mines	1323	161	1162
Total Value[#]	137422	55388	82034
Metallic[#]	126428	54194	72234
Non-metallic[#]	10993	1194	9799

* Excluding fuel, atomic & minor minerals

[#]: Value in Rs. Crore

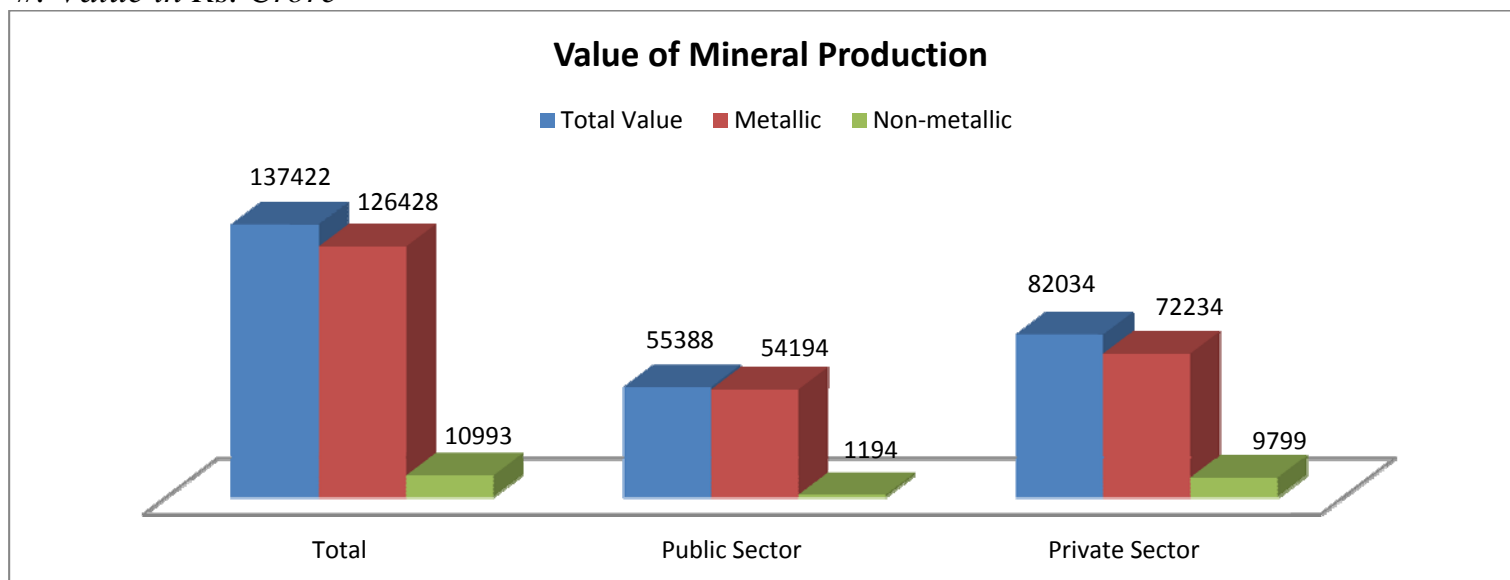


Table-16 Index of Mineral Production, 2011-12 to 2021-22 (By Mineral Groups)				
(Base2004-05=100)				
	All Minerals	Fuels	Metallic Minerals	Non-Metallic Minerals
Year/Weight	1000.000	812.328	103.983	27.414
2011-12	128.5	129.4	115.4	150.6
2012-13	125.5	127.7	98.1	158.4
2013-14	124.7	125.5	106.7	162.1
2014-15	126.5	129.1	92.1	175.4
(Base2011-12=100)				
Year/Weight	1000.000	751.172	230.004	18.824
2015-16	97.3	98.1	94.0	106.5
2016-17	102.5	98.7	114.6	107.8
2017-18	104.9	100.3	119.0	117.4
2018-19	107.9	102.6	123.5	128.1
2019-20	109.6	99.6	141.3	120.9
2020-21	101.0	95.5	117.7	117.4
2021-22	113.3	102.6	146.8	130.1

*Note: (i) Weight of minor minerals production in the index of mineral is 19.728 for base year 1993-94 = 100 and it is 56.275 for base year 2004-05=100
(ii) Minor Minerals are excluded from Item Basket for Base Year 2011-12*

Index of Mineral Production, 2021-22

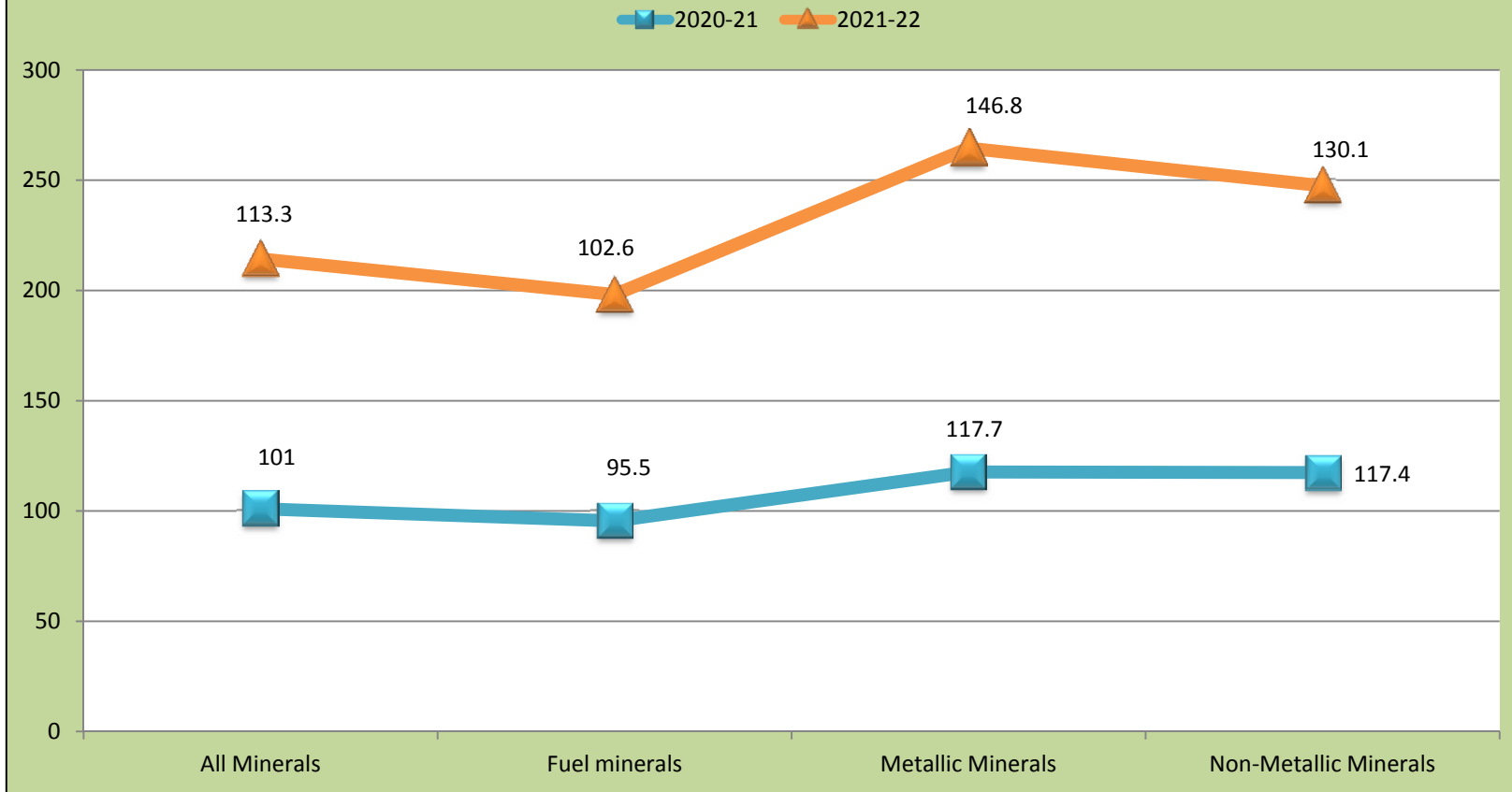


Table-17 Whole sale Price Index, 2011-12 to 2021-22					
(By Groups)					
(Base 2004-05 =100)					
Year	All Commodities	Minerals	Metallic Minerals	Other Minerals	Mineral Oils
2011-12	156.13	320.65	411.52	165.88	184.02
(Base 2011-12=100)					
2012-13	106.9	118.2	112.1	139.5	110.9
2013-14	112.5	114.4	105.2	146.8	121.6
2014-15	113.9	118.6	112.2	140.7	108.7
2015-16	109.7	105.6	91.7	154.1	73.9
2016-17	111.6	113.1	98.4	164.4	73.3
2017-18	114.9	122.5	109.1	169.3	82.5
2018-19	119.8	136.5	123.0	183.5	96.7
2019-20	121.8	154.5	147.4	179.0	92.3
2020-21	123.4	164.9	159.8	183.1	79.2
2021-22	139.4	197.2	193.3	211.0	126.2

Source: Office of Economic Adviser, DPIIT

Table-18 Gross Domestic Product (GDP) at Current Prices (Rs.Crore)			
Year	Total GDP	Mining &Quarrying	Percentage
2011-12	8391691	222716	2.7
2012-13	9252051	284771	3.1
Gross Value Added (GVA) at Current Prices (Rs.Crore)			
Year	Total GVA	Mining &Quarrying	Percentage
2013-14(NS)	10380813	295978	2.9
2014-15(NS)	11481794	314177	2.7
2015-16(NS)	12566646	301230	2.4
2016-17(NS)	13935917	321872	2.3
2017-18(2 nd RE)	15513122	357788	2.3
2018-19(2 nd RE)	17161213	377171	2.2
2019-20(2 nd RE)	18355109	358517	2.0
2020-21(2 nd RE)	18188780	316268	1.7
2021-22 (2 nd RE)	21635584	439339	2.0

(NS): New Series

(RE): Revised Estimates

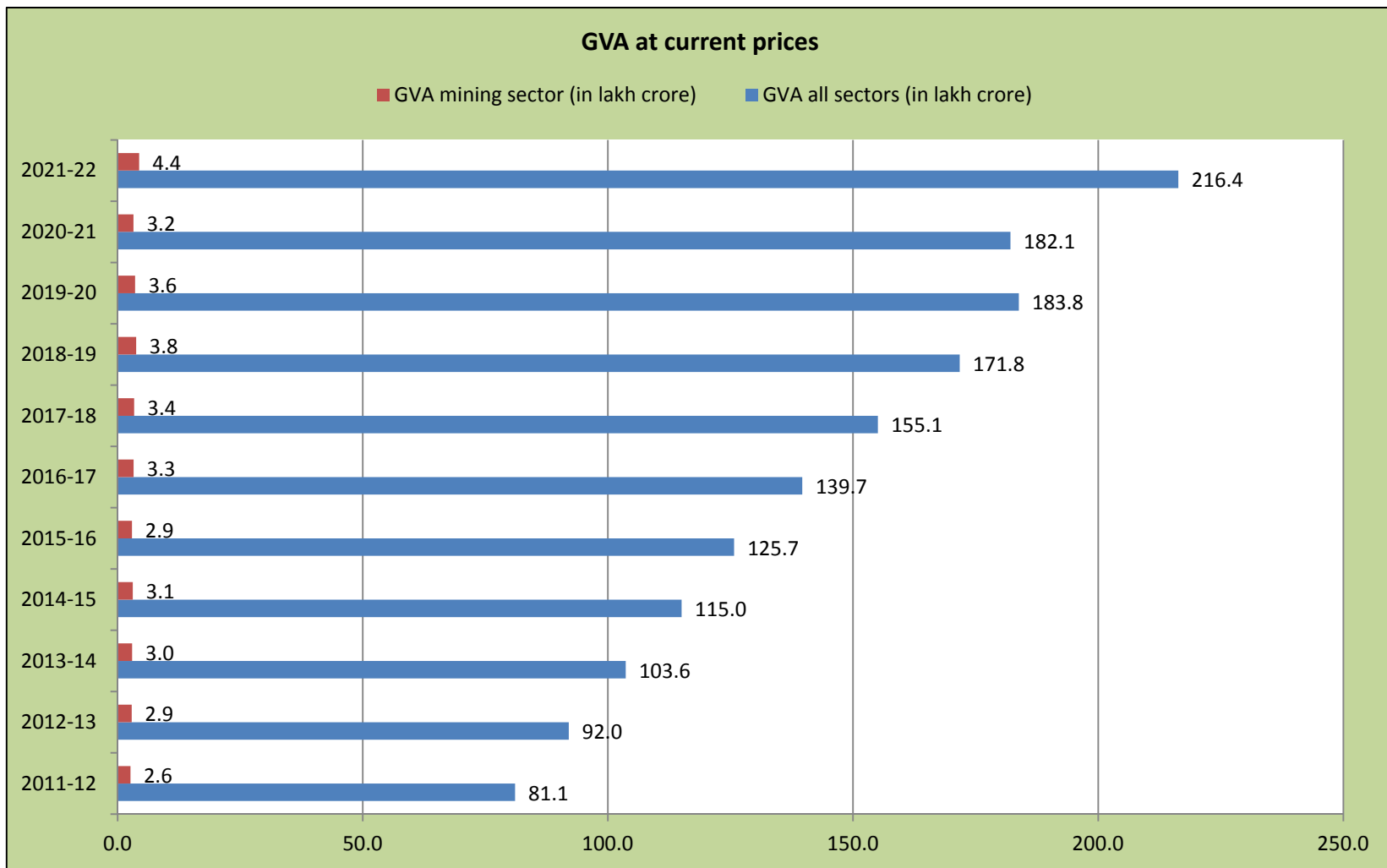


Table-19 Exports Total Merchandise: Minerals & Metals					
(Rs.Crore)					
Year	Total Merchandise	Minerals	%Share	Metals	%Share
2011-12	1465959	175310	12	102500	7
2012-13	1634318	160101	10	140614	9
2013-14	1905011	194784	10	153156	8
2014-15	1896445	178019	9	167296	9
2015-16	1716384	170946	10	152913	9
2016-17	1849434	200131	11	182186	10
2017-18	1956249	199469	10	190334	10
2018-19	2307726	219168	9	174287	8
2019-20	2219854	189683	9	166099	7
2020-21	2159043	196654	9	207222	10
2021-22	3147021	257863	8	347457	11

