# Indian Minerals Yearbook 2021

## (Part- III : Mineral Reviews)

## 60th Edition

# IRON ORE

## (ADVANCE RELEASE)

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

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# 16 Iron Ore

Iron & steel is the driving force behind industrial development in any country. The vitality of the Iron & Steel Industry largely influences a country's economic status. The mining of iron ore, an essential raw material for Iron & Steel Industry is arguably of prime importance among all mining activities undertaken by any country. With the total resources of over 33.276 billion tonnes of haematite ($Fe_2O_3$) and magnetite ($Fe_3O_4$), India is one of the leading producers of iron ore in the world.

## RESERVES/RESOURCES

Haematite and magnetite are the most important iron ores in India. About 79% haematite ore deposits are found in the Eastern Sector (Assam, Bihar, Chhattisgarh, Jharkhand, Odisha & Uttar Pradesh) while about 93% magnetite ore deposits occur in Southern Sector (Andhra Pradesh, Goa, Karnataka, Kerala & Tamil Nadu). Karnataka alone contributes 72% of magnetite deposit in India. Of these, haematite is considered to be superior because of its higher grade. Indian deposits of haematite belong to the Precambrian Iron Ore Series and the ore is within banded iron ore formations occurring as massive, laminated, friable and also in powdery form.

As per NMI database based on UNFC system, the total reserves/resources of haematite as on 1.4.2020 have been estimated at 24,057 million tonnes of which 6,209 million tonnes (25.80%) are under 'Reserves' category and the balance 17,848 million tonnes (74.20%) are under 'Remaining Resources' category. By grades, Lumps constitute about 45% followed by Lumps with Fines (26%), Fines (13%), and the remaining 15% are Black Iron ore, Beneficiable grade, Others, Unclassified, Not-known and Lumps & fines & blue dust unclassified grade. Major reserves/resources of haematite are located in Odisha (9,409 million tonnes or 39%), Jharkhand (4,710 million tonnes or 20%), Chhattisgarh (4,592 million tonnes or 19%), Karnataka (2,835 million tonnes or 12%) and Goa (1,197 million tonnes or 5%). The balance 5% resources of haematite are spread in Andhra Pradesh, Assam, Bihar, Madhya Pradesh, Maharashtra,Meghalaya, Rajasthan, Telangana and Uttar Pradesh (Table-1).

Magnetite is another principal iron ore that also occurs in the form of oxide,either in igneous or metamorphosed banded magnetite-silica formation. As per NMI database based on UNFC system, the total reserves/resources of magnetite as on 1.4.2020 have been estimated at 11,227 million tonnes of which 'Reserves' constitute a 202 million tonnes while 11,024 million tonnes are placed under 'Remaining Resources'. Classification on the basis of grades shows that 20% resources are of Metallurgical grade while 80% resources belong to grades that are categorised as Unclassified, Not-known and Coal Washery. The resources of others and Foundry grades constitute meagre proportions. India's 96.70% magnetite reserves/resources are located in five States, namely, Karnataka (7,802 million tonnes or 69.50% ) followed by Andhra Pradesh (1,472 million tonnes or 13.10%), Rajasthan (794 million tonnes or 7.10%), Tamil Nadu (528 million tonnes or 4.70%) and Goa (266 million tonnes or 2.30%). Assam, Bihar, Chhattisgarh, Jharkhand, Kerala, Maharashtra, Meghalaya, Nagaland, Odisha and Telangana together account for the remaining 3.30% resources (Table-2).

## EXPLORATION & DEVELOPMENT

The Exploration & Development details, if any, are covered in the Review "Exploration & Development" in Volume-I of Indian Minerals Yearbook titled "General Reviews".

## PRODUCTION

The production of iron ore constituting lumps, fines and concentrates was 204.48 million tonnes in the year 2020-21, showing an decrease of about 16.22% as compared to that in the preceding year. There were 273 reporting mines in 2020-21 as against 271 in the previous year. Out of the total, 41 mines were in the Public Sector and 232 in Private Sector. Besides, production of iron ore was reported as associated mineral by 8 mines in 2020-21 which is same compared to 2019-20. The contribution of Public Sec-

tor to the total production was about 37.19% as against about 29.03% in the preceding year. The remaining 62.81% of the production in 2020-21 was from Private Sector. Among 41 iron ore mines in Public Sector, 19 iron ore mines each producing more than one million tonnes annually accounted for about 96.06% of the total output in Public Sector during 2020-21. Out of 232 iron ore mines and 8 associated mines in Private Sector, 34 iron ore mines each producing more than one million tonnes annually accounted for about 84.31% of the total output of Private Sector during the year. Thus, 53 iron ore mines, each producing more than one million tonnes of iron ore annually, contributed about 88.68% of the total output in 2020-21. The captive mines reported production of 83.01 million tonnes comprising about 40.60% of total production and non-captive mines reported production of 121.46 million tonnes, i.e., about 59.40% during 2020-21.

Gradewise analysis of the current year's output reveals that out of total output of 204.48 million tonnes, iron ore lumps constituted 61.59 million tonnes (i.e., about 30.12%), fines constituted 141.70 million tonnes (i.e., about 69.30%) and concentrates constituted 1.19 million tonnes (i.e., about 0.58%).

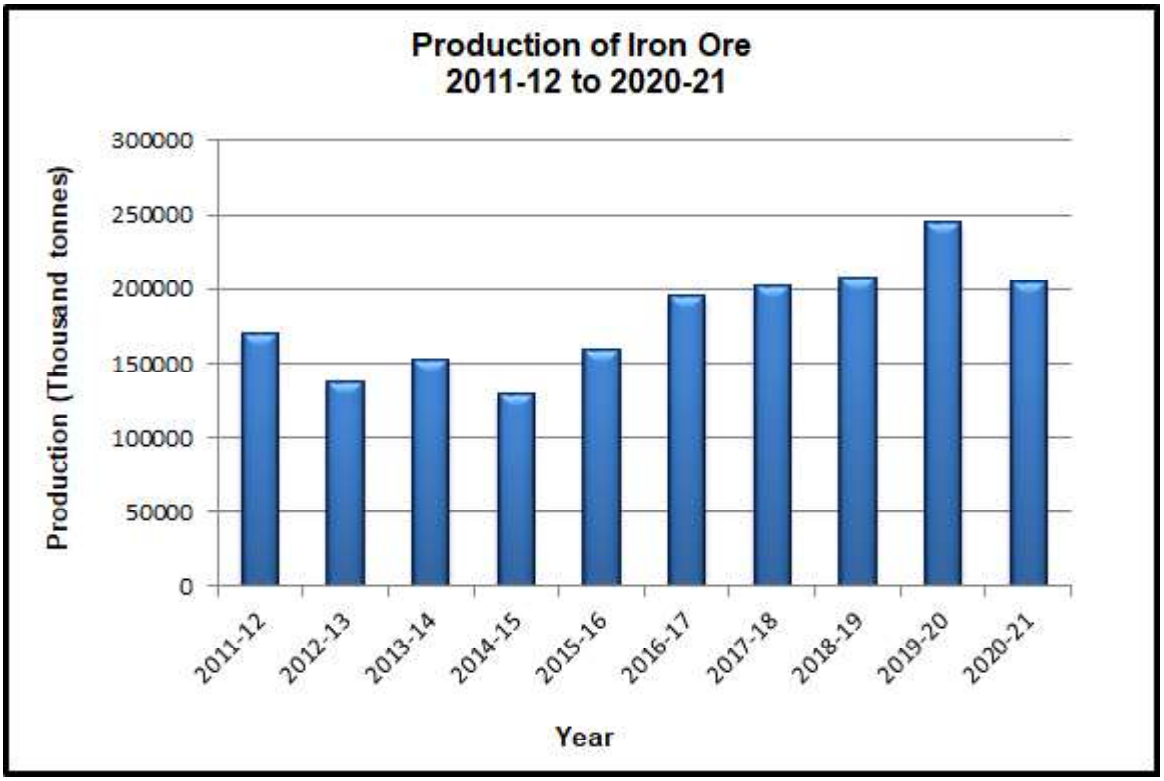
Among the States, Odisha recorded the highest production of 104.63 million tonnes, i.e., about 51.17% of the country's total production in 2020-21. Chhattisgarh was at the second place with a production of 36.98 million tonnes, i.e., about 18.09% of the total production followed by Karnataka with a production of 34.54 million tonnes, i.e., about 16.89% and Jharkhand with 21.43 million tonnes, i.e. about 10.48% of the country's production. The remaining 6.90 million tonnes, i.e., 3.37% production was reported from Andhra Pradesh, Goa, Madhya Pradesh, Maharashtra, Rajasthan and Telangana.

## STOCKS AT MINE-HEAD

The mine-head closing stocks of iron ore for the year 2020-21 were 120.97 million tonnes as compared to 146.71 million tonnes in 2019-20.

## EMPLOYMENT

The average daily employment of labour was 42,742 during 2020-21 as against 45,687 in the preceding year (Tables - 3 to 7).



## Table – 1 : Reserves/Resources of Iron Ore (Haematite) as on 1.4.2020 (P)
## (By Grades/States)

(In '000 tonnes)

| Grade/State | Reserves | | | | Remaining Resources | | | | | | | | Total Resources (A+B) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Proved STD111 | Probable | | Total (A) | Feasibility STD211 | Pre-feasibility | | Measured STD331 | Indicated STD332 | Inferred STD333 | Reconnaissance STD334 | Total (B) | |
| | | STD121 | STD122 | | | STD221 | STD222 | | | | | | |
| **All India : Total** | **4559856** | **508158** | **1141020** | **6209034** | **3181005** | **2404790** | **2005363** | **1010484** | **1805532** | **4827512** | **2614185** | **17848870** | **24057905** |
| **By Grades** | | | | | | | | | | | | | |
| Lump, high grade | 773270 | 7710 | 51205 | 832185 | 457627 | 114235 | 150606 | 40724 | 31400 | 141760 | 3742 | 940095 | 1772279 |
| Lump, medium grade | 1066104 | 59274 | 307207 | 1432585 | 1140155 | 335227 | 594409 | 243736 | 601353 | 1180044 | 93864 | 4188788 | 5621372 |
| Lump, low grade | 594586 | 8710 | 83034 | 686331 | 309262 | 200290 | 67277 | 222298 | 316657 | 1025039 | 247723 | 2388547 | 3074877 |
| Lump, unclassified grade | 194 | - | 16 | 210 | 54880 | 28 | 7782 | 16768 | 31742 | 112248 | 22800 | 246248 | 246459 |
| Fines, high grade | 146830 | - | - | 146830 | 7222 | 1592 | 4849 | 44930 | 8451 | 147 | - | 67192 | 214022 |
| Fines, medium grade | 76699 | 9401 | 61729 | 147829 | 38835 | 235664 | 46988 | 170724 | 268811 | 442248 | 932 | 1204201 | 1352029 |
| Fines, low grade | 122319 | 7765 | 18216 | 148301 | 224999 | 190987 | 98102 | 21053 | 161961 | 505004 | 6212 | 1208318 | 1356619 |
| Fines, unclassified grade | 300 | 190 | - | 490 | 343 | 341 | - | 8734 | 12610 | 78658 | 15200 | 115885 | 116375 |
| Lumps & fines high grade | 244340 | 117770 | 109568 | 471678 | 57490 | 92283 | 44972 | 16730 | 602 | 154257 | 112375 | 478709 | 950387 |
| Lumps & fines medium grade | 675056 | 92861 | 248507 | 1016424 | 175016 | 327566 | 73775 | 92791 | 28418 | 203097 | 240896 | 1141559 | 2157983 |
| Lumps & fines low grade | 494490 | 7347 | 196706 | 698544 | 400738 | 721773 | 660343 | 50884 | 53254 | 459916 | 88688 | 2435597 | 3134141 |
| Lumps & fines unclassified | 120995 | 51430 | 15719 | 188144 | 70934 | 17172 | 24675 | 1061 | 6543 | 29174 | 4101 | 153661 | 341805 |
| Black iron ore | - | - | - | - | 7017 | 3014 | 1355 | - | 1059 | 6661 | - | 19106 | 19106 |
| Beneficiable grade | 98514 | 139886 | 32121 | 270521 | 144495 | 114029 | 164994 | 72012 | 280639 | 242950 | 99318 | 1118438 | 1388959 |
| Others | 20546 | - | 3360 | 23905 | 15825 | 8913 | 16996 | - | 332 | 10774 | 745 | 53585 | 77490 |
| Unclassified | 68922 | 3824 | 13393 | 86138 | 57610 | 19631 | 39663 | 5495 | 1548 | 53912 | 152046 | 329906 | 416044 |
| Not-known | 1330 | - | 239 | 1569 | 621 | 20000 | 2992 | - | 151 | 180168 | 1524850 | 1728782 | 1730351 |
| Lumps & fines & blue dust low grade | - | - | - | - | - | - | 410 | - | - | 1437 | 0 | 1847 | 1847 |
| Lumps & fines & blue dust unclassified grade | 55361 | 1990 | - | 57351 | 17935 | 2046 | 5175 | 2543 | - | 16 | 692 | 28408 | 85759 |

(contd)

Table-1(concld) (In '000 tonnes)

| Grade/State | Reserves | | | | Remaining Resources | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Proved STD111 | Probable | | Total (A) | Feasibility STD211 | Pre-feasibility | | Measured STD331 | Indicated STD332 | Inferred STD333 | Reconnaissance STD334 | Total (B) | Total Resources (A+B) |
| | | STD121 | STD122 | | | STD221 | STD222 | | | | | | |
| **By States** | | | | | | | | | | | | | |
| Andhra Pradesh | 32893 | - | 11851 | 44744 | 42461 | 68382 | 66330 | 377 | 5863 | 144374 | 23085 | 350872 | 395616 |
| Assam | - | - | - | - | - | - | - | - | 8600 | 22290 | - | 30890 | 30890 |
| Bihar | - | - | - | - | - | - | - | - | - | 55 | - | 55 | 55 |
| Chhattisgarh | 1289443 | 99927 | 204363 | 1593732 | 348648 | 17215 | 46166 | 171548 | 552653 | 993652 | 868497 | 2998379 | 4592111 |
| Goa | 96558 | 7666 | 13012 | 117235 | 435300 | 255162 | 182675 | 22126 | 12727 | 166631 | 5701 | 1080322 | 1197557 |
| Jharkhand | 388078 | 16760 | 129839 | 534677 | 324634 | 902980 | 814308 | 101700 | 122673 | 617586 | 1291588 | 4175469 | 4710146 |
| Karnataka | 897256 | 39779 | 106177 | 1043212 | 330334 | 46621 | 84816 | 592180 | 62882 | 504234 | 171714 | 1792781 | 2835992 |
| Madhya Pradesh | 24363 | 11326 | 18440 | 54129 | 30076 | 15080 | 29885 | 12613 | 3993 | 151523 | 59700 | 302870 | 356999 |
| Maharashtra | 9464 | 2124 | 3653 | 15241 | 1672 | 6632 | 9191 | 81116 | 95545 | 59673 | 32474 | 286304 | 301544 |
| Meghalaya | - | - | - | - | - | - | - | - | - | 225 | - | 225 | 225 |
| Odisha | 1817247 | 328296 | 653206 | 2798749 | 1662944 | 1068654 | 770861 | 28824 | 925717 | 2019410 | 134173 | 6610582 | 9409331 |
| Rajasthan | 4555 | 2280 | 479 | 7314 | 3775 | 3962 | 1132 | - | 11510 | 7776 | 13 | 28166 | 35480 |
| Telangana | - | - | - | - | 1162 | 102 | - | - | 3370 | 73754 | 27240 | 105627 | 105627 |
| Uttar Pradesh | - | - | - | - | - | 20000 | - | - | - | 66330 | - | 86330 | 86330 |