Source: DGCI&S, Kolkata

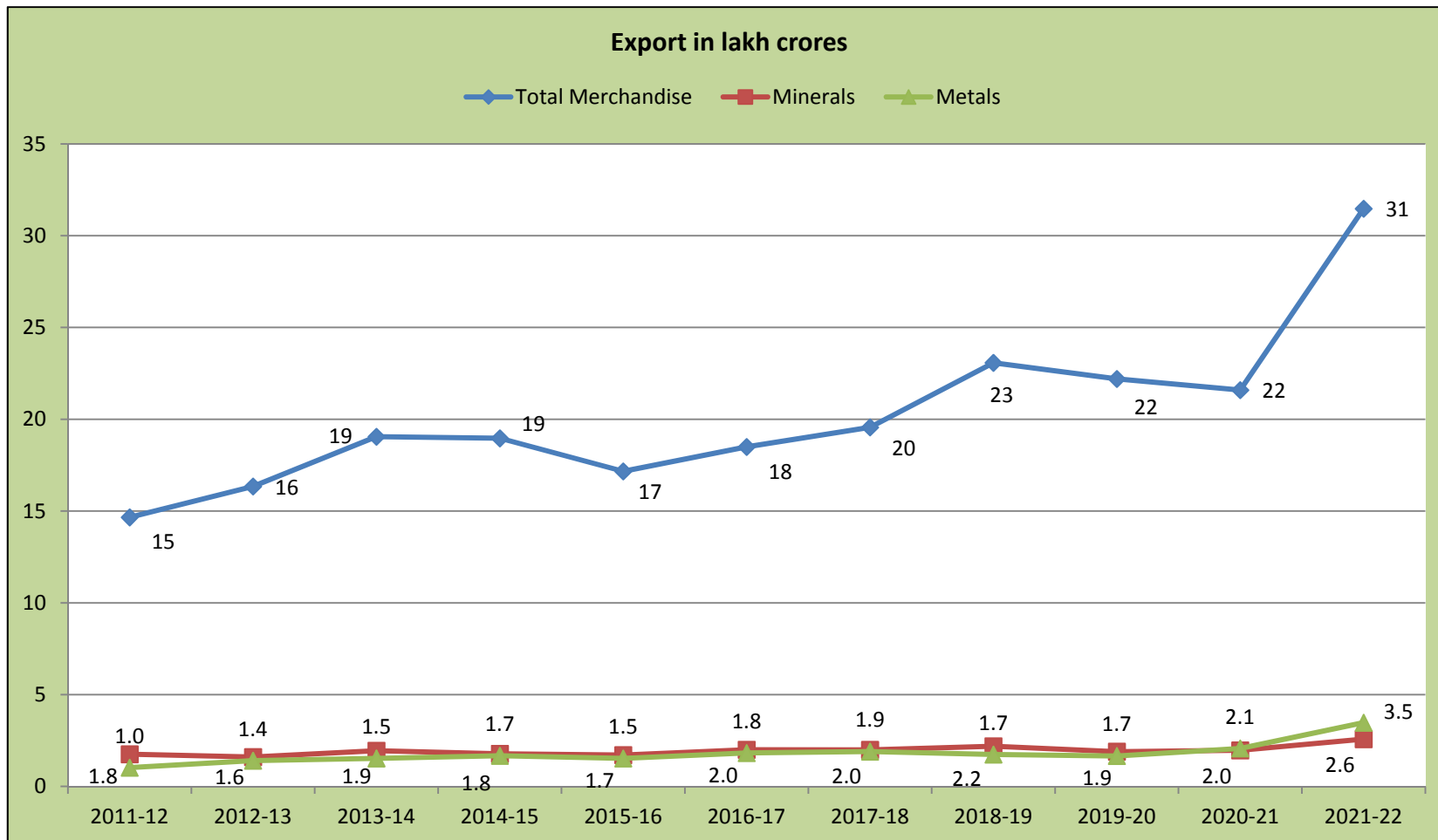


Table-20 Imports Total Merchandise :Minerals & Metals					
(Rs.Crore)					
Year	Total Merchandise	Minerals	%Share	Metals	%Share
2011-12	2345463	944430	40	418310	18
2012-13	2669162	1100800	41	446566	17
2013-14	2715434	1215827	45	321356	12
2014-15	2737087	1071733	39	401259	15
2015-16	2490305	738789	30	390372	16
2016-17	2577675	809445	31	337788	13
2017-18	3001033	1028529	34	411826	14
2018-19	3594675	1299186	36	477843	13
2019-20	3360954	1151530	34	416727	12
2020-21	2915958	791320	27	435611	15
2021-22	4572775	1551380	34	626927	14

Source: DGCI&S, Kolkata

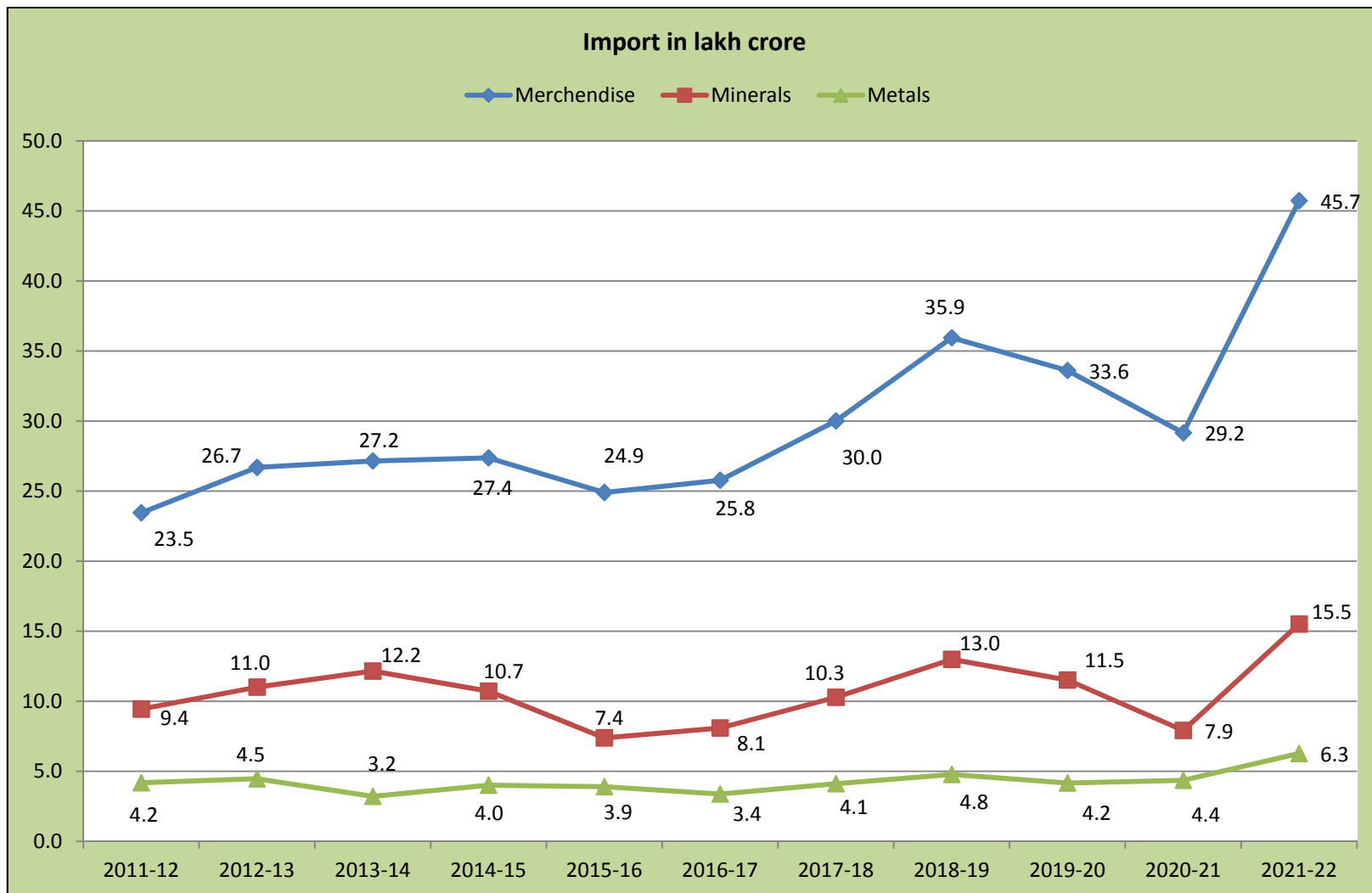


Table-21 Afforestation in Metalliferrous Mines during 2021-22						
(By Principal Minerals)						
Mineral	Total Mines Covered	Area Covered (ha)	Trees		Survival	
			Planted (Nos.)	Survived (Nos.)	Percentage	('000trees) per ha
Bauxite	108	161	391659	308186	79	1.91
Chromite	12	26	22473	20775	92	0.81
Copper	8	22	2100	985	47	0.05
Gold	9	3	5450	3055	56	1.11
Iron Ore	221	343	857818	708564	83	2.06
Iron & Mn	10	52	170597	136744	80	2.62
Lead & Zinc	7	29	53000	52100	98	1.80
Limestone	649	606	1025010	822026	80	1.36
Manganese	81	190	182576	143755	79	0.76
Magnesite	8	6	6492	4699	72	0.77
Others	26	36	19455	10180	52	0.29
Total	1139	1473	2736630	2211069	81	1.50

Section-2

Mineral Production

Production, Value, Employment and Reporting Mines, 2011-12 to 2021-22 (Principal Minerals)	Coal	: 40
	Lignite	: 41
	Petroleum (Crude)	: 42
	Natural Gas (Utilised)	: 43
	Bauxite	: 44
	Chromite	: 45
	Copper Ore & Concentrates	: 46
	Gold Ore and Gold	: 47
	Iron Ore	: 48
	Lead & Zinc Ore and Concentrates	: 49
	Manganese Ore	: 50
	Apatite & Phosphorite	: 51
	Diamond	: 52
	Kyanite	: 53
Limestone	: 54	
Magnesite	: 55	
Sillimanite	: 56	

Section-2

Mineral Production

Fuel Minerals:

During the reviewed decade, the production of coal was steadily increased except 2020-21 and reached the highest level at 778 million tonnes in 2021-22. The production of lignite showed a mixed trend was also touched the pick level at 47.5 million tonnes during the year ending 2021-22. In contrast, the crude petroleum production declined from 38 million tonnes in 2011-12 to 29 million tonnes in 2021-22 with reflecting a consistent downward trend since 2011-12. The output of utilized natural gas fluctuated over the decade and its production was at 34024 million cubic meters in 2021-22 (Tables -22 to 25).

Metallic Minerals:

The production of bauxite was shown mixed trend during the decade ending 2021-22. Its production was at 22 million tonne in the year 2021-22 from at 13 million tonnes in the year 2011-12. The production of chromite was at 3.8 million tonne in 2021-22 which was increased by 34% as compared to previous year. The output of copper ore and copper concentrates had shown a fluctuating trend during the decade ending 2021-22. The production of copper ore and copper concentrates was at 3.6 million tonne and at

115 thousand tonne in 2021-22 with increase of 9% and 6% respectively as compared to the previous year. In contrast, primary gold production declined to 1407 kg in 2021-22, down from 2194 kg in 2011-12. Iron ore production hit a record high of 254 million tonnes in 2021-22, with reflecting a 24% increase over the previous year and its production was showing a mixed trend throughout the decade. Lead and zinc ore production also peaked at 16 million tonnes during the same period. Lead concentrates were produced at 368 thousand tonnes, while zinc concentrates reached at 1594 thousand tonnes. The production of manganese ore was showed a fluctuating trend during the decade and touched at 2692 thousand tonnes in 2021-22 (*Tables -26 to 32*).

Non-Metallic Minerals:

The production of phosphorite was at 1395 thousand tonnes in 2021-22 with decrease 4% as compared to previous year and its production was shown in fluctuation trend during the decade. The production of diamond, with a mixed production trend, was touched lowest level at 266 carat during the decade of year ending 2021-22 which was also decreased by 97% as compared to the previous year. The production of limestone was recorded highest level at 392 million tonne in the year 2021-22. The production of magnesite was observed mixed trend during the year ending 2021-22. Its production was at 113 thousand tonne in 2021-22. The production of sillimanite was touched lowest level at 3 thousand tonnes with decrease 73% as compared to previous year (*Tables -33 to 38*).

Table-22 Production of Coal, 2011-12 to 2021-22				
Year	No. of Mines*	Quantity (Lakh tonne)	Value (Rs.Crore)	Labour* Employed (Av.Daily)**
2011-12	559	5400	70172	352930
2012-13	559	5564	74719	345302
2013-14	536	5658	82535	338896
2014-15	539	6092	89287	343548
2015-16	493	6392	88382	328751
2016-17	476	6579	N.A.	N.A.
2017-18	455	6754	N.A.	N.A.
2018-19	454	7287	N.A.	N.A.
2019-20	442	7309	N.A.	N.A.
2020-21	442	7161	N.A.	N.A.
2021-22	533	7782	N.A.	N.A.

**Excluding Meghalaya*

***Data relates to Calendar*

Table-24 Production of Petroleum(Crude), 2011-12 to 2021-22		
Year	Quantity (’000tonne)	Value (Rs. Crore)
2011-12	38090	69202
2012-13	37862	68817
2013-14	37788	68683
2014-15	37462	68088
2015-16	36942	67159
2016-17	36009	N.A.
2017-18	35684	N.A.
2018-19	34203	N.A.
2019-20	32170	N.A.
2020-21	30494	N.A.
2021-22	29691	N.A.

Table-25 Production of Natural Gas (Utilised), 2011-12 to 2021-22		
Year	Quantity (m.cu.m.)	Value (Rs. Crore)
2011-12	47559	34211
2012-13	40679	33642
2013-14	35407	29282
2014-15	33659	27835
2015-16	32249	26670
2016-17	31897	N.A.
2017-18	32649	N.A.
2018-19	32873	N.A.
2019-20	31184	N.A.
2020-21	28673	N.A.
2021-22	34024	N.A.

Table-26 Production of Bauxite, 2011-12 to 2021-22				
Year	No. of Mines	Quantity ('000tonne)	Value (Rs. Crore)	Labour Employed (Av. Daily)
2011-12	172	13600	613	7684
2012-13	178	16508	796	7410
2013-14	177	22319	1000	6854
2014-15	162	22494	1192	6698
2015-16	190	28124	1544	8652
2016-17	165	24745	1487	6491
2017-18	163	22786	1578	6632
2018-19	157	23690	1784	6093
2019-20	144	21825	1630	6162
2020-21	134	20381	1679	5023
2021-22	127	22494	2528	5275

Table-27 Production of Chromite, 2011-12 to 2021-22				
Year	No. of Mines	Quantity ('000 tonne)	Value (Rs.Crore)	Labour Employed (Av. Daily)
2011-12	22	2923	2424	6845
2012-13	25	2834	2263	6761
2013-14	26	2878	2376	6277
2014-15	26	2164	1880	6772
2015-16	25	2916	2121	6645
2016-17	26	3728	3194	6959
2017-18	25	3481	3204	7234
2018-19	26	3971	3685	7245
2019-20	22	3929	3213	5845
2020-21	24	2830	2186	4248
2021-22	20	3786	4797	4480

Table-28 Production of Copper Ore and Concentrates, 2011-12 to 2021-22					
Year	No. of Mines	Copper Ore Quantity ('000tonne)	Copper Concentrates		Labour Employed (Av. Daily)
			Quantity ('000tonne)	Value (Rs. Crore)	
2011-12	4	3479	130	539	2774
2012-13	5	3636	124	629	2898
2013-14	5	3778	139	668	3324
2014-15	5	3505	108	529	3473
2015-16	5	3908	152	655	3285
2016-17	5	3846	135	651	2791
2017-18	5	3678	142	771	2442
2018-19	5	4135	144	885	3449
2019-20	5	3952	125	845	3928
2020-21	5	3273	109	853	2766
2021-22	5	3570	115	1102	2794

Table-29 Production of Gold Ore and Gold, 2011-12 to 2021-22

Year	No. of Mines	Gold Ore Qty.('000 tonne)	Gold				Labour Employed (Av.Daily)
			Primary	Secondary	Total		
			Qty (kg.)	Qty (kg.)	Qty (kg.)	Value (Rs. Crore)	
2011-12	4	492	2194	-	2194	531	3100
2012-13	4	503	1588	-	1588	517	3204
2013-14	4	420	1564	-	1564	423	3433
2014-15	5	447	1441	-	1441	360	3429
2015-16	5	563	1323	-	1323	321	3426
2016-17	5	582	1595	-	1595	436	3451
2017-18	5	550	1650	-	1650	477	3235
2018-19	5	567	1672	-	1672	527	3258
2019-20	5	596	1742	-	1742	650	3261
2020-21	5	438	1127	-	1127	548	3247
2021-22	6	475	1407	-	1407	676	3128

Note: No. of mines and labour employed relates to Primary Gold

Table-30 Production of Iron Ore, 2011-12 to 2021-22				
Year	No.of Mines	Quantity (Lakh tonne)	Value (Rs.Crore)	Labour Employed (Av. Daily)
2011-12	309	1686	38357	46673
2012-13	310	1366	32824	42645
2013-14	322	1522	31649	39127
2014-15	320	1293	27664	39243
2015-16	330	1581	22321	42065
2016-17	318	1946	25229	45383
2017-18	304	2014	34713	45988
2018-19	252	2065	45347	43125
2019-20	271	2441	49643	45687
2020-21	280	2050	52729	42742
2021-22	255	2541	100826	48934

Table-31		Production of Lead & Zinc Ore and Concentrates, 2011-12 to 2021-22					
Year	No. of Mines	Lead&	Lead Concentrates		Zinc Concentrates		Labour Employed (Av.Daily)
		Zinc Ore Qty. ('000tonne)	Qty. ('000 tonne)	Value (Rs. Crore)	Qty. ('000 tonne)	Value (Rs. Crore)	
2011-12	6	8042	162	245	1414	1986	3980
2012-13	8	8633	184	330	1493	2395	4665
2013-14	8	9282	194	437	1491	2739	7116
2014-15	8	9363	198	564	1489	3157	7222
2015-16	8	10453	262	789	1474	3494	7018
2016-17	8	11881	268	967	1484	4339	7337
2017-18	8	12614	306	1143	1540	4980	8056
2018-19	10	13752	358	1632	1457	5608	8223
2019-20	10	14479	352	1826	1447	6044	10396
2020-21	10	15455	377	1881	1514	6313	9557
2021-22	10	16339	368	2203	1594	7873	14876

Table-32 Production of Manganese Ore, 2011-12 to 2021-22				
Year	No. of Mines	Quantity ('000tonne)	Value (Rs. Crore)	Labour Employed (Av. Daily)
2011-12	145	2412	1178	14258
2012-13	172	2342	1284	15550
2013-14	163	2626	1518	16659
2014-15	161	2369	1366	15504
2015-16	146	2167	855	12990
2016-17	153	2395	1625	12505
2017-18	149	2600	1991	12903
2018-19	148	2832	2164	13164
2019-20	137	2910	1885	11775
2020-21	145	2703	1742	10947
2021-22	134	2692	2207	10600

Table-33 Production of Apatite and Phosphorite, 2011-12 to 2021-22				
Year	No. of Mines	Quantity ('000tonne)	Value (Rs. Crore)	Labour Employed (Av. Daily)
2011-12	7	2263	750	1604
2012-13	7	1942	681	1350
2013-14	7	1455	476	1205
2014-15	7	1608	376	1229
2015-16	7	1572	376	1224
2016-17	8*	1124	300	1280
2017-18	8*	1516	367	1322
2018-19	8*	1421	388	1201
2019-20	6	1400	473	961
2020-21	6	1456	469	969
2021-22	7	1395	665	756

**Includes 2 mines of Apatite for 2016-17&2017-18 and 1 mine for 2018-19 reporting only labour.*

Table-34 Production of Diamond, 2011-12 to 2021-22				
Year	No. of Mines	Quantity (carats)	Value (Rs. Crore)	Labour Employed (Av. Daily)
2011-12	2	18490	20	167
2012-13	2	31988	37	180
2013-14	2	37517	61	157
2014-15	2	36107	61	176
2015-16	2	36044	62	156
2016-17	2	36491	64	157
2017-18	2	39699	37	135
2018-19	2	38437	54	131
2019-20	2	28816	35	161
2020-21	2	13917	15	142
2021-22	3	266	2	699

Table-35 Production of Kyanite, 2011-12 to 2021-22				
Year	No. of Mines	Quantity ('000tonne)	Value (Rs. Crore)	Labour Employed (Av. Daily)
2011-12	3	4	0.5	56
2012-13	4	1	0.1	55
2013-14	4	4	0.8	64
2014-15	3	6	1.2	57
2015-16	5	3	1.4	98
2016-17	5	3	1.3	69
2017-18	5	8	2.3	80
2018-19	4	5	1.6	64
2019-20	5	3	1.3	69
2020-21	4	5	0.9	57
2021-22	5	9	1.7	95

Table-36 Production of Limestone, 2011-12 to 2021-22				
Year	No. of Mines	Quantity (Lakh tonne)	Value (Rs. Crore)	Labour Employed (Av. Daily)
2011-12	686	2629	4086	22328
2012-13	778	2850	4797	22615
2013-14	779	2809	5133	22978
2014-15	785	2933	5800	23801
2015-16	807	3070	6867	23987
2016-17	832	3147	7388	23892
2017-18	758	3404	8100	22019
2018-19	725	3800	8958	21633
2019-20	691	3595	8889	21335
2020-21	665	3491	8648	18838
2021-22	676	3920	10202	20343

Table-37 Production of Magnesite, 2011-12 to 2021-22				
Year	No.of Mines	Quantity ('000tonne)	Value (Rs. Crore)	Labour Employed (Av. Daily)
2011-12	11	224	35	777
2012-13	15	224	46	964
2013-14	14	197	45	818
2014-15	19	285	75	935
2015-16	20	328	83	1258
2016-17	19	299	75	1331
2017-18	10	195	59	937
2018-19	11	147	41	811
2019-20	12	103	35	711
2020-21	12	75	31	673
2021-22	10	113	55	656

Table-38 Production of Sillimanite, 2011-12 to 2021-22				
Year	No. of Mines	Quantity ('000tonne)	Value (Rs. Crore)	Labour Employed (Av. Daily)
2011-12	4	59	52	1683
2012-13	5	44	35	1767
2013-14	5	67	41	2166
2014-15	4	66	46	1720
2015-16	4	70	51	1759
2016-17	5	68	54	1776
2017-18	5	82	67	1678
2018-19	6	70	56	2042
2019-20	2	13	4	36
2020-21	1	11	1	4
2021-22*	0	3	1	0

*Associate with Kyanite Mines

Section – 3

Production of Metals & Alloys

Production of Metals and Alloys, 2011-12 to 2021-22	Iron and Steel	: 61
	Ferro-Alloys	: 63
	Alumina and Aluminium	: 64
	Copper	: 65
	Gold and Silver	: 66
	Lead and Zinc	: 67

Section – 3

Production of Metals & Alloys

Ferrous Metals:

The output of finished steel was reached 2nd highest level at 113 million tonnes in the year 2021-2022 except the year 2018-2019 during the end of decade. The production of finished steel was also increased by 19% as compared to the previous year. The fluctuating trend in the production of finished steel was observed during the decade ending 2021-2022. While increasing trend in the production of semi-finished steel was observed during the decade ending 2021-2022 and also achieved peak level of 120 million tonnes in the year 2021-2022 of the decade. Similarly, the production of semi-finished steel was increased by 16% as compared to the previous year (*Table-39*).

Ferro-Alloys:

The production of ferro-chrome was at 1113 thousand tonnes in the year 2021-22 and touched highest level of its production during the decade ending 2021-2022. It was also increased by 28% as compare to the previous year. During the decade it maintained the level of 944 thousand tonnes in the latest 7 years from 2012-13 to 2018-19. The output of ferro-manganese and ferro-silicon was recorded non-available during the year 2021-22 (*Table-40*).

Non-ferrous Metals:

The non-ferrous metals, India have achieved self-sufficiency in aluminium and zinc. There was a continuous upward trend in production of Alumina during the decade ending 2021-22, except 2019-20 & 2020-21 which was slightly declined. Its production was reached highest level at 5208 thousand tonnes during the year 2021-22 with an increase of 6.8% over the previous year. Similarly, upward trend in production of Aluminium was also observed during the decade ending 2021-22 except in the year 2019-20 and 2020-21. The production of Aluminium was also achieved highest level at 4017 thousand tonnes during the decade year ending 2021-22 and reported with an increase of 11% over the previous year (*Table-41*).