*Figures rounded off*

## Table – 2 : Reserves/Resources of Iron Ore (Magnetite) as on 1.4.2020 (P)
## (By Grades/States)

(In '000 tonnes)

| Grade/State | Reserves | | | | Remaining Resources | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Proved STD111 | Probable | | Total (A) | Feasibility STD211 | Pre-feasibility | | Measured STD331 | Indicated STD332 | Inferred STD333 | Reconnaissance STD334 | Total (B) | Total Resources (A+B) |
| | | STD121 | STD122 | | | STD221 | STD222 | | | | | | |
| **All India : Total** | **71930** | **385** | **130508** | **202823** | **307652** | **16082** | **72127** | **1513168** | **2036982** | **6383274** | **695507** | **11024791** | **11227614** |
| **By Grades** | | | | | | | | | | | | | |
| Metallurgical | 231 | 65 | 19 | 315 | 165948 | 24 | 21583 | 690596 | 391192 | 968646 | 255 | 2238244 | 2238559 |
| Coal washery | 35972 | - | 82706 | -118678 | - | 518 | 1981 | 411 | 318 | 41545 | 79596 | 124368 | 243045 |
| Foundry | - | - | - | - | 330 | 125 | - | - | - | 381 | - | 836 | 836 |
| Beneficiable | - | - | - | - | - | - | - | - | 4016 | 23602 | 9180 | 36798 | 36798 |
| Others | 909 | - | 443 | 1351 | 3796 | 985 | 170 | - | - | 1791 | - | 6923 | 8274 |
| Unclassified | 34818 | 320 | 47341 | 82479 | 65421 | 13720 | 48387 | 822161 | 1641456 | 5066985 | 606428 | 8264559 | 8347038 |
| Not-known | - | - | - | - | 71978 | 709 | 6 | - | - | 280324 | 48 | 353064 | 353064 |
| **By States** | | | | | | | | | | | | | |
| Andhra Pradesh | - | - | - | - | 114210 | - | - | 13800 | 1266666 | 68527 | 9180 | 1472383 | 1472383 |
| Assam | - | - | - | - | - | - | - | - | - | 15380 | - | 15380 | 15380 |
| Bihar | - | - | - | - | - | - | - | - | 48850 | 589 | - | 49439 | 49439 |
| Chhattisgarh | 29319 | - | 46557 | 75876 | 12263 | - | 17782 | - | - | - | - | 30045 | 105921 |
| Goa | 4364 | - | 626 | 4990 | 59509 | 14516 | 33512 | - | - | 151811 | 1997 | 261345 | 266336 |
| Jharkhand | - | - | - | - | - | 518 | 1986 | 411 | 3948 | 3722 | 82 | 10667 | 10667 |
| Karnataka | 133 | 185 | - | 318 | 120131 | - | 18375 | 1498957 | 479372 | 5345018 | 340000 | 7801853 | 7802171 |
| Kerala | - | - | - | - | - | - | - | - | 59912 | 23523 | - | 83435 | 83435 |
| Maharashtra | 481 | 65 | 32 | 578 | 329 | 24 | 267 | - | - | 590 | - | 1210 | 1788 |
| Meghalaya | - | - | - | - | - | - | - | - | - | 3380 | - | 3380 | 3380 |
| Nagaland | - | - | - | - | - | - | - | - | 5280 | - | - | 5280 | 5280 |
| Odisha | - | - | - | - | 79 | - | 120 | - | - | 43 | - | 242 | 242 |
| Rajasthan | 376631 | 136 | 83294 | 121060 | 1131 | 1023 | 85 | - | 3566 | 588463 | 79595 | 673866 | 794926 |
| Tamil Nadu | - | - | - | - | - | - | - | - | 169388 | 110728 | 248785 | 528901 | 528901 |
| Telangana | - | - | - | - | - | - | - | - | - | 71500 | 15866 | 87366 | 87366 |

*Figures rounded off*

**Table - 3 :Principal Producers of Iron ore 2020-21**

| Name & address of producer | Location of mine | |
|---|---|---|
| | State | District |
| National Mineral Development Corporation Ltd 10-3-311/A, Khanij Bhavan, Castle Hills, Masab Tank, Hyderabad –500 028 | Chhattisgarh<br>Karnataka | Dantewada<br>Ballari |
| Steel Authority of India Ltd Ispat Bhavan, Lodhi Road, New Delhi – 110 003 | Chhattisgarh<br>Jharkhand<br>Odisha | Durg<br>Singhbhum (West)<br>Keonjhar, Sundargarh |
| Tata Steel Ltd, Bombay House, 24, Homi Mody Street, Fort, Mumbai – 440 001, Maharashtra | Jharkhand<br>Odisha | Singhbhum (West)<br>Keonjhar |
| JSW Steel Ltd, Jsw Centre Bandra Kurla Complex, Bandra (East) - Mumbai-400 051, Maharashtra | Karnataka | Ballari |
| Rungta Sons (P) Ltd, 8A Express Tower, 42 A-Shakespeare Sarani, Kolkata – 700 017, West Bengal | Jharkhand<br>Odisha | Singhbhum (West)<br>Keonjhar |
| Odisha Mining Corporation Ltd, OMC House, Unit-5, P.B. No.34 Distt Khurda, Bhubaneswar-751 001, Odisha | Odisha | Keonjhar<br>Sundargarh |
| Sarda Mines (P) Ltd, Room No. 64, 6th Floor, Circular Court,8-AJC Bose Road, Kolkata- 700 017, West Bengal | Odisha | Keonjhar |
| Essel Mining & Industries Ltd Industry House, 18th Floor, 10 Camac street, Kolkata-700 017 West Bengal. | Odisha | Sundargarh<br>Keonjhar |

**(contd)**

Table - 3 (Concld)

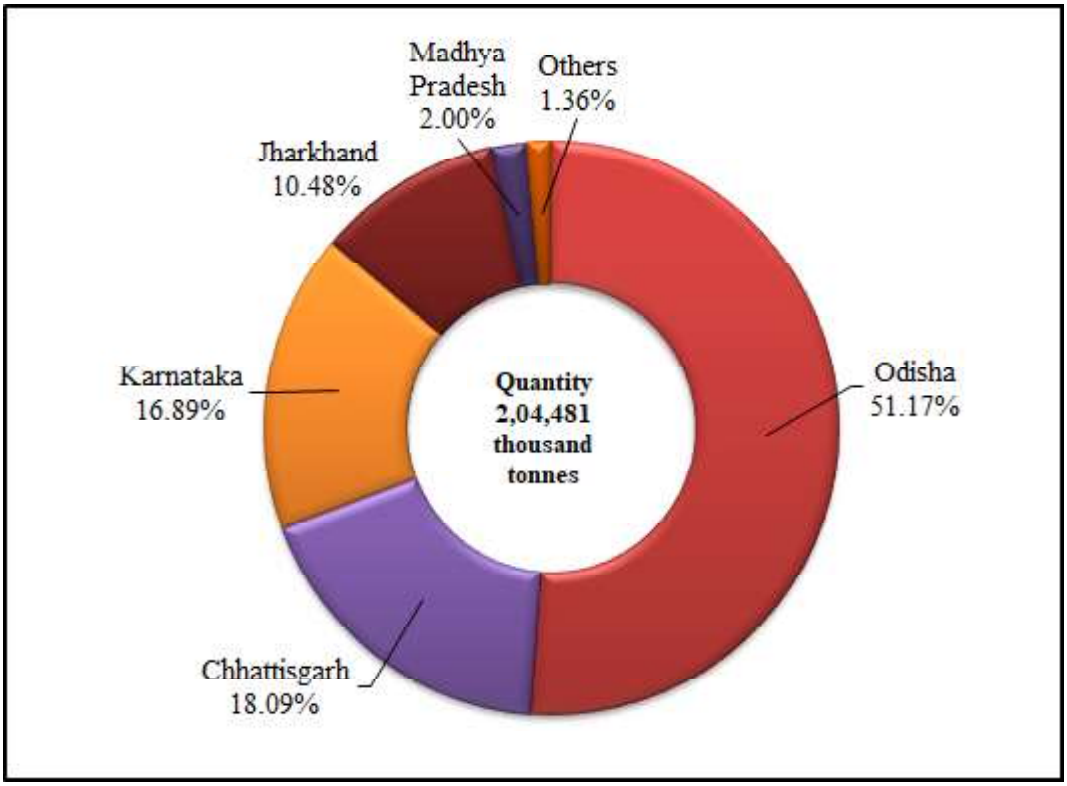
| Name & address of producer | Location of mine | |
|---|---|---|
| | State | District |
| Vedanta Ltd Sesa Ghor, EDC complex, Patto, Panaji, Tisavadi-403 001 Goa | Karnataka | Chitradurga |
| ArcelorMittal India Pvt. Ltd office No.126 101-104,GCP Business Centre Opp. Memnagar Fire Station, Vijay Cross Road, Memnagar, Ahmedabad-380014 Gujarat | Odisha | Keonjhar |
| Indrani Patnaik, A/6, Commercial Estate, Civil Township, Rourkela - 769 004 Odisha | Odisha | Keonjhar |
| Mysore Minerals Limited, A Block, 5th floor, Santhinagar, Bangaluru – 560 027, Karnataka | Karnataka | Ballari |
| Jindal Steel & Power Ltd O.P. Jindal Marg, Delhi Road, Hissar - 125 005 Haryana | Odisha | Sundargarh |
| Serajuddin & Co, P-16, Bentink Street, Kolkata- 700069 West Bengal | Odisha | Keonjhar |
| Sri Kumaraswamy Minerals Exporters, NO. 24, 2nd Link Road, Parvathi Nagar, Ballari- 583102, Karnataka | Karnataka | Ballari |

## Table – 4 : Production of Iron Ore, 2018-19 to 2020-21
## (By States)

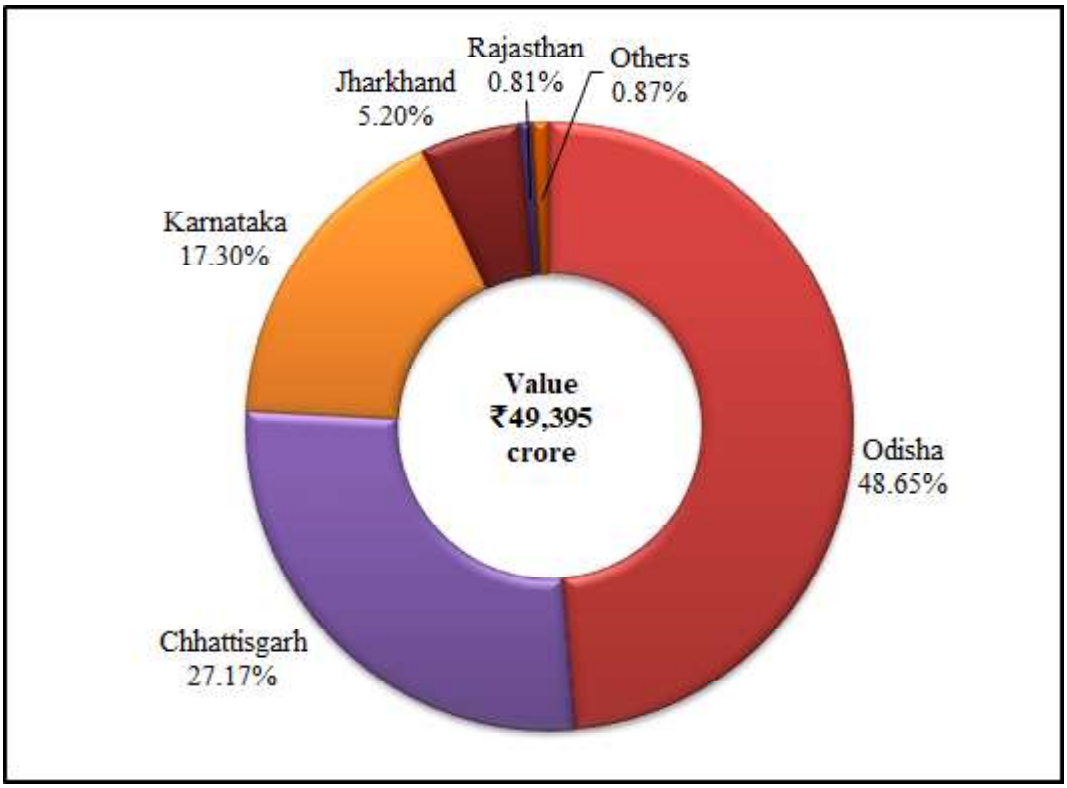
(Quantity in '000 tonnes; Value in ₹'000)

| States | | 2018-19 | | 2019-20 | | 2020-21 (P) | |
|---|---|---|---|---|---|---|---|
| | | Quantity | Value | Quantity | Value | Quantity | Value |
| **India** | **Total** | **206494** | **453465829** | **244083** | **496430578** | **204481** | **493959913** |
| | Lumps | 66679 | 192771883 | 76012 | 195781171 | 61590 | 189609204 |
| | Fines | 138355 | 255838795 | 166889 | 296322689 | 141701 | 299980089 |
| | Concentrates | 1460 | 4855151 | 1182 | 4326718 | 1190 | 4370620 |
| **Andhra Pradesh** | **Total** | **654** | **402616** | **825** | **613393** | **360** | **275300** |
| | Lumps | 362 | 269587 | 508 | 424030 | 219 | 193085 |
| | Fines | 292 | 133029 | 317 | 189363 | 141 | 82215 |
| **Chhattisgarh** | **Total** | **34893** | **96985465** | **34728** | **99153323** | **36989** | **134222836** |
| | Lumps | 11657 | 34056295 | 12191 | 38230890 | 12686 | 52484987 |
| | Fines | 23236 | 62929170 | 22537 | 60922433 | 24303 | 81737849 |
| **Goa** | **Total** | **-** | **-** | **-** | **-** | **94** | **181419** |
| | Lumps | **-** | **-** | **-** | **-** | **31** | 60320 |
| | Fines | **-** | **-** | **-** | **-** | **63** | 121099 |
| | Concentrates | **-** | **-** | **-** | **-** | **-** | - |
| **Jharkhand** | **Total** | **23433** | **27673520** | **25015** | **29411760** | **21434** | **25694610** |
| | Lumps | 6272 | 8506371 | 6954 | 9627055 | 4827 | 6689282 |
| | Fines | 17161 | 19167149 | 18061 | 19784705 | 16607 | 19005328 |
| **Karnataka** | **Total** | **29823** | **71114250** | **31392** | **67326043** | **34542** | **85430466** |
| | Lumps | 9175 | 27209485 | 3248 | 25077852 | 10137 | 32995840 |
| | Fines | 20648 | 43904765 | 22144 | 42248191 | 24405 | 52434626 |
| **Madhya Pradesh** | **Total** | **2802** | **1448203** | **3343** | **1729068** | **4094** | **2165967** |
| | Lumps | 535 | 272805 | 1467 | 687760 | 859 | 470699 |
| | Fines | 2267 | 1175398 | 1876 | 1041308 | 3235 | 1695268 |
| | Concentrates | - | - | - | - | - | - |
| **Maharashtra** | **Total** | **660** | **936022** | **1131** | **1340244** | **1249** | **1680086** |
| | Lumps | 283 | 447395 | 93 | 197711 | 113 | 268184 |
| | Fines | 377 | 388627 | 1038 | 1142533 | 1136 | 1411902 |
| **Odisha** | **Total** | **113119** | **251111210** | **146637** | **293179734** | **104631** | **240326857** |
| | Lumps | 38238 | 121963240 | 45363 | 121484813 | 32661 | 96411951 |
| | Fines | 74374 | 128140568 | 100916 | 170994093 | 71810 | 143490894 |
| | Concentrates | 507 | 1007402 | 358 | 700828 | 160 | 424012 |
| **Rajasthan** | **Total** | **1108** | **3893253** | **1012** | **3677013** | **1088** | **3982372** |
| | Lumps | 155 | 45415 | 188 | 51060 | 57 | 34856 |
| | Fines | ++ | 89 | ++ | 63 | 1 | 908 |
| | Concentrates | 953 | 3847749 | 824 | 3625890 | 1030 | 3946608 |
| **Telangana** | **Total** | **2** | **1290** | **-** | **-** | **-** | **-** |
| | Lumps | 2 | 1290 | - | - | - | - |
| | Fines | - | - | - | - | - | - |

## Quantity of Iron Ore Production in Different States, 2020-21




## Value of Iron Ore Production in different States, 2020-21



## Table – 5 (A) : Production of Iron Ore, 2020-21
## (By Sectors/States/Districts/Grades)

(Quantity in '000 tonnes; Value in ₹'000)