The production of copper (blister/anode), (cathode) and (CCWR) was showed mixed trend in the decade. The production of copper (cathode) and copper (CCWR) was at 484 thousand tonne and 351 thousand tonnes respectively in the year 2021-22 which were registered a increase of 33% and 3% respectively in both the metals as compared to the level of previous year. While the production of copper (blister/anode) was recorded nil in the last two year 2020-21 & 2021-22 (*Table-42*).

A fluctuating trend was observed in the production of gold (including by-product recovery from imported copper cathodes) during the decade ending year 2021-22. The production of gold, a by-product was 10087 kg, with increase by 37% as compared to previous year. Similarly, there was showed a mixed trend in the

production of silver, a by-product during the year ending 2021-22. The production of silver, a by-product was at 647 tonnes in the year 2021-22 which was about 8% lower than that of preceding year (*Table-43*).

The output of both metals lead (primary) and zinc ingots was showed fluctuating trend during the decade ending 2020-21. The production of lead (primary) was at 191 thousand tonne in the year 2021-22 with a decrease by 11% as compared to previous year. The production zinc ingots was touched at 776 thousand tonnes with a increase by 9 % as compared to previous year (*Table-44*).

Table -39 Production of Iron and Steel, 2011-12 to 2021-22		
('000tonne)		
Year	Semi-finished Steel [@]	Finished Steel*
2011-12	27928	80352
2012-13	29984	86381
2013-14	59379	102090
2014-15	65793	106052
2015-16	37445	97340
2016-17	38236	108950
2017-18	38357	112783
2018-19	106565	131573
2019-20	109216	102058
2020-21	103044	95122
2021-22	120007	113596

Source: Joint Plant Committee, Kolkata

[@]Including Steel Ingots

*Including C.R.Sheets

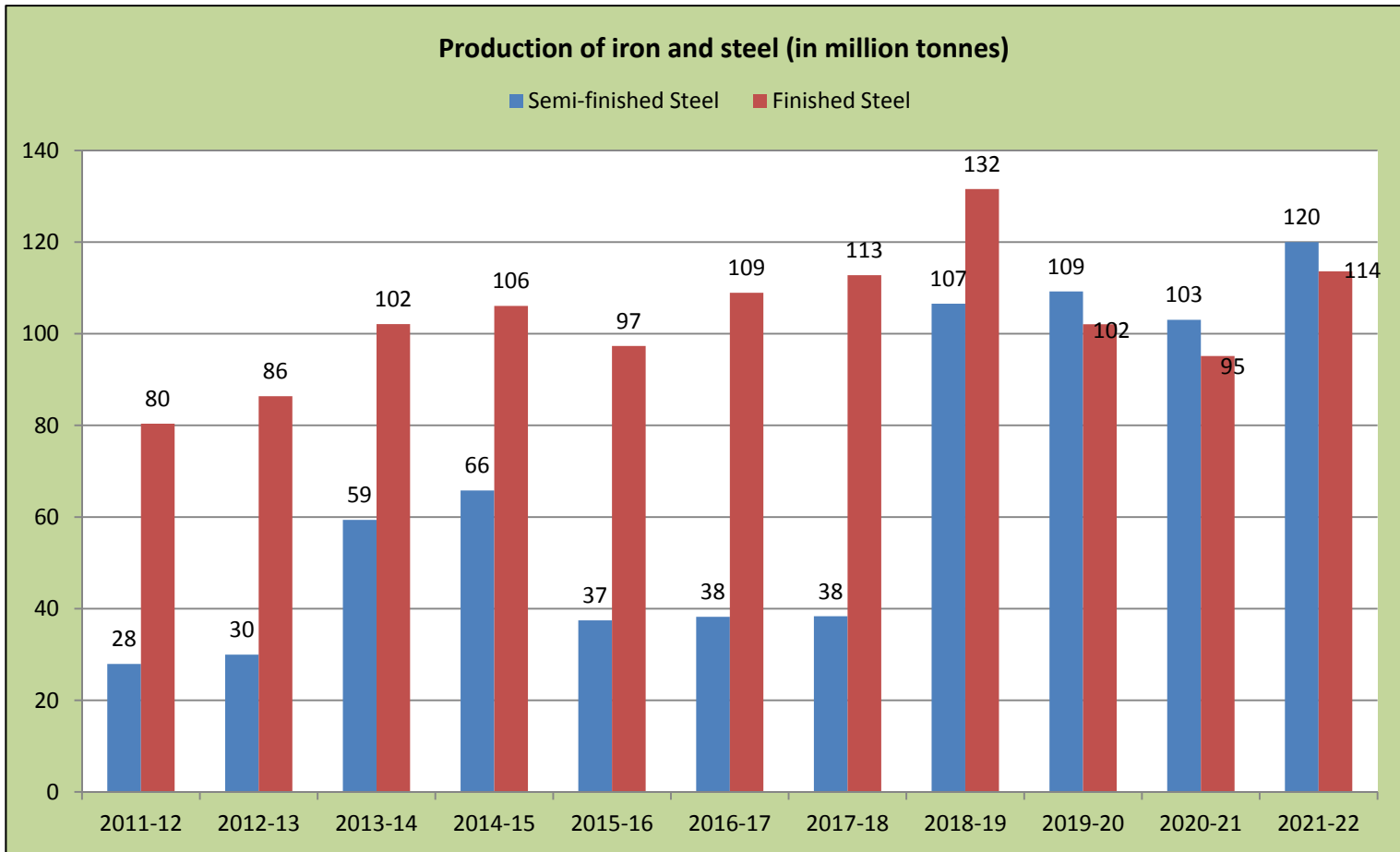


Table-40 Production of Principal Ferro-Alloys,			
2011-12 to 2021-22			
('000tonne)			
Year	Ferro-Chrome	Ferro-Manganese	Ferro-Silicon
2011-12	943	517	89
2012-13	944	518	90
2013-14	944	518	90
2014-15	944	518	90
2015-16	944	518	90
2016-17	944	518	90
2017-18	944	518	90
2018-19	944	518	90
2019-20	921	N.A.	N.A.
2020-21	868	N.A.	N.A.
2021-22	1113	N.A.	N.A.

Source: Joint Plant Committee, Kolkata

Table-41 Production of Alumina and Aluminium,		
2011-12 to 2021-22		
('000tonne)		
Year	Alumina	Aluminium
2011-12	3931	1654
2012-13	3610	1720
2013-14	3779	1667
2014-15	4024	2027
2015-16	4172	2355
2016-17	4576	2897
2017-18	4620	3401
2018-19	4893	3696
2019-20	4978	3635
2020-21	4878	3619
2021-22	5208	4017

Table-42		Production of Copper, 2011-12 to 2021-22		(’000tonne)
Year	Blister/Anode	Cathode	CCWR	
2011-12	19	505	288	
2012-13	17	494	285	
2013-14	17	644	283	
2014-15	16	766	338	
2015-16	17	790	390	
2016-17	15	788	372	
2017-18	15	831	380	
2018-19	13	454	354	
2019-20	4	408	349	
2020-21	-	364	342	
2021-22	-	484	351	

CCWR: *Continuous Cast Wire Rod*

Table-43 Production of Gold* and Silver*, 2011-12 to 2021-22		
(Kilograms)		
Year	Gold	Silver
2011-12	11286	263910
2012-13	8304	434569
2013-14	9209	349774
2014-15	9988	402467
2015-16	10412	426443
2016-17	10082	460811
2017-18	12500	557691
2018-19	12623	679386
2019-20	8382	609340
2020-21	7387	705796
2021-22	10087	647156

**Includes production reported from HINDALCO Industries Ltd*

Table-44 Production of Lead and Zinc,		
2011-12 to 2021-22		
('000tonne)		
Year	Lead(Primary)	Zinc Ingots
2011-12	92	784
2012-13	118	704
2013-14	123	767
2014-15	127	733
2015-16	145	759
2016-17	142	672
2017-18	168	791
2018-19	198	696
2019-20	181	688
2020-21	214	715
2021-22	191	776

Section – 4

Foreign Trade

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Section – 4

Foreign Trade

Exports

The value of exports of minerals excluding petroleum (crude) from India was showed a fluctuating trend during the decade ending 2021-22. It was Rs. 257863 crore during 2021-22 which was 31% higher than that of its value level of previous year. Similarly, the value of exports of metals from Indian was also observed a mixed trend during the decade ending 2021-22 and its value was recorded at Rs. 347457 crore in the year 2021-22 (*Table-58 & 59*).

The percentage share of principal minerals during the year 2021-22 was accounted such type of minerals like diamond (mostly cut), followed by granite, iron ore, alumina and precious & semi-precious stones (Cut & Uncut) for 73%, 5%, 9%, 2% & 2% respectively of the total value of exports of minerals (*Table-64*).

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 decreased from 83% in 2014-15 to 73% in 2021-22. However, the share of diamond in the value of exports of minerals increased from 64% in 2020-21 to 73% in 2021-22 (*Table-64*).

The export of iron ore production had fluctuating trend throughout the decade ending 2020-21 and declined from 57.7 million tonnes in 2020-21 to 26.5 million tonnes

in 2021-22 with decreased by about 54% as compared to previous year (*Table-48*).

Granite was emerged one of the leading foreign exchange earners during the decade ending 2021-22 and its value of exports Rs 12646 crore in 2021-22 was more than twice of the value of its exports in 2011-12. The export of Granite production was recorded slightly increase by 1% as compared to previous year (*Tables-46*).

The exports of manganese ore production was touched the highest level at 114 thousand tonnes during the decade ending 2021-22 with increased by 39% as compared to previous year. But, the value of exports of manganese ore was declined from Rs. 97 crores in 2020-21 to 59 crore in 2021-22. The export of its production and value was observed with mixed fluctuating trend (*Tables-50*).

Other notable mineral items exported from India during 2021-22 were alumina, barytes, bauxite, chromite, garnet (abrasive), marble, titanium ores & conc., emerald (cut & uncut) and precious & semi-precious stones, etc.

Imports

The value of India's imports of minerals and metals rose sharply from ₹13,62,740 crore in 2011-12 to a peak of ₹21,78,307 crore by the end of the decade in 2021-22. Its value of import was reflecting a mixed trend over the years with an increase of about 78% compared to the previous year (*Tables-62*).

In 2021-22, the distribution of the total value of mineral imports was as follows: petroleum (crude) accounted for 59%, coal 15%, uncut diamonds 13%, natural gas 6%, and both copper ore & concentrates and coke at 1% each. The import of crude petroleum reached ₹9,13,917 crore. It was largest imports minerals in the value (*Table-55 & 65*).

India imported uncut diamond and re-exports after cutting and polishing and value of imports of diamond (uncut) was ₹2,04,273 crore in the year 2021-22 with increase 60% as compared to previous year and touched highest level of its value during the decade ending of the year 2021-22 (*Table -67*).

India imported 209 million tonnes of coal value at ₹2,28,819 crore which accounted for 15 % of the value of imports of all minerals (*Table-54*).

The imports of rock phosphate were shown fluctuated during the decade ending 2021-22. The quantity of imports of rock phosphate was at 9.7 million tonne with increased by 24 % as compared to previous year and the value of its imports was ₹10,467 crore (*Table-56*).

The quantity of imports of sulphur was at 1.9 million tonne and the value of its import was ₹3,536 which was increased by 223% as compared to previous year and also touched the highest level of its value during the decade ending of the year 2021-22 (*Table-57*).

Other important minerals like Coke, asbestos, precious and semi precious stones, manganese ore, etc. were imported into India during the year 2021-22.