| Sector/ State/ District | No. of mines | Lumps | | | | | | | | Fines | | | | | | | | Concentrates | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Below 55% Fe | 55%- below 58% Fe | 58%- below 60% Fe | 60%- below 62% Fe | 62%- below 65% Fe | 65% Fe & above | Total Qty | Total Value | Below 55% Fe | 55%- below 58% Fe | 58%- below 60% Fe | 60%- below 62% Fe | 62%- below 65% Fe | 65% Fe & above | Total Qty | Total Value | Qty | Value | Qty | Value |
| **India** | **273(8)** | **3463** | **1942** | **6023** | **9300** | **24759** | **16103** | **61590** | **189609204** | **11150** | **17891** | **12857** | **30194** | **48947** | **20662** | **141701** | **299980089** | **1190** | **4370620** | **204481** | **493959913** |
| Public Sector | 41 | 82 | 153 | 327 | 3271 | 13712 | 9089 | 26634 | 95933571 | 209 | 1114 | 1769 | 17115 | 22599 | 6618 | 49424 | 126244809 | - | - | 76058 | 222178380 |
| Private Sector | 232(8) | 3381 | 1789 | 5696 | 6029 | 11047 | 7014 | 34956 | 93675633 | 10941 | 16777 | 11088 | 13079 | 26348 | 14044 | 92277 | 173735280 | 1190 | 4370620 | 128423 | 271781533 |
| **Andhra Pradesh** | **12** | **219** | **-** | **-** | **-** | **-** | **-** | **219** | **193085** | **141** | **-** | **-** | **-** | **-** | **-** | **141** | **82215** | **-** | **-** | **360** | **275300** |
| Anantapur | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cuddapah | 3 | 213 | - | - | - | - | - | 213 | 188342 | 140 | - | - | - | - | - | 140 | 81309 | - | - | 353 | 269651 |
| Krishna | 1 | - | - | - | - | - | - | - | - | ++ | - | - | - | - | - | ++ | 35 | - | - | ++ | 35 |
| Kurnool | 7 | 6 | - | - | - | - | - | 6 | 4743 | 1 | - | - | - | - | - | 1 | 871 | - | - | 7 | 5614 |
| Nellore | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Prakasam | 1* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Chhattisgarh** | **21** | **185** | **378** | **133** | **707** | **2581** | **8702** | **12686** | **52484987** | **745** | **650** | **717** | **3844** | **11445** | **6902** | **24303** | **81737849** | **-** | **-** | **36989** | **134222836** |
| Dantewara | 7 | - | - | - | 4 | 21 | 8667 | 8692 | 47829092 | - | 20 | 119 | 1124 | 9783 | 6112 | 17158 | 72239497 | - | - | 25850 | 120068589 |
| Durg | 4 | 29 | 61 | 62 | 565 | 2501 | 34 | 3252 | 3720617 | 23 | 35 | - | 2115 | 1515 | 104 | 3792 | 4352844 | - | - | 7044 | 8073461 |
| Kanker | 6 | 96 | 252 | 53 | 136 | 59 | 1 | 597 | 707211 | 697 | 530 | 576 | 599 | 147 | 686 | 3235 | 4955976 | - | - | 3832 | 5663187 |
| Narayanpur | 2 | - | - | ++ | - | - | - | ++ | 74 | - | ++ | - | - | - | - | ++ | 130 | - | - | ++ | 204 |
| Rajnandgaon | 2 | 60 | 65 | 18 | 2 | - | - | 145 | 227993 | 25 | 65 | 22 | 6 | - | - | 118 | 189402 | - | - | 263 | 417395 |
| **Goa** | **38** | **14** | **17** | **-** | **-** | **-** | **-** | **31** | **60320** | **35** | **28** | **-** | **-** | **-** | **-** | **63** | **121099** | **-** | **-** | **94** | **181419** |
| North Goa | 13 | 9 | - | - | - | - | - | 9 | 3824 | 20 | - | - | - | - | - | 20 | 8217 | - | - | 29 | 12041 |
| South Goa | 25 | 5 | 17 | - | - | - | - | 22 | 56496 | 15 | 28 | - | - | - | - | 43 | 112882 | - | - | 65 | 169378 |
| **Jharkhand** | **16** | **7** | **5** | **466** | **1560** | **2109** | **680** | **4827** | **6689282** | **106** | **503** | **652** | **5798** | **6888** | **2660** | **16607** | **19005328** | **-** | **-** | **21434** | **25694610** |
| Singhbhum (West) | 16 | 7 | 5 | 466 | 1560 | 2109 | 680 | 4827 | 6689282 | 106 | 503 | 652 | 5798 | 6888 | 2660 | 16607 | 19005328 | - | - | 21434 | 25694610 |
| **Karnataka** | **65** | **1391** | **924** | **1708** | **1466** | **4337** | **311** | **10137** | **32995840** | **3292** | **5023** | **6452** | **3254** | **5677** | **707** | **24405** | **52434626** | **-** | **-** | **34542** | **85430466** |
| Bagalkot | 3* | 99 | - | - | - | - | - | 99 | 260960 | 16 | - | - | - | - | - | 16 | 1504 | - | - | 115 | 276264 |
| Ballari | 56 | 1202 | 800 | 1076 | 1149 | 4086 | 311 | 8624 | 27968696 | 2912 | 2666 | 3493 | 3254 | 5677 | 707 | 18709 | 42839305 | - | - | 27333 | 70808001 |
| Chitradurga | 6 | 90 | 124 | 632 | 317 | 251 | - | 1414 | 4766184 | 364 | 2357 | 2959 | - | - | - | 5680 | 9580017 | - | - | 7094 | 14346201 |
| Tumakuru | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

(contd)

Table - 5 (A) : (concld)

| Sector/ State/ District | No. of mines | Lumps | | | | | | | | Fines | | | | | | | | Concentrates | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Below 55% Fe | 55%- below 58% Fe | 58%- below 60% Fe | 60%- below 62% Fe | 62%- below 65% Fe | 65% Fe & above | Total Qty | Total Value | Below 55% Fe | 55%- below 58% Fe | 58%- below 60% Fe | 60%- below 62% Fe | 62%- below 65% Fe | 65% Fe & above | Total Qty | Total Value | Qty | Value | Qty | Value |
| **Madhya Pradesh** | **21(7)** | **841** | **18** | **-** | **-** | **-** | **-** | **859** | **470699** | **3125** | **110** | **-** | **-** | **-** | **-** | **3235** | **1695268** | **-** | **-** | **4094** | **2165967** |
| Balaghat | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Chhatarpur | 1 | 61 | 15 | - | - | - | - | 76 | 36690 | 18 | - | - | - | - | - | 18 | 8533 | - | - | 94 | 45223 |
| Gwalior | 1 | - | - | - | - | - | - | - | - | 232 | - | - | - | - | - | 232 | 92969 | - | - | 232 | 92969 |
| Jabalpur | 18 (7) | 772 | - | - | - | - | - | 772 | 422174 | 2864 | 110 | 1 | - | - | - | 2974 | 1583594 | - | - | 3746 | 2005768 |
| Sagar | 1 | 8 | 3 | - | - | - | - | 11 | 11835 | 11 | - | - | - | - | - | 11 | 10172 | - | - | 22 | 22007 |
| **Maharashtra** | **11** | **52** | **17** | **44** | **-** | **-** | **-** | **113** | **268184** | **808** | **91** | **237** | **-** | **-** | **-** | **1136** | **1411902** | **-** | **-** | **1249** | **1680086** |
| Chandrapur | 1 | - | - | 5 | - | - | - | 5 | 15226 | 17 | 2 | 3 | - | - | - | 22 | 26534 | - | - | 27 | 41760 |
| Gadchiroli | 1* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Gondia | 3 | 10 | - | - | - | - | - | 10 | 18907 | 12 | - | - | - | - | - | 12 | 6264 | - | - | 22 | 25171 |
| Sindhudurg | 6 | 42 | 17 | 39 | - | - | - | 98 | 234051 | 779 | 89 | 234 | - | - | - | 1102 | 1379104 | - | - | 1200 | 1613155 |
| **Odisha** | **80(1)** | **700** | **580** | **3672** | **5567** | **15732** | **6410** | **32661** | **96411951** | **2897** | **11486** | **4799** | **17298** | **24937** | **10393** | **71810** | **143490894** | **160** | **424012** | **104631** | **240326857** |
| Keonjhar | 47 | 459 | 207 | 1606 | 2135 | 9713 | 6103 | 20223 | 49907355 | 909 | 3458 | 3828 | 11956 | 14603 | 10390 | 45144 | 76852565 | - | - | 65367 | 126759920 |
| Mayurbhanj | 5 | 40 | 29 | 193 | - | 64 | 3 | 329 | 1117161 | 290 | 9 | - | 1 | 28 | - | 328 | 325282 | - | - | 657 | 1442443 |
| Sundargarh | 28 (1) | 201 | 344 | 1873 | 3432 | 5955 | 304 | 12109 | 45387435 | 1698 | 8019 | 971 | 5341 | 10306 | 3 | 26338 | 66313047 | 160 | 424012 | 38607 | 112124494 |
| **Rajasthan** | **9** | **54** | **3** | **-** | **-** | **-** | **-** | **57** | **34856** | **1** | **-** | **-** | **-** | **-** | **-** | **1** | **908** | **1030** | **3946608** | **1088** | **3982372** |
| Bhilwara | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 1030 | 3546608 | 1030 | 3946608 |
| Jaipur | 3 | 9 | - | - | - | - | - | 9 | 2764 | - | - | - | - | - | - | - | - | - | - | 9 | 2764 |
| Jhunjhunu | 1 | 11 | - | - | - | - | - | 11 | 5603 | - | - | - | - | - | - | - | - | - | - | 11 | 5603 |
| Karauli | 1* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sikar | 2 | 34 | 3 | - | - | - | - | 37 | 26489 | 1 | - | - | - | - | - | 1 | 908 | - | - | 38 | 27397 |
| **Telangana** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| Khammam | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

++ *Negligible,* Only labour reported, ( ) : No. of mines reported as associated mineral.*

## Table – 5 (B) : Production of Iron Ore, 2019-20 (P)
## (By Sectors/States/Districts/Grades)

(Quantity in '000 tonnes; Value in ₹'000)

| Sector/ State/ District | No. of mines | Lumps | | | | | | | | Fines | | | | | | | | Concentrates | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Below 55% Fe | 55%-below 58% Fe | 58%-below 60% Fe | 60%-below 62% Fe | 62%-below 65% Fe | 65% Fe & above | Total Qty | Total Value | Below 55% Fe | 55%-below 58% Fe | 58%-below 60% Fe | 60%-below 62% Fe | 62%-below 65% Fe | 65% Fe & above | Total Qty | Total Value | Qty | Value | Qty | Value |
| **India** | **271(8)** | **3542** | **2999** | **5207** | **10512** | **35077** | **18675** | **76012** | **195781171** | **7793** | **15182** | **10963** | **28343** | **85948** | **18660** | **166889** | **296322689** | **1182** | **4326718** | **244083** | **496430578** |
| Public Sector | 38 | 116 | 11 | 388 | 2614 | 13405 | 9600 | 26134 | 68068589 | 310 | 798 | 1428 | 11254 | 23828 | 7127 | 44745 | 89823999 | - | - | 70879 | 157892588 |
| Private Sector | 233(8) | 3426 | 2988 | 4819 | 7898 | 21672 | 9075 | 49878 | 127712582 | 7483 | 14384 | 9535 | 17089 | 62120 | 11533 | 122144 | 206498690 | 11824 | 326718 | 173204 | **338537990** |
| **Andhra Pradesh** | **18** | **507** | **1** | **-** | **-** | **-** | **-** | **508** | **424030** | **317** | **-** | **-** | **-** | **-** | **-** | **317** | **189363** | **-** | **-** | **825** | **613393** |
| Anantapur | 1* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cuddapah | 3 | 408 | 1 | - | - | - | - | 409 | 337741 | 287 | - | - | - | - | - | 287 | 172233 | - | - | 696 | 509974 |
| Krishna | 1 | - | - | - | - | - | - | - | - | ++ | - | - | - | - | - | ++ | 225 | - | - | ++ | 225 |
| Kurnool | 12 | 99 | - | - | - | - | - | 99 | 86289 | 30 | - | - | - | - | - | 30 | 16905 | - | - | 129 | 103194 |
| Nellore | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Prakasam | 1* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Chhattisgarh** | **20** | **192** | **287** | **126** | **582** | **2539** | **8465** | **12191** | **38230890** | **965** | **427** | **626** | **3387** | **9515** | **7617** | **22537** | **60922433** | **-** | **-** | **34728** | **99153323** |
| Dantewada | 7 | - | - | 36 | - | 178 | 8255 | 8469 | 34049959 | 7 | 28 | 137 | 876 | 8147 | 6709 | 15904 | 52368234 | - | - | 24373 | 86418193 |
| Durg | 4 | 46 | - | 8 | 414 | 2278 | 209 | 2955 | 3262200 | 51 | - | - | 2040 | 1368 | 229 | 3688 | 4058844 | - | - | 6643 | 7321044 |
| Kanker | 6 | 28 | 207 | 66 | 165 | 83 | 1 | 550 | 563152 | 439 | 338 | 469 | 468 | - | 679 | 2393 | 3410313 | - | - | 2943 | 3973465 |
| Narayanpur | 1* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Rajnandgaon | 2 | 118 | 80 | 16 | 3 | - | - | 217 | 355579 | 468 | 61 | 20 | 3 | - | - | 552 | 1085042 | - | - | 769 | 1440621 |
| **Goa** | **45** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** | **-** |
| North Goa | 14* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| South Goa | 31* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Jharkhand** | **21** | **67** | **360** | **616** | **1273** | **3295** | **1343** | **6954** | **9627055** | **181** | **853** | **807** | **2848** | **12477** | **895** | **18061** | **19784705** | **-** | **-** | **25015** | **29411760** |
| Singhbhum(West) | 21 | 67 | 360 | 616 | 1273 | 3295 | 1343 | 6954 | 9627055 | 181 | 853 | 807 | 2848 | 12477 | 895 | 18061 | 19784705 | - | - | 25015 | 29411760 |
| **Karnataka** | **61** | **700** | **1670** | **1174** | **1782** | **3575** | **347** | **9248** | **25077850** | **2283** | **3623** | **6560** | **1851** | **7208** | **619** | **22144** | **42248191** | **-** | **-** | **31392** | **67326043** |
| Bagalkot | 3 | 209 | 1 | - | - | - | - | 210 | 410700 | 64 | - | - | - | - | - | 64 | 75550 | - | - | 274 | 486250 |
| Ballari | 50 | 432 | 1295 | 1040 | 1161 | 3171 | 347 | 7446 | 20298987 | 1569 | 3484 | 2559 | 1851 | 7204 | 619 | 17286 | 35132646 | - | - | 24732 | 55431633 |
| Chitradurga | 7 | 59 | 374 | 134 | 621 | 404 | - | 1592 | 4368135 | 650 | 139 | 4001 | - | 4 | - | 4794 | 7039995 | - | - | 6386 | 11408160 |
| Tumakuru | 1* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

(contd)

Table - 5 (B) : ( concld)

| Sector/ State/ District | No. of mines | Lumps | | | | | | | | Fines | | | | | | | | Concentrates | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Below 55% Fe | 55%- below 58% Fe | 58%- below 60% Fe | 60%- below 62% Fe | 62%- below 65% Fe | 65% Fe & above | Total Qty | Total Value | Below 55% Fe | 55%- below 58% Fe | 58%- below 60% Fe | 60%- below 62% Fe | 62%- below 65% Fe | 65% Fe & above | Total Qty | Total Value | Qty | Value | Qty | Value |
| **Madhya Pradesh** | **19 (7)** | **1464** | **2** | **1** | **-** | **-** | **-** | **1467** | **687760** | **1876** | **-** | **-** | **-** | **-** | **-** | **1876** | **1041308** | **-** | **-** | **3343** | **1729068** |
| Chhatarpur | 1 | 96 | 1 | - | - | - | - | 97 | 43683 | 11 | - | - | - | - | - | 11 | 4898 | - | - | 108 | 49138 |
| Jabalpur | 16 (7) | 1363 | - | - | - | - | - | 1363 | 629073 | 1791 | - | - | - | - | - | 1791 | 1006740 | - | - | 3154 | 1635813 |
| Gwalior | 1 | - | - | - | - | - | - | - | - | 74 | - | - | - | - | - | 74 | 29670 | - | - | 74 | 29670 |
| Sagar | 1 | 5 | 1 | 1 | - | - | - | 7 | 15378 | - | - | - | - | - | - | - | - | - | - | 7 | 15378 |
| **Maharashtra** | **13** | **42** | **-** | **39** | **12** | **-** | **-** | **93** | **197711** | **598** | **118** | **322** | **-** | **-** | **-** | **1038** | **1142533** | **-** | **-** | **1131** | **1340244** |
| Chandrapur | 2* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Gadchiroli | 2 | 1 | - | - | - | - | - | 1 | 54874 | - | - | - | - | - | - | - | - | - | - | 1 | 54874 |
| Gondia | 3 | 8 | - | - | - | - | - | 8 | 15933 | 4 | - | - | - | - | - | 4 | 2274 | - | - | 12 | 18207 |
| Kolhapur | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sindhudurg | 6 | 33 | - | 39 | 12 | - | - | 84 | 126904 | 594 | 118 | 322 | - | - | - | 1034 | 1140259 | - | - | 1118 | 1267163 |
| **Odisha** | **64 (1)** | **382** | **679** | **3251** | **6863** | **25668** | **8520** | **45363** | **121484813** | **1573** | **10161** | **2648** | **20257** | **56748** | **952** | **91009** | **16** | **170994093** | **358** | **700828** | **146637** | **293179734** |
| Keonjhar | 37 | 17 | 96 | 922 | 1190 | 19436 | 7840 | 29501 | 78211229 | 818 | 7552 | 383 | 12887 | 40371 | 9493 | 71504 | 125045486 | - | - | 101005 | 203256715 |
| Mayurbhanj | 2 | 42 | 206 | 1204 | - | 303 | 266 | 2021 | 6011631 | 23 | 195 | 55 | 134 | 9 | 9 | 425 | 484139 | - | - | 2446 | 6495770 |
| Sundargarh | 25 (1) | 324 | 377 | 1125 | 5673 | 5929 | 414 | 13841 | 37261953 | 732 | 2414 | 2210 | 7236 | 16368 | 27 | 28987 | 45464468 | 358 | 700828 | 43186 | 83427249 |
| **Rajasthan** | **10** | **188** | **-** | **-** | **-** | **-** | **-** | **188** | **51060** | **++** | **-** | **-** | **-** | **-** | **-** | **++** | **63** | **824** | **3625890** | **1012** | **3677013** |
| Bhilwara | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 824 | 3625890 | 824 | 3625890 |
| Jaipur | 3 | 148 | - | - | - | - | - | 148 | 38416 | - | - | - | - | - | - | - | - | - | - | 148 | 38416 |
| Jhunjhunu | 2 | - | - | - | - | - | - | - | 25 | - | - | - | - | - | - | - | - | - | - | ++ | 25 |
| Karauli | 1* | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Sikar | 2 | 40 | ++ | - | - | - | - | 40 | 12619 | ++ | - | - | - | - | - | ++ | 63 | - | - | 40 | 12682 |
| Telangana | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Khammam | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Warangal | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