Table-45 Exports of Chromite, 2011-12 to 2021-22		
Year	Quantity ('000tonne)	Value (Rs.Crore)
2011-12	225	489
2012-13	196	311
2013-14	195	347
2014-15	25	66
2015-16	72	131
2016-17	231	366
2017-18	82	174
2018-19	39	134
2019-20	34	87
2020-21	3	7
2021-22	3	9

Source: DGCI & S, Kolkata

Table-46 Exports of Granite, 2011-12 to 2021-22		
Year	Quantity ('000tonne)	Value (Rs.Crore)
2011-12	4605	6382
2012-13	6061	7942
2013-14	6802	9869
2014-15	6563	9832
2015-16	5675	9272
2016-17	6094	9337
2017-18	6525	9249
2018-19	6812	10201
2019-20	6678	10225
2020-21	7522	11328
2021-22	7572	12646

Source: DGCI & S, Kolkata

Table-47

Value of Exports of Granite,2014-15 to 2021-22
(By Principal Countries)

(Rs.Crore)

Country	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
All Countries	9832	9272	9337	9249	10202	10225	11328	12646
China P Rp	3022	2590	2669	2863	3000	3056	3386	3740
U S A	1600	1641	1670	1458	1563	1509	1854	1853
Vietnam Soc Rep	162	316	401	549	899	1011	1116	1357
Poland	261	207	230	228	267	282	327	464
Germany	405	357	386	392	404	383	421	447
Italy	312	255	244	221	204	198	214	331
U Arab Emts	315	262	271	292	334	254	273	326
France	127	149	153	162	184	192	191	252
U K	295	280	258	212	192	171	160	225
Egypt A Rp	136	174	115	92	131	165	204	216
Others	3196	3041	2939	2779	3024	3004	3184	3433

Table-48 Exports of Iron Ore, 2011-12 to 2021-22		
Year	Quantity (Lakh tonne)	Value (Rs.Crore)
2011-12	472	22184
2012-13	181	8985
2013-14	163	9481
2014-15	73	3144
2015-16	54	1264
2016-17	307	10293
2017-18	242	9490
2018-19	161	9263
2019-20	366	18609
2020-21	577	36256
2021-22	265	24148

Source: DGCI & S, Kolkata

Table-49		Value of Exports of Iron Ore, 2014-15 to 2021-22							
		(By Principal Countries)							(Rs.Crore)
Country	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	
All Countries	3144	1264	10293	9490	9263	18609	36256	24148	
China P Rp	1190	1032	9729	7039	6704	15143	31442	18456	
Indonesia	-	-	-	72	75	42	538	1091	
Korea Rp	305	-	29	581	744	719	571	764	
Oman	4	0	215	228	175	393	628	703	
Italy	-	-	71	-	-	44	-	479	
Malaysia	-	8	-	62	157	168	661	419	
Netherland	-	-	42	1	68	-	-	339	
Brazil	-	-	-	-	-	42	408	304	
Poland	-	-	-	-	56	-	59	270	
Germany	-	-	-	-	-	-	-	243	
Others	1644	223	207	1508	1285	2059	1949	1079	

Table-50 Exports of Manganese Ore, 2011-12 to 2021-22		
Year	Quantity (’000tonne)	Value (Rs.Crore)
2011-12	75	44
2012-13	72	27
2013-14	66	19
2014-15	11	7
2015-16	++	2
2016-17	++	1
2017-18	44	51
2018-19	56	14
2019-20	58	25
2020-21	82	97
2021-22	114	59

Source: DGCI & S, Kolkata

++: negligible

Table-51 Exports of Marble, 2011-12 to 2021-22		
Year	Quantity ('000tonne)	Value (Rs.Crore)
2011-12	325	386
2012-13	371	543
2013-14	338	570
2014-15	326	599
2015-16	290	600
2016-17	327	705
2017-18	356	767
2018-19	385	876
2019-20	311	901
2020-21	295	1008
2021-22	324	1135

Source: DGCI & S, Kolkata

Table-52 Exports of Mica, 2011-12 to 2021-22		
Year	Quantity ('000tonne)	Value (Rs.Crore)
2011-12	132	289
2012-13	128	346
2013-14	128	376
2014-15	141	426
2015-16	136	423
2016-17	135	456
2017-18	155	619
2018-19	152	620
2019-20	117	491
2020-21	144	573
2021-22	152	659

Source: DGCI & S, Kolkata

Table-53 Imports of Asbestos, 2011-12 to 2021-22		
Year	Quantity (’000tonne)	Value (Rs.Crore)
2011-12	378	1199
2012-13	460	1900
2013-14	286	1330
2014-15	396	1717
2015-16	356	1487
2016-17	311	1128
2017-18	357	1160
2018-19	364	1225
2019-20	361	1243
2020-21	309	1185
2021-22	438	1663

Source: DGCI & S, Kolkata

Table-54 Imports of Coal, 2011-12 to 2021-22		
Year	Quantity (’000tonne)	Value (Rs.Crore)
2011-12	102841	78827
2012-13	145790	86851
2013-14	166861	92335
2014-15	212106	104530
2015-16	204000	86107
2016-17	191014	100316
2017-18	208254	138485
2018-19	235355	170932
2019-20	248545	152748
2020-21	215260	116051
2021-22	208636	228819

Source: DGCI & S, Kolkata

Table-55 Imports of Petroleum (Crude), 2011-12 to 2021-22		
Year	Quantity (Lakh tonne)	Value (Rs.Crore)
2011-12	1657	643689
2012-13	1855	785602
2013-14	1892	869657
2014-15	1879	709379
2015-16	2023	429400
2016-17	2149	474219
2017-18	2181	563098
2018-19	2265	798158
2019-20	2209	728112
2020-21	1882	439656
2021-22	2200	913917

Source: DGCI & S, Kolkata

Table-56 Imports of Rock Phosphate, 2011-12 to 2021-22		
Year	Quantity ('000tonne)	Value (Rs.Crore)
2011-12	9730	8315
2012-13	8161	7310
2013-14	7161	5518
2014-15	8273	6189
2015-16	8038	6529
2016-17	7511	4951
2017-18	7703	4546
2018-19	7519	5638
2019-20	7655	5421
2020-21	7781	5371
2021-22	9660	10467

Source: DGCI & S, Kolkata

Table-57 Imports of Sulphur*, 2011-12 to 2021-22		
Year	Quantity (’000tonne)	Value (Rs.Crore)
2011-12	2038	2283
2012-13	1547	1736
2013-14	1290	1100
2014-15	1626	1745
2015-16	1433	1417
2016-17	1346	875
2017-18	1206	1063
2018-19	1347	1522
2019-20	1235	824
2020-21	1463	1095
2021-22	1895	3536

**Excluding sublimed, ppt and colloidal*

Source: DGCI & S, Kolkata

Table-58 Value of Exports of Minerals, 2021-22 (By Principal Countries)		
Country	Value (Rs.Crore)	Percentage Contribution
Total	257863	100
U S A	77528	30.07
Hong Kong	52297	20.28
China P Rp	26944	10.45
Belgium	19990	7.75
U Arab Emts	17956	6.96
Israel	10749	4.17
Thailand	8546	3.31
Japan	3767	1.46
U K	3637	1.41
Vietnam Soc Rep	2542	0.99
Others	33907	13.15

Source: DGCI & S, Kolkata

Value of mineral exports 2021-22 (Rs.Crore)

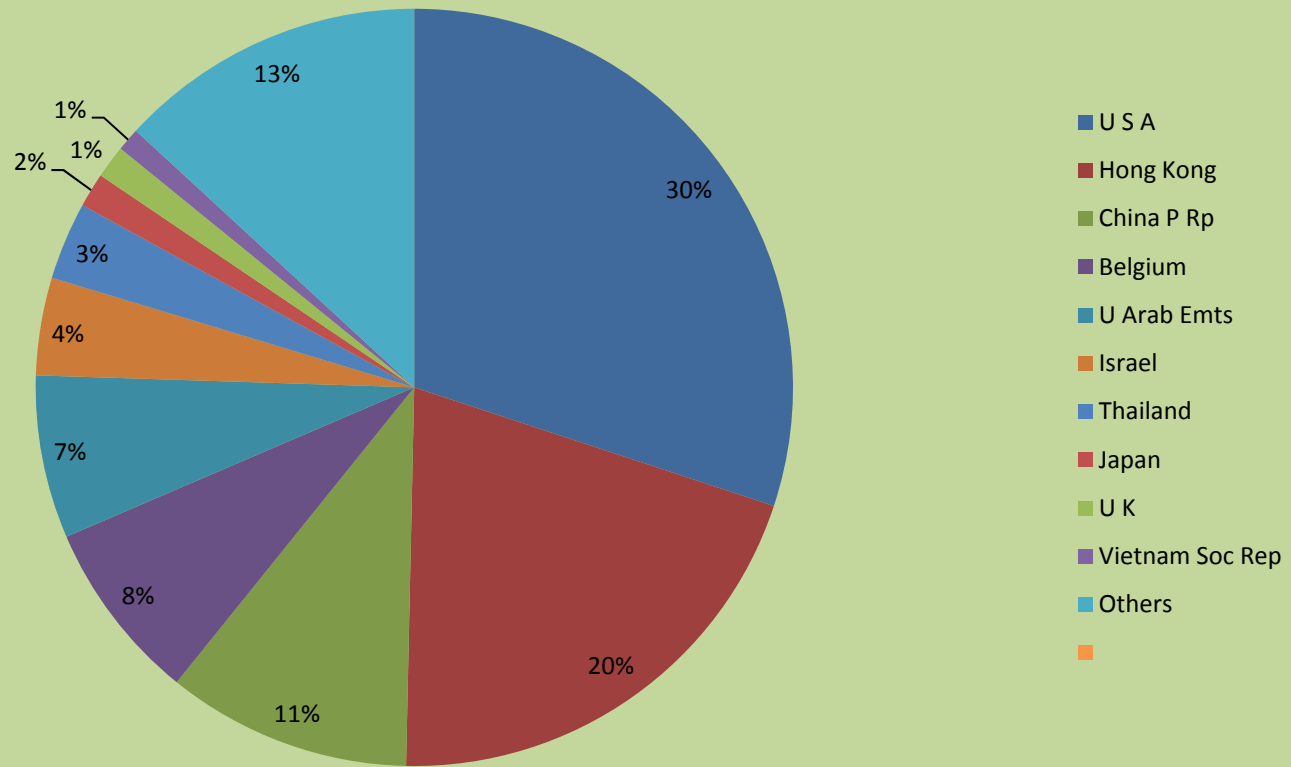


Table-59 Value of Exports of Metals, 2021-22 (By Principal Countries)		
Country	Value (Rs.Crore)	Percentage Contribution
Total	347457	100
U S A	37405	10.77
China P Rp	29964	8.62
Italy	21785	6.27
Korea Rp	19960	5.74
U Arab Emts	18582	5.35
Turkey	16040	4.62
Vietnam Soc Rep	14142	4.07
Belgium	13125	3.78
Nepal	12400	3.57
Netherland	8388	2.41
Others	155664	44.80

Source: DGCI & S, Kolkata

Table-60 Value of Imports of Minerals, 2021-22 (By Principal Countries)		
Country	Value (Rs.Crore)	Percentage Contribution
Total	1551380	100
Iraq	226620	14.61
U Arab Emts	184399	11.89
Saudi Arab	172128	11.10
U S A	158616	10.22
Australia	107606	6.94
Nigeria	74750	4.82
Kuwait	59632	3.84
Indonesia	57465	3.70
Qatar	52709	3.40
Belgium	43875	2.83
Others	413579	26.65

Source: DGCI & S, Kolkata

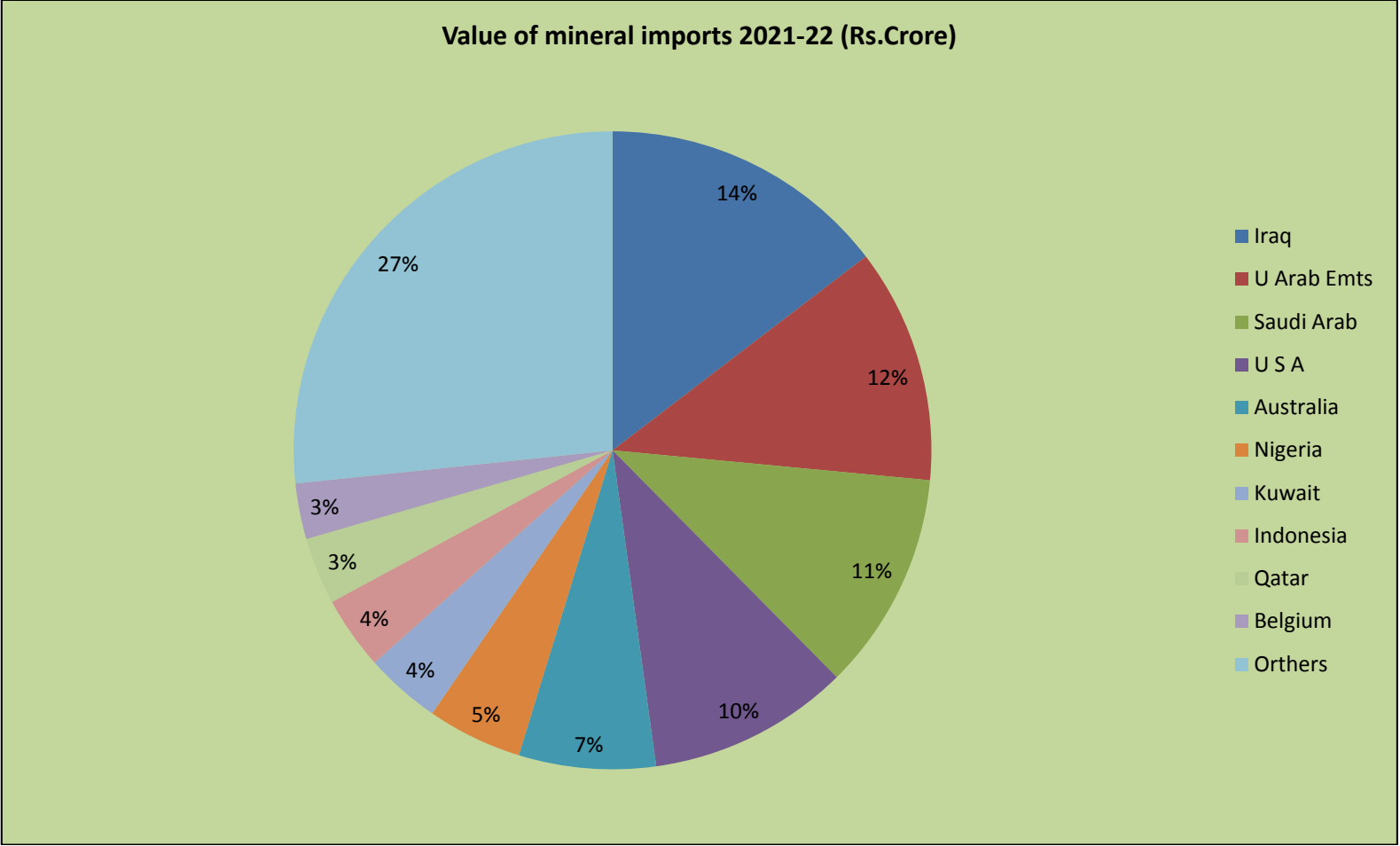


Table-61 Value of Imports of Metals, 2021-22 (By Principal Countries)		
Country	Value (Rs.Crore)	Percentage Contribution
Total	6269271	100
Switzerland	1564908	24.96
U Arab Emts	591002	9.43
China P Rp	376978	6.01
South Africa	319970	5.10
Korea Rp	288128	4.60
Guinea	248657	3.97
U S A	223364	3.56
Japan	206886	3.30
U K	194002	3.09
Peru	173848	2.77
Others	2081529	33.21

Source: DGCI & S, Kolkata

Table-62 Exports, Imports and Net Trade in Minerals and Metals, 2011 -12 to 2021 -22						
(Rs.Crore)						
Year	Minerals and Metals (Including Petroleum)			Minerals (Excluding Petroleum Crude)		
	Exports	Imports	Difference	Exports	Imports	Difference
2011-12	277810	1362740	-1084930	175238	300741	-125503
2012-13	300715	1547366	-1246651	160101	315198	-155097
2013-14	347940	1537183	-1189243	194784	346170	-151386
2014-15	345315	1472992	-1127677	178019	362354	-184335
2015-16	323859	1129161	-805302	170946	309389	-138443
2016-17	382317	1147234	-764917	200131	335226	-135095
2017-18	389803	1440355	-1050552	199469	465431	-265962
2018-19	393455	1777030	-1383575	219168	501028	-281860
2019-20	355782	1568257	-1212475	189683	423418	-233735
2020-21	403876	1226931	-823055	196654	351664	-155010
2021-22	605320	2178307	-1572987	257863	637463	-379600

Source: DGCI & S, Kolkata

**Table-63 Exports, Imports and Net Trade in Minerals and Metals,
2011-12 to 2021-22**

(Rs. Crore)

Year	Petroleum Crude			Metals		
	Exports	Imports	Difference	Exports	Imports	Difference
2011-12	72	643689	-643617	102500	418310	-315810
2012-13	-	785602	-785602	140614	446566	-305952
2013-14	-	869657	-869657	153156	321356	-168200
2014-15	-	709379	-709379	167296	401259	-233963
2015-16	-	429400	-429400	152913	390372	-237459
2016-17	-	474219	-474219	182186	337788	-155602
2017-18	-	563098	-563098	190334	411826	-221492
2018-19	-	798158	-798158	174287	477843	-303556
2019-20	-	728112	-728112	166099	416727	-250628
2020-21	-	439656	-439656	207222	435611	-228389
2021-22	-	913917	-913917	347457	626927	-279470

Source: DGCI & S, Kolkata

Table-64 Share of Principal Minerals in the Value of Mineral Exports, 2014-15 to 2021-22								
Exports								
Year	Exports of all Minerals (Rs. Crore)	Percentage Share of Principal Minerals						
		Diamond*	Granite	Iron Ore	Alumina	Emerald (Cut & Uncut)	Precious & Semi-Precious Stones (Cut & Uncut)	Others
2014-15	178019	83	6	2	2	1	1	5
2015-16	170946	83	5	1	2	1	1	7
2016-17	200131	81	5	5	2	1	1	5
2017-18	199469	81	5	5	2	1	1	5
2018-19	219168	80	5	4	2	1	1	7
2019-20	189683	74	5	10	2	1	1	7
2020-21	196654	64	6	18	1	++	1	10
2021-22	257863	73	5	9	2	++	2	9

Source: DGCI & S, Kolkata

*Includes mostly cut, industrial and powder

++Negligible

Table-65 Share of Principal Minerals in the Value of Mineral Imports, 2014-15 to 2021-22								
Imports								
Year	Imports of All Minerals (Rs. Crore)	Percentage Share of Principal Minerals						
		Petroleum (Crude)	Coal [#]	Diamond*	Natural Gas	Copper Ore & Conc.	Coke	Others
2014-15	1071733	66	10	12	5	3	++	4
2015-16	738789	58	12	15	6	4	++	5
2016-17	809445	59	12	16	5	2	1	5
2017-18	1028529	55	13	18	5	3	1	5
2018-19	1299186	61	13	14	6	1	1	4
2019-20	1151530	63	13	13	6	1	1	3
2020-21	791320	56	15	16	7	1	1	4
2021-22	1551380	59	15	13	6	1	1	5

Source: DGCI & S, Kolkata

*Includes mostly cut, industrial and powder, # Excluding Lignite

++Negligible

Table-66 Share of Principal Countries in the Value of Exports of Diamond, 2014-15 to 2021-22
Exports of Diamond (Mostly Cut)

Year	Value of Exports (Rs.Crore)	Percentage Share of Principal Importing Countries							
		USA	Hong Kong	Belgium	UAE	Israel	Thailand	Japan	Others
2014-15	148056	27	38	11	10	5	3	1	5
2015-16	142664	30	36	10	10	5	3	1	5
2016-17	162567	30	38	10	9	4	2	1	6
2017-18	161931	30	40	9	8	4	2	1	6
2018-19	175733	33	38	9	6	4	2	2	6
2019-20	139974	35	33	11	6	5	3	2	6
2020-21	125735	36	34	7	7	5	3	2	6
2021-22	189219	39	25	10	8	6	4	1	7

Source: DGCI & S, Kolkata

Table-67 Share of Principal Countries in the Value of Imports of Diamond, 2014-15 to 2021-22									
Imports of Diamond (Mostly Cut)									
Year	Value of Imports (Rs. Crore)	Percentage Share of Principal Exporting Countries							
		UAE	Belgium	U S A	Hong Kong	Israel	South Africa	Russia	Others
2014-15	125035	20	44	3	11	5	1	4	13
2015-16	110378	22	39	3	11	6	1	7	11
2016-17	129443	23	26	2	11	6	2	12	18
2017-18	189913	15	14	1	11	3	1	12	42
2018-19	177377	22	26	22	14	4	2	2	9
2019-20	147952	23	24	21	13	3	3	3	10
2020-21	127725	29	20	21	13	4	4	0	10
2021-22	204273	35	21	21	6	5	3	3	6

Source: DGCI & S, Kolkata

**Table -68 Production, Exports/Imports and Apparent Consumption as Percentage of Total Availability, 2021-22
(By Selected Minerals)**

Mineral	Total Availability * ('000tonne)	Percentage Share of			
		Gross Production	Imports	Exports	Apparent Consumption
Bauxite	25503	88	12	1	99
Chromite	4032	94	6	++	100
Coal	986846	79	21	++	100
Iron Ore	260782	97	3	10	90
Kyanite	11	84	16	16	84
Limestone	419617	93	7	3	97
Magnesite	624	18	82	1	99
Manganese Ore	9192	29	71	1	99
Petroleum (crude)	249725	12	88	-	100
Phosphorite	11055	13	87	++	100
Sulphur	2776	32	68	46	54

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

++ Negligible

Section-5

Average Daily Employment in Mines

Average Daily Employment in Mines	Average Daily Employment in Mines, 2011-12 to 2021-22 (By Groups)	:	101
	Average Daily Employment in Metallic Minerals Mines, 2021-22 (By Sectors)	:	102
	Average Daily Employment in Non Metallic Minerals Mines, 2021-22 (By Sectors)	:	103
	Average Daily Employment in Mines, 2021-22 (By Category/Sector)	:	104

Section-5

Average Daily Employment in Mines

During the 2021-22 period, the average daily employment in the metallic and non-metallic minerals sector (excluding labour engaged in fuel minerals) was approximately 1,13,281 workers, with metallic minerals accounting for 80% of this total and non-metallic mineral 20%. This represented a 14% increase in average daily employment compared to the previous year (*Table-69*).

In the year 2021-22, the employment distribution within the metallic minerals group was as follows: iron ore accounted for 54% of total employment, followed by lead and zinc concentrates at 17%, manganese ore at 12%, bauxite at 6%, chromite at 5%, and both gold and copper concentrates at 3% each (*Table-70*). In the non-metallic minerals sector, limestone dominated employment, making up 88% of the workforce. The remaining non-metallic minerals included apatite and phosphorite at 3%, diamond at 3%, magnesite at 3%, and wollastonite at 1%. The remaining 2% of labor was engaged in other non-metallic minerals (*Table-71*).

In the year 2021-22, under the MCDR, 1988 (excluding fuel, atomic, and minor minerals), there were 600 category 'A' mines employing approximately 93,992 workers, while 723 category 'B' mines employed about 19,289 workers. Additionally, about 36,447 workers were engaged in 161 public sector mines, whereas about 76,834 workers were engaged in 1162 private sector mines. In terms of production value, the public sector contributed 40% to the total value of metallic and non-metallic minerals, while the private sector accounted for 60% in the year 2021-22 (*Table-72*).

Table-69 Average Daily Employment in Mines, 2011-12 to 2021-22 (By Groups)				
Year	Total	Fuels*	Metallic Minerals	Non-metallic Minerals
2011-12	532552	393384	85361	53807
2012-13	523352	380815	83172	59365
2013-14	518927	378070	82820	58037
2014-15	515834	380719	82375	52740
2015-16	484585	368695	84113	31777
2016-17 [#]	116574	N.A.	84936	31638
2017-18 [#]	114863	N.A.	86506	28357
2018-19 [#]	112831	N.A.	84563	28268
2019-20 [#]	111345	N.A.	87063	24282
2020-21 [#]	99335	N.A.	78079	21256
2021-22 [#]	113281	N.A.	90098	23183

Source: Fuel-DGMS, Dhanbad

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

** Calendar Year*

Excluding Fuels

Table-70 Average Daily Employment in Metallic Minerals Mines, 2021-22 (By Sectors)			
Minerals	Total	Public	Private
Total	90098	32705	57393
Iron Ore	48934	17594	31340
Manganese Ore	10600	6484	4116
Lead & Zinc Ore	14876	3	14873
Chromite	4480	1193	3287
Bauxite	5275	1609	3666
Gold Ore	3128	3028	100
Copper Ore	2794	2794	-
Tin Concentrates	11	-	11

Source: Returns received under MCDR, 1988

Table-71 Average Daily Employment in Non-Metallic Minerals Mines, 2021-22 (By Sectors)			
Mineral	Total	Public	Private
Total	23183	3742	19441
Limestone	20343	1747	18596
Apatite & Phosphorite	756	722	34
Diamond	699	699	-
Magnesite	656	435	221
Wollastonite	191	-	191
Graphite	131	26	105
Kyanite	95	22	73
Iolite	61	-	61
Garnet (Abrasive)	52	-	52
Others	199	91	108

Source: Returns received under MCDR, 1988

Section-6
Consumption of Minerals

**Consumption of
Minerals, 2011-12
to 2021-22**

Iron & Steel Industry	:	108
Cement Industry	:	110
Refractory Industry	:	111

Section-6

Consumption of Minerals

Iron & Steel Industry:

Iron ore is the basic raw material required for iron & steel industry. The coal, limestone and manganese ore are also widely consumed for requirement of iron & steel industry.

During the year 2019-20, the upward trend of mineral consumption in some of the above minerals was observed in iron & steel industry. The consumption of iron ore was recorded from 1582 thousand tonnes in 2019-20, which was increased by 2% as compared to preceding year. The consumption of manganese ore was reported at 204 thousand tonnes with increase of 21% as compared to the previous year and the consumption of limestone was remained same at 127 thousand tonne as previous year. It was noted that the consumption in the iron and steel industry was reported as nil in the fiscal year 2020-21 and onward (*Table-73*).

Cement Industry:

Important mineral consumed in cement industry is limestone. Other important minerals consumed in cement industry are bauxite and iron ore etc.

The consumption of limestone was at 3087 thousand tonnes in the year 2019-20 with decrease 6% as compare to the previous year. During the year 2019-20 consumption of bauxite was at 2036 thousand tonnes with 8% decrease as compare to previous year. While consumption of iron ore was at 825 tonne with decrease by 24 % as compared to previous year. It was also nil reported consumption in cement Industry section during the year 2020-21 and onward (*Table-74*).