*++ Negligible,* Only labour reported, ( ) : No. of mines reported as associated mineral.*

**Table – 6 : Production of Iron Ore, 2019-20 and 2020-21**
**(By Frequency Groups)**

| Production Group (In tonnes) | No. of mines | | Production (In '000 tonnes) | | Percentage in total production | | Cumulative percentage | |
|---|---|---|---|---|---|---|---|---|
| | 2019-20 | 2020-21 (P) | 2019-20 | 2020-21 (P) | 2019-20 | 2020-21 (P) | 2019-20 | 2020-21 (P) |
| **Total** | **271(8)** | **273 (8)** | **244083** | **204481** | **100.00** | **100.00** | - | - |
| Up to 50,000 | 144 (6) | 152 (6) | 582 | 808 | 0.24 | 0.40 | 0.24 | 0.40 |
| 50,001 –100,000 | 16 | 9 | 1268 | 706 | 0.52 | 0.35 | 0.76 | 0.75 |
| 100,001 –500,000 | 39 (2) | 45 (2) | 11037 | 11587 | 4.52 | 5.67 | 5.28 | 6.42 |
| 5,00,001 –10,00,000 | 17 | 14 | 13313 | 10040 | 5.45 | 4.91 | 10.73 | 11.33 |
| 1,000,001–1,500,000 | 12 | 15 | 14512 | 18492 | 5.95 | 9.04 | 16.68 | 20.37 |
| 15,00,001 –20,00,000 | 9 | 4 | 15622 | 6887 | 6.40 | 3.37 | 23.08 | 23.73 |
| 20,00,001 and above | 34 | 34 | 187749 | 155961 | 76.92 | 76.27 | 100 | 100 |

( ) : *No. of mines reported as associated mineral*

## Table –7 (A) : Mine-head Closing Stocks of Iron Ore, 2019-20
## (By States/Grades)

(In '000 tonnes)

| State | Lumps | | | | | | | Fines | | | | | | | Concentrates | Total Lumps, Fines & Concentrates |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Below 55% Fe | 55%-below 58% Fe | 58%-below 60% Fe | 60%-below 62% Fe | 62%-below 65% Fe | 65% Fe & above | Total | Below 55% Fe | 55%-below 58% Fe | 58%-below 60% Fe | 60%-below 62% Fe | 62%-below 65% Fe | 65% Fe & above | Total | Total | |
| **India** | **8408** | **1899** | **2186** | **2713** | **9071** | **2455** | **26732** | **28968** | **49131** | **6055** | **45004** | **16727** | **3691** | **119576** | **410** | **146718** |
| Andhra Pradesh | 474 | 9 | - | ++ | - | - | 483 | 1089 | - | - | 1 | - | - | 1090 | - | 1573 |
| Chhattisgarh | 32 | 27 | 82 | 10 | 172 | 615 | 938 | 233 | 117 | 6 | 296 | 788 | 1050 | 2490 | - | 3428 |
| Goa | 357 | 211 | 11 | ++ | 1 | - | 580 | 402 | 207 | 10 | 14 | ++ | - | 633 | 21 | 1234 |
| Jharkhand | 368 | 576 | 136 | 224 | 278 | 256 | 1838 | 1359 | 36544 | 603 | 838 | 1880 | 241 | 41465 | - | 43303 |
| Karnataka | 4397 | 315 | 307 | 562 | 763 | 83 | 6427 | 2336 | 682 | 901 | 399 | 1008 | 45 | 5369 | - | 11796 |
| Madhya Pradesh | 1044 | 40 | 10 | 17 | - | - | 1075 | 2939 | - | 5 | - | - | - | 2944 | ++ | 4019 |
| Maharashtra | 66 | 11 | ++ | 1 | ++ | - | 78 | 333 | 84 | 10 | - | - | - | 427 | - | 505 |
| Odisha | 1484 | 746 | 1640 | 1899 | 7857 | 1501 | 15127 | 20265 | 11499 | 4520 | 13456 | 13051 | 2355 | 65146 | 367 | 80640 |
| Rajasthan | 185 | ++ | - | - | - | - | 185 | 12 | - | - | - | - | - | 12 | 22 | 219 |
| Telangana | 1 | - | - | - | - | - | 1 | - | - | - | - | - | - | - | - | 1 |

++ *Negligible*

## Table – 7 (B) : Mine-head Closing Stocks of Iron Ore, 2020-21 (P)
## (By States/Grades)

(In '000 tonnes)

| State | Lumps | | | | | | | Fines | | | | | | | Concentrates | Total Lumps, Fines & Concentrates |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Below 55% Fe | 55%-below 58% Fe | 58%-below 60% Fe | 60%-below 62% Fe | 62%-below 65% Fe | 65%-Fe & above | Total | Below 55% Fe | 55%-below 58% Fe | 58%-below 60% Fe | 60%-below 62% Fe | 62%-below 65% Fe | 65% Fe & above | Total | Total | |
| India | 7509 | 1229 | 2496 | 2480 | 6038 | 2164 | 21916 | 21510 | 45155 | 5978 | 10915 | 12509 | 2683 | 98750 | 312 | 120978 |
| Andhra Pradesh | 486 | 6 | - | ++ | - | - | 492 | 1103 | - | - | 1 | - | - | 1104 | - | 1596 |
| Chhattisgarh | 54 | 33 | 18 | 7 | 73 | 544 | 729 | 193 | 65 | 13 | 715 | 1099 | 967 | 3052 | - | 3781 |
| Goa | 27 | 148 | 11 | ++ | 1 | - | 187 | 221 | 62 | ++ | ++ | ++ | - | 283 | 5 | 475 |
| Jharkhand | 351 | 408 | 132 | 270 | 257 | 151 | 1569 | 1342 | 36962 | 862 | 1010 | 1852 | 119 | 42147 | - | 43716 |
| Karnataka | 4580 | 273 | 586 | 337 | 1007 | 100 | 6883 | 1949 | 868 | 905 | 581 | 940 | 37 | 5280 | - | 12163 |
| Madhya Pradesh | 841 | 5 | 10 | 17 | - | - | 873 | 2778 | 5 | 4 | - | - | - | 2787 | ++ | 3660 |
| Maharashtra | 56 | 5 | 10 | 1 | ++ | - | 72 | 368 | 62 | 7 | - | - | - | 437 | - | 509 |
| Odisha | 906 | 351 | 1729 | 1848 | 4700 | 1369 | 10903 | 13543 | 7131 | 4187 | 8608 | 8618 | 1560 | 43647 | 297 | 54847 |
| Rajasthan | 208 | ++ | - | - | - | - | 208 | 13 | - | - | - | - | - | 13# | 10 | 231 |
| Telangana | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |

++ Negligible , # : under refrence

# MINING, MARKETING & TRANSPORT

Iron ore mining is carried out by opencast method through manual, semi-mechanised and mechanised operations.

The method of mining and deployment of machinery vary from place to place depending upon characteristics of iron ore as per geological set up. Large mechanised mines are mostly in the Public Sector. Manual and semi-mechanised mines are mainly in Private Sector. Some mechanised mines in Jharkhand and Odisha are also operated by the Private Sector.