Refractory Industry:

The consumption of magnesite was at 68 thousand tonne and that of kyanite & sillimanite, chromite, and Bauxite & diaspore were 28 thousand tonne, 16 thousand tonne and 37 thousand tonne respectively during the year 2019-20 and coming two year, the nil report of the consumption in refractory Industry was recorded (*Table-75*).

Table-73 Consumption of Mineral sin Iron & Steel Industry, 2011-12 to 2021-22 ('000tonne)							
Year	Iron Ore ^{*^}	Coal ^{*@}	Limestone [*]	Manganese Ore	Ferro-Alloys	Bauxite	Fluorite
2011-12	990	158	93	254	630	1	2
2012-13	1020	160	114	255	416	1	2
2013-14	1068	153	114	255	406	1	2
2014-15	1134	123	122	262	415	N.A.	N.A.
2015-16	1158	124 [#]	115	517	N.A.	N.A.	N.A.
2016-17	1356	125 [#]	136	132	N.A.	N.A.	N.A.
2017-18	1441	N.A.	111	128	N.A.	N.A.	N.A.
2018-19	1544	N.A.	127	168	N.A.	N.A.	N.A.
2019-20	1582	N.A.	127	204	N.A.	N.A.	N.A.
2020-21	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
2021-22	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Figures rounded off

** Lakh tonne @Relates to despatches of coal*

Includes actual reported consumption and/or estimates made wherever required

Paucity of data, hence coverage may not be complete

[#]Source: Coal Directory of India, 2015-16 and Provisional Coal Statistics, 2017-18

^{\$}The figures for iron & steel and palletisation (iron & steel) added

[^]Iron & Steel Industry including sponge iron

Consumption of Minerals in Iron & Steel Industry

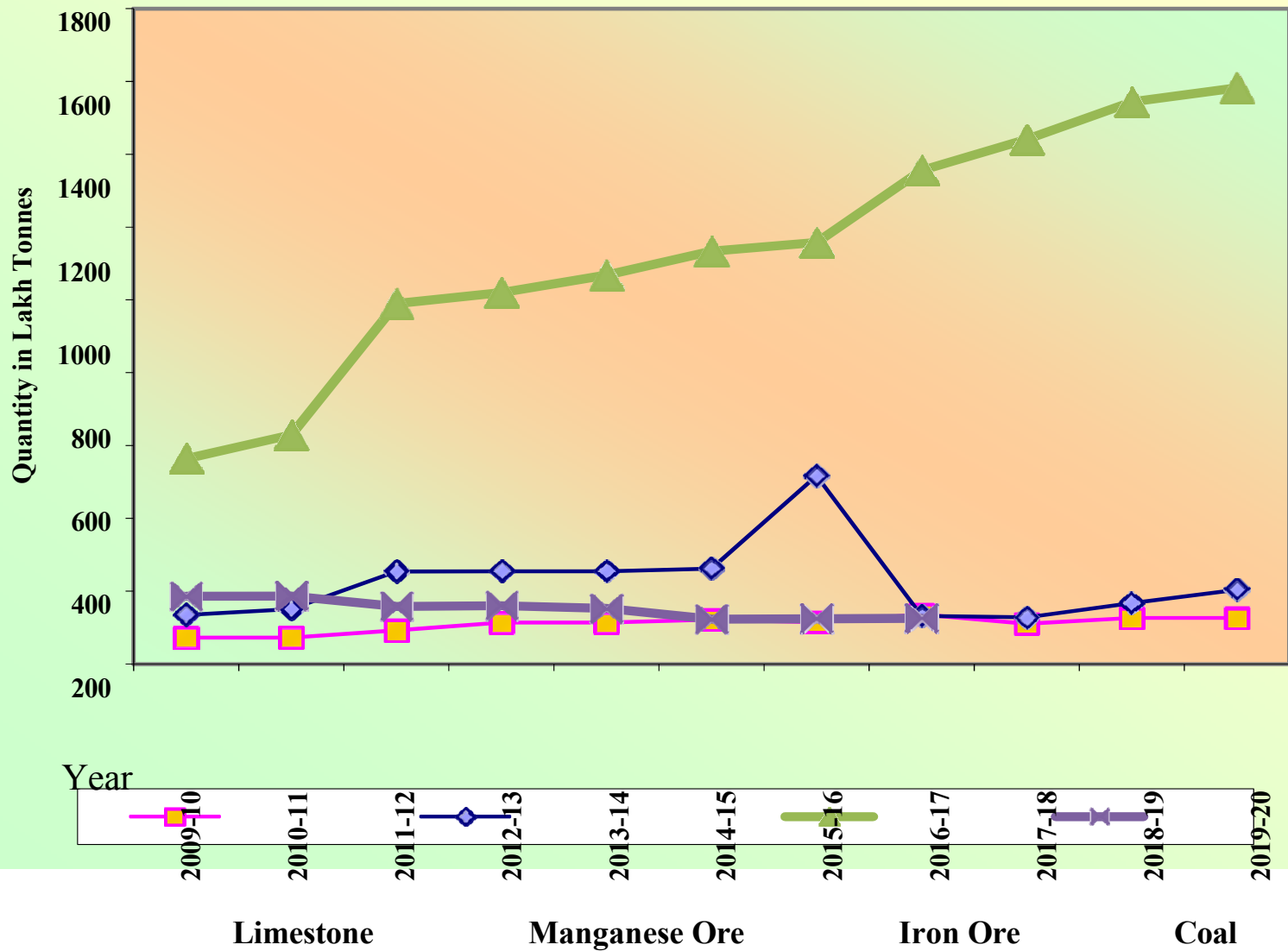


Table-74 Consumption of Minerals in Cement Industry, 2011-12 to 2021-22				
('000tonne)				
Year	Limestone ^{*+}	Coal ^{*@}	Bauxite	Iron Ore
2011-12	2399	129	1041	1548
2012-13	2533	128	535	1586
2013-14	2558	116	561	1455
2014-15	2790	111	1039	1186
2015-16	2898	90	1406	1254
2016-17	2544	64	1554	869
2017-18	2956	N.A.	1806	826
2018-19	3275	N.A.	2214	1080
2019-20	3087	N.A.	2036	825
2020-21	N.A.	N.A.	N.A.	N.A.
2021-22	N.A.	N.A.	N.A.	N.A.

*Figures rounded off, *Lakhtonne*

+: Limestone and other calcareous material. (R) Revised (P) Provisional

Includes actual reported consumption and or estimates made wherever required

Paucity of data, hence coverage may not be complete

@ Relatestodespatchesofcoal.\$:IncludesQuartz,QuartziteandSilicaSand

Source: Coal Directory of India,2015-16and Provisional Coal Statistics,2017-18

^Excludes other calcareous materials

Table-75 Consumption of Minerals in Refractory Industry, 2011-12 to 2021-22				
Year	Magnesite	Bauxite & Diaspore	Chromite*	Kyanite &Sillimanite
2011-12	112	280	25	15
2012-13	91	313	42	21
2013-14	58	295	41	22
2014-15	67	301	20	28
2015-16	69	288 ^{\$}	9	27
2016-17	60	110 ^{\$}	4	22
2017-18	137 [#]	65 ^{\$}	9	66 [#]
2018-19	81	70 ^{\$}	17	49
2019-20	68	37 ^{\$}	16	28
2020-21	N.A.	N.A.	N.A.	N.A.
2021-22	N.A.	N.A.	N.A.	N.A.

Figures rounded off

**Includes consumption in iron & steel industry*

Includes actual reported consumption and/or estimates made wherever required

Paucity of data, hence coverage may not be complete

\$:Excludes diaspore

(R):Revised (P):Provisional

#:Consumption estimated from the despatches as reported in Form 'H'

Section-7

Production of Mineral-Based Products

Production of Mineral-Based Products, 2011-12 to 2021-22	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 the decade increased by about 61% during the period of 2021-22. The output cement was at 2235 lakh tonne in 2011-12, which rose to 3602 lakh tonne in 2021-22. The production of cement in the country was touched peak level in the year 2021-22 during the entire decade and its production also increased by about 20% as compared to the previous year. The output of Asbestos-Cement was also marked highest level at 3006 thousand tonne during 2021-22 which was also increased by about 11% as compared to previous year (*Table-76*).

Ceramic Products:

The total production of ceramic products consisting of glazed tiles and insulators was showed in fluctuating trend during the decade. The total production of ceramic products consisting of glazed tiles and insulators was recorded 2067 thousand tonnes in the year 2021-22. It was increased by 25% as compared to previous year. The production of glazed tiles and insulators was increased by about 26% and about 3% as compared to preceding year respectively (*Table-77*).

Fertilizers and Sulphuric Acid:

The output of fertilizers (including phosphatic and nitrogenous) was shown in fluctuation trend during the decade. It's production was recorded peak level at 18553 thousand tonne in the year 2021-22 during the decade which was also increased by 0.54% as compared to previous year (*Table-78*).

The production of sulphuric acid was shown in fluctuation trend during the decade. During the year 2021-22, the production of sulphuric acid at 6154 thousand tonnes was increased by about 14% as compared to the previous year (*Tables-77*).

Table -76 Production of Cement and Asbestos-Cement Products, 2011-12 to 2021-22		
Year	Cement	Asbestos-Cement Products*
	Production(Lakh tonne)	Production('000tonne)
2011-12	2235	N.A.
2012-13	2406	N.A.
2013-14	2498	N.A.
2014-15	2613	N.A.
2015-16	2739	N.A.
2016-17	2704	N.A.
2017-18	2991	2625
2018-19	3373	2776
2019-20	3434	2467
2020-21	2999	2706
2021-22	3602	3006

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

Source: *Department for Promotion of Industry and Internal Trade*

@ Production figures pertain to the units included in the sample/frame for Index of Industrial Production with base year 2004-05/2011-12

Table-77 Production of Ceramic Products, 2011-12 to 2021-22 (’000tonne)		
Year	Glazed Tiles	Insulators (H.T. and L.T.)
2011-12	1573	61
2012-13	1464	56
2013-14	2350	68
2014-15	2501	71
2015-16	2584	72
2016-17	2439	68
2017-18	2317	64
2018-19	2142	56
2019-20	1959	50
2020-21	1609	40
2021-22	2026	41

Source: Department for Promotion of Industry and Internal Trade

@ Production figures pertain to the units included in the sample/frame for Index of Industrial Production with base year 2004-05/2011-12

Table-78 Production of Fertilizers , 2011-12 to 2021-22		
('000tonne)		
Year	Phosphatic	Nitrogenous
2011-12	4101	12259
2012-13	3541	12194
2013-14	3714	12378
2014-15	4121	12394
2015-16	4394	13416
2016-17	4595	13354
2017-18	4723	13383
2018-19	4594	13298
2019-20	4791	13687
2020-21	4739	13715
2021-22	4714	13839

Source: Department of Fertilisers, Ministry of Chemicals and Fertilisers

Table-79 Production of Sulphuric Acid, 2011-12 to 2021-22	
('000tonne)	
Year	Production
2011-12	5870
2012-13	5730
2013-14	5061
2014-15	5407
2015-16	5805
2016-17	6150
2017-18	6156
2018-19	6069
2019-20	5900
2020-21	5384
2021-22	6154

Source: Department for Promotion of Industry and Internal Trade

@ Production figures pertain to the units included in the sample/frame for Index of Industrial Production with base year 2004-05/2011-12

Section-8

Mining Machinery

Mining Machinery, 2021-22	Dipper Shovels	: 121
	Front End Loaders	: 122
	Bulldozers / Ripper Dozers	: 123
	Motor Graders	: 124
	Haulers / Dumpers	: 125
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	Air Compressors	: 128
	Locomotives	: 129
	Back Hoes	: 130
	Cranes	: 131
Surface Miners	: 132	

Section-8

Mining Machinery

During the reporting year, 2021-22, a total number of 1008 opencast mechanised mines were covered for compilation and preparation of statement on population of mining machinery

The majority of the mechanised mines covered were of limestone, iron ore, bauxite, gypsum, manganese, chromite and others. Conventional methods of Deep-hole blasting with Shovel-Dumper combination were mostly found.

It was observed that there was an increase in the population of mining machinery like Locomotives, Cranes, Hauler/Dumper, Drills/Blastholes, Air Compressor and Motor Grader. However, and a decrease of mining machinery like Front-End Loader, Bull Dozer, BackHoes, Crusher, Surface Miners and Dipper Shovel (Hydraulic) during the reporting year.

Table-80 Mining Machinery in Metalliferous Opencast Mechanised Mines in India, 2021-22									
Dipper Shovels(Mechanical and Hydraulic)									
Capacity (m3)	Total			Mechanical			Hydraulic		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
In Use (Nos.)									
< 1.16	125	19	106	31	11	20	94	8	86
1.16-2.30	136	12	124	13	0	13	123	12	111
2.31-3.45	90	17	73	6	0	6	84	17	67
3.46-4.60	101	15	86	7	3	4	94	12	82
>4.60	130	49	81	23	17	6	107	32	75
Total	582	112	470	80	31	49	502	81	421
In Reserve(Nos.)									
< 1.16	11	3	8	2	1	1	9	2	7
1.16-2.30	13	1	12	2	0	2	11	1	10
2.31-3.45	6	0	6	1	0	1	5	0	5
3.46-4.60	12	0	12	4	0	4	8	0	8
>4.60	8	1	7	1	0	1	7	1	6
Total	50	5	45	10	1	9	40	4	36

Table-81 Mining Machinery in Metalliferous Opencast Mechanised Mines in India, 2021-22						
Front End Loaders						
Capacity (m3)	In Use(Nos.)			In Reserve(Nos.)		
	Total	Public	Private	Total	Public	Private
< 1.16	97	12	85	12	1	11
1.16 – 2.30	421	49	372	13	1	12
2.31 – 3.45	175	33	142	6	1	5
3.46 – 4.60	57	10	47	3	0	3
> 4.60	175	22	153	7	4	3
Total	925	126	799	41	7	34

Table-82 Mining Machinery in Metalliferous Opencast Mechanised Mines in India, 2021-22

Bulldozers/Ripper Dozers

Capacity (h.p.)	In Use(Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 100	29	1	28	0	0	0
100-200	115	27	88	2	1	1
201-300	69	14	55	1	0	1
301-400	172	20	152	11	1	10
> 400	144	90	54	2	1	1
Total	529	152	377	16	3	13

Table-83 Mining Machinery in Metalliferous Opencast Mechanised Mines in India,2021-22						
Motor Graders						
Capacity (h.p.)	In Use(Nos.)			In Reserve (Nos.)		
	Total	Public	Private	Total	Public	Private
< 100	5	0	5	0	0	0
100-200	77	15	62	0	0	0
201-300	40	32	8	1	0	1
301-400	0	0	0	0	0	0
> 400	8	0	8	0	0	0
Total	130	47	83	1	0	1

Table-84 Mining Machinery in Metalliferous Opencast Mechanised Mines in India,2021-22 Haulers/Dumpers

Capacity (tonne)	In Use(Nos.)			In Reserve(Nos.)		
	Total	Public	Private	Total	Public	Private
< 10	597	51	546	16	4	12
10-20	2095	194	1901	92	1	91
21-30	2240	228	2012	104	0	104
31-40	1369	243	1126	72	0	72
41-60	620	84	536	19	2	17
61-100	305	107	198	9	0	9
101-150	24	15	9	0	0	0
> 150	38	36	2	7	6	1
Total	7288	958	6330	319	13	306

Table-85 Mining Machinery in Metalliferous Opencast Mechanised Mines in India, 2021-22

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	588	87	501	25	10	15
50-100	206	27	179	4	1	3
101-150	475	63	412	27	3	24
151-200	95	29	66	6	0	6
> 200	48	22	26	0	0	0
Total	1412	228	1184	62	14	48

Table-86 Mining Machinery in Metalliferous Opencast Mechanised Mines in India, 2021-22
Crushers

Capacity (tonne/hour)	In Use (Nos.)			In Reserve(Nos.)		
	Total	Public	Private	Total	Public	Private
< 10	3	0	3	0	0	0
10-50	30	4	26	0	0	0
51-100	62	14	48	2	0	2
101-300	197	22	175	4	0	4
301-500	66	23	43	1	0	1
> 500	132	52	80	5	1	4
Total	490	115	375	12	1	11

Table -87 Mining Machinery in Metalliferous Opencast Mechanised Mines in India, 2021-22									
Air Compressors (Diesel & Electric)									
Capacity (m3/min.)	Total			Diesel			Electric		
	Total	Public	Private	Total	Public	Private	Total	Public	Private
In Use (Nos.)									
< 5	141	28	113	59	10	49	82	18	64
5.0 – 10	97	24	73	60	14	46	37	10	27
10.1 – 15	164	27	137	133	14	119	31	13	18
15.1 – 50	84	18	66	38	7	31	46	11	35
50.1 – 100	43	14	29	20	5	15	23	9	14
> 100	146	18	128	108	11	97	38	7	31
Total	675	129	546	418	61	357	257	68	189
In Reserve(Nos.)									
< 5	3	0	3	2	0	2	1	0	1
5.0 – 10	6	4	2	4	2	2	2	2	0
10.1 – 15	11	4	7	8	2	6	3	2	1
15.1 – 50	7	1	6	0	0	0	7	1	6
50.1 – 100	5	0	5	2	0	2	3	0	3
> 100	11	5	6	6	1	5	5	4	1
Total	43	14	29	22	5	17	21	9	12

Table -88 Mining Machinery in Metalliferous Opencast Mechanised Mines in India, 2021-22

Locomotives

Pay load capacity (tonne)	In Use (Nos.)			In Reserve(Nos.)		
	Total	Public	Private	Total	Public	Private
< 50	32	21	11	9	5	4
50-100	1	0	1	0	0	0
101-150	0	0	0	0	0	0
151-200	0	0	0	0	0	0
> 200	17	14	3	0	0	0
Total	50	35	15	9	5	4

Table -89

**Mining Machinery in Metalliferous Opencast Mechanised Mines
in India, 2021-22**

Back Hoes

Capacity (m3)	In Use(Nos.)			In Reserve(Nos.)		
	Total	Public	Private	Total	Public	Private
< 1.16	557	53	504	30	3	27
1.16 – 2.30	589	72	517	25	2	23
2.31 – 3.45	218	31	187	13	0	13
3.46 – 4.60	90	9	81	5	0	5
> 4.60	82	11	71	5	0	5
Total	1536	176	1360	78	5	73

Table -90 Mining Machinery in Metalliferous Opencast Mechanised Mines in India, 2021-22

Cranes

Lifting capacity (tonne/hour)	In Use(Nos.)			In Reserve(Nos.)		
	Total	Public	Private	Total	Public	Private
< 10	52	30	22	0	0	0
10-20	83	37	46	0	0	0
21-50	30	22	8	0	0	0
51-75	4	2	2	0	0	0
> 75	6	4	2	0	0	0
Total	175	95	80	0	0	0

Table -91 Mining Machinery in Metalliferous Opencast Mechanised Mines in India 2021-22 Surface Miners

Capacity (tonne/hour)	In Use (Nos.)			In Reserve(Nos.)		
	Total	Public	Private	Total	Public	Private
< 150	0	0	0	0	0	0
150-200	2	0	2	0	0	0
201-250	3	0	3	0	0	0
251-300	0	0	0	0	0	0
> 300	22	0	22	0	0	0
Total	27	0	27	0	0	0

Appendix-I

Table-92

**Decennial Growth in Production of Important Minerals from
1951 to 2021-22**

Minerals	Unit	1951	1961	1971	1981	1991-92	2001-02	2011-12	2021-22
Fuel Minerals									
Coal	'000t	34952	56065	71824	123104	229354	327787	539950	778210
Lignite	'000t	34	64	3660	5966	15811	24813	42332	47492
Natural Gas (ut.)	mcm	-	171	764	1997	14441	28038	47559	34024
Petroleum (crude)	'000t	269	513	7185	14925	30346	32032	38090	29691
Metallic Minerals									
Bauxite	'000t	68	476	1517	1955	5013	8689	13600	22494
Chromite	'000t	17	49	275	344	1082	1549	2923	3786
Copper Concentrates	'000t	30	33	44	139	262	164	130	115
Copper Ore	'000t	375	423	666	2109	5207	3418	3479	3570
Gold	Kg.	7041	4868	3656	2495	2041	2810	2194	1407
Gold Ore	'000t	N.A.	672	598	523	410	496	492	475
Iron Ore	'000t	4152	18705	34311	41618	58534	86226	168582	254099
Lead Concentrates	'000t	2	6	4	20	53	52	162	368
Zinc Concentrates	'000t	2	9	15	53	253	399	1414	1594
Lead & Zinc Ore	'000t	N.A.	150	297	974	2511	3677	8042	16339
Manganese Ore	'000t	1398	1405	1841	1532	1640	1587	2412	2692
Silver	kg.	454	5941	3773	17298	35556	57675	207144	647156

Decennial Growth in Production of Important Minerals (Concl.)

Minerals	Unit	1951	1961	1971	1981	1991-92	2001-02	2011-12	2021-22
Non-Metallic Minerals									
Apatite& Phosphorite	'000t	++	20	243	565	603	1252	2263	1395
Diamond	th.carats	2	1	19	15	18	81	18	266
Kyanite	'000t	43	27	63	36	20	4	4	9
Sillimanite	'000t	4	8	4	12	14	15	59	3
Limestone	'000t	5270	14755	25079	32441	77185	130912	262882	392034
Magnesite	'000t	119	210	296	463	531	288	224	113

Appendix –II

Table-93

Decennial Mineral Production, 2011-12 to 2021-22

Minerals	Unit	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Fuel Minerals												
Coal	'000t	539950	556400	565765	609179	639230	657868	675400	728718	730874	716083	778210
Lignite	'000t	42332	46500	44271	48270	43842	45230	46644	44282	42096	37895	47492
Natural Gas (ut.)	mc m	47559	40679	35407	33659	32249	31897	32649	32873	31184	28673	34024
Petroleum (crude)	'000t	38090	37862	37788	37462	36942	36009	35684	34203	32170	30494	29691
Metallic Minerals												
Bauxite	t	13599566	16507960	22319148	22493671	28123789	24745487	22786106	23689619	21825227	20380548	22494049
Chromite	t	2923435	2833895	2878320	2164163	2915584	3727780	3480941	3970691	3929260	2830413	3785625
Copper Conc.	t	130456	123654	139307	107604	151837	134787	141988	143668	124586	108718	115313
Copper Ore	t	3479189	3635751	3777772	3505348	3907823	3846427	3678002	4134702	3952472	3272915	3569632
Gold	kg	2194	1588	1564	1441	1323	1595	1650	1672	1742	1127	1407
Gold Ore	t	491562	502831	420429	447278	562956	582280	549683	567291	595511	437669	474994
Iron Ore	'000t	168582	136618	152183	129321	158108	194584	201426	206494	244083	205041	254099
Lead & Zinc Ore	t	8041881	8633411	9281807	9362659	10453038	11881238	12613866	13752295	14479032	15455342	16338564
Lead Concentrates	t	161854	184486	194426	197668	261857	268047	306398	358369	351746	376923	368040
Manganese Ore	t	2411871	2342169	2626291	2369481	2166947	2395134	2599815	2832315	2910186	2703313	2692408
Silver	kg	207144	374046	349774	327647	426443	460811	557691	679386	609340	705796	647156
Tin Concentrates	kg	48765	47774	34862	24685	13541	12121	16758	21212	15530	16865	26301
Zinc Concentrates	t	1414009	1492781	1490662	1489374	1473811	1484244	1539657	1456804	1446824	1513996	1594085
Non-Metallic Minerals												
Apatite	t	3053	572	1300	930	110	-	-	-	-	-	-
Asbestos	t	276	389	172	-	-	-	-	-	-	-	-
Diamond	crt	18490	31988	37517	36107	36044	36491	39699	38437	28816	13917	266
Flint Stone	t	708	633	459	244	253	26	-	-	-	-	-
Fluorite (graded)	t	5010	3092	2487	2946	2333	1175	1314	1079	1315	1052	1237

Decennial Mineral Production (Contd...)

Minerals	Unit	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
Garnet (abrasive)	t	1717904	768248	483559	91394	82001	85413	158277	123404	568	7114	8182
Graphite (r.o.m.)	t	153339	134735	146390	116712	135528	122438	33649	39030	34674	35386	62888
Iolite	kg	-	-	-	-	-	-	-	73	90	16	27
Kyanite	t	4064	1048	3679	6255	2901	3253	7818	4889	3498	4925	9320
Limeshell	t	33225	24044	18750	16353	10353	12344	14765	7534	4600	-	100
Limestone	'000t	262882	285030	280863	293273	307001	314669	340417	379974	359464	349120	392034
Magnesite	t	224104	224315	196940	285009	327663	299149	195055	146875	102554	74661	113497
Marl	t	4140577	4337009	3254486	2179488	2389707	2203700	1969796	1890308	2148854	2216414	1853481
Moulding Sand	t	30	3118	29963	6383	26042	27685	7100	14805	12905	14363	17583
Phosphorite	t	2259726	1941158	1453580	1607215	1571863	1124440	1515645	1421086	1400189	1455829	1394959
Salt(rock)	t	-	-	-	-	-	-	47	17	130	486	286
Selenite	t	13047	7577	531	207	3103	4328	469	2906	2154	402	716
Siliceous Earth	y	-	-	-	-	47386	77270	86662	80237	19367	23823	33898
Sillimanite	t	59206	43736	67265	66273	69942	68131	81638	69919	13221	11110	3432
Sulphur	t	381146	449004	390325	464672	473322	560826	825173	890400	900942	737337	880858
Vermiculite	t	10194	7947	11851	19336	23279	9042	6054	2992	2774	1260	3060
Wollastonite	t	184445	145667	192712	186524	175348	166186	153049	184063	124757	103902	108335