## Manual Mines

Generally, these mines are confined to float ores where mining is done by digging the ore with pick axes, crow bars, chisels and spades. The mined material is screened manually to separate +10 mm float ore which is then stacked separately. The waste is backfilled into the pits. In some reef workings, 35 – 40 mm diameter holes are drilled to 0.6 m depth by hand-held jackhammers at a spacing of about 0.6 m and each hole is charged with 150 –200 g gunpowder or special gelatine cartridges. Blasted tonnage per kg gunpowder is usually 2.5 – 3 tonnes. Blasted ore is manually loaded into trucks for transport to either railway sidings or to buyer's destination directly.

## Mechanised Mines

Most of the mechanised mines are captive belongings of different steel plants and have been developed to cater to specific requirements. Mining is done by formation of systematic benches in overburden and ore. The height of the benches normally varies from 10 to 12 m and width up to 20 m in the ore. Drilling holes of 300 mm diameter and till 12 m depth by crawler drills and use of explosives, such as, ANFO, SMS and emulsion explosives for blasting are in practice. Loading is done by earth-moving machinery powered by diesel or electric engines, such as, hydraulic excavators in the range from 1.9 cu. m to 10 cu. m. Ripper dozers and motor graders are also deployed for excavation and levelling purposes.

Mines, where ore is predominantly in powdery form, hydraulic shovels with boom height of around 9 m may be used for excavation and loading. Heavy-duty Ripper-Dozers are preferred for such mining as the ores are soft. Height of the benches is restricted to 7 m for safe and efficient operations. Width of working benches is maintained at more than 15 m and bench slope is maintained at about $80^{o}$. The ore produced is transported to short distances by dumpers up to 40 tonnes capacity. For longer distances and barge loading, dumpers/trucks up to 10 tonnes capacity are used. The barges carry the ore to harbours. The ore from the barges is loaded on to ships either through berth or through transshippers.

Almost all the Public Sector mines including Kiriburu, Barsua, Gua, Bailadila, Donimalai, Daitari and Dalli-Rajhara operated by SAIL, NMDC and OMC are fully mechanised. In Private Sector, most of the captive mines are mechanised. Approximately, 90% iron ore production comes from mechanised mines. NMDC operates a couple of large mechanised iron ore mines in the country at Bailadila (Chhattisgarh) and Donimalai (Karnataka). The Company has three highly-mechanised iron ore mine complexes. Two are located in Chhattisgarh and one in Karnataka.

The processing of iron ore in the country involves crushing, screening, washing and in some cases beneficiation and agglomeration. Crushing and screening are adopted mainly for sizing the ore and also for removing the adherent gangue minerals. Dry and wet grinding is also resorted to in some cases.

The lumps and fines of iron ore are marketed after screening and beneficiation. Fines are converted into sinters for use in steel plants while pellets made from concentrates/fines are exported and also are utilised for internal consumption in domestic iron & steel industries.

# ENVIRONMENTAL FACTORS

Afforestation, waste dump management, top soil management, management of sub-grade minerals, mechanical beneficiation, dust suppression, monitoring of water & air quality, vibration survey, publicity and propaganda are some common environmental restoration efforts pursued by all mechanised and semi-mechanised iron ore mines. Mining and beneficiation of ores carried out on large-scale cause environmental problems. A specific problem in iron ore mining is the disposal of tailings and other deleterious silica minerals and phosphorous.To safeguard the environment and prevent ecological degradation, thrust has been laid on green belt development, solid waste management, monitoring of liquid & air effluents and other crucial environmental parameters.

Goa region is prone to siltation of agricultural fields, nallahs, riverbeds and creeks due to wash off from iron ore dumps in rainy season. Loss in crop yield and reduction in fish population in streams and navigation difficulties are the problems caused by silting. To overcome these problems, check dams and water filter beds at higher contours have been constructed. Tailing ponds are also being maintained at some mines. Afforestation is the mainstay in reclaiming the mined out areas in Goa. In a few cases, pits are used as water reservoir for pisciculture. But, in early 2018, the apex court had quashed 88 mining leases for violation of mining procedures and asked the state government of Goa to issue fresh leases instead of renewing existing ones. In February 2021, it will be three years since India's apex court stopped iron ore mining in Goa.

In Ballari-Hosapete area, Karnataka, dust concentration (suspended particulate matter) is the main environmental problem. In Bailadila Sector, Chhattisgarh, forest is fairly widespread and dense, supported by good rainfall and rich flora and fauna. The deforestation taking place due to mining and waste dumping needs to be compensated continuously by afforestation at suitable slopes and in township areas. In Jharkhand, afforestation of land is the main recourse adopted for reclamation of degraded lands or improvement in land uses.

# INDUSTRY

Iron ore is the basic raw material used for making pig iron, sponge iron and finished steel. The iron ore is used mainly in blast furnaces, mini-blast furnaces (MBF), DRI & sintering and pelletisation plants.

## Pelletisation

In general, the pelletisation process involves mixing of iron ore and required limestone with water which later is ground in ball mills to the desired size. The discharged slurry from ball mills is filtered in pressure filters. The filter cake from filters is then mixed with dry-ground coke fines to which bentonite is mixed in suitable proportion to form green pellets in pelletising discs. The coke fines and bentonite are ground separately. The green pellets are then dried, heated and fired in indurating machine to produce iron ore pellets. There is an increasing trend for utilisation of pellets or sinters in the recent years. The use of pellets as feed in the blast furnace has several advantages because of their uniform size, known composition and strength. Iron ore pellet is a kind of agglomerated fines which has better tumbling index as compared to that of parent ore and can be used as a substitute used in blast furnaces in countries where lump ore is not available.

The fourty-eight pelletisation plants in the country about which information is available, have a total capacity of 126.4 million tonnes per annum. The JSW Steel Ltd has a manufacturing capacity of 17.20 million tonnes of pellets annually at Vijayanagar. Amba River Coke Limited, a wholly owned subsidiary Company of JSW Steel, has set up a 4.30 million tpy pellet plant at Dolvi and has produced 3.21 million tonnes of pellet during the FY 2020-21. The pellets produced are primarily supplied to the Dolvi unit of the company. During the year 2020-21, all India production of pellets

was 61.64 million tonnes.

With a strong belief in prudent forward and backward integrations, JSPL established India's largest 10 MTPA Pelletisation Complex at Barbil, Odisha. The plant includes dry grinding facility that harnesses recuperation type of straight grate technology. The Company's Barbil Plant is India's largest single-location pellet manufacturing facility with 4.5 MTPA Dry Grinding Unit and a 4.5 MTPA Wet Grinding Unit. JSPL pellet plant helps to process low-cost iron ore fines as against expensive lumps, thereby handing a cost advantage. Laced with state-of-the art technology backed with proximity to iron-ore access, JSPL's Barbil Plant has emerged as India's largest pellet exporter in recent years.

Arcelor Mittal Nippon Steel India, i.e. , ('AM/ NS India'), ( formerly known as Essar Steel as Essar Steel was acquired jointly by Arcelor Mittal and Nippon Steel in December 2019 ) has 8 MTPA iron ore pellet plant in Visakhapatnam, Andhra Pradesh to cater to the pellet requirements of the HBI plant in Hazira, Gujarat. The plant has an assured supply of high-quality iron ore from the beneficiation plant at Bailadilla, Chhattisgarh. The plant is capable of producing both DR and BF grade pellets and is linked to the Visakhapatnam port through conveyors to enable easy material movement in and out of the plant. The plant is located strategically near a deep draft, all-weather port that ensures the movement of large vessels to supply pellets throughout the year to the Hazira steel-making facility. A 6 million tpy pellet plant is located at Paradip in the iron ore rich State of Odisha. The plant has an assured supply of high-quality iron ore from the beneficiation plant at Dabuna, Odisha. The Paradip Pellet plant may add another 6 million tpy to its capacity which is under completion. After completion of this plant AM/ NS India's total pelletisation capacity at Paradip would get augmented to 12 million tpy and supported by a 20-million-tonnes pellet-making capability, the Company is on its way to become the largest pellet producer in India.

NMDC has forayed in pellet-making through setting up of a 1.2 MTPA pellet plant at Donimalai. Another 2 MTPA pellet plant is in the process of being set up at Nagarnar, Chhattisgarh.

KIOCL is currently engaged in the business of manufacturing and selling of iron ore pellets. The state-of-the-art pelletisation plant with 3.5 million tpy rated capacity and 0.216 million tpy Blast Furnace Unit is located at Mangaluru. During the year 2019-20, KIOCL Ltd achieved production of 2.210 million tonnes of pellets.

Steel plants are likely to increase usage of pellets in their production process to reduce pollution and increase productivity. Moreover, the forecast of spike in growth in Infrastructure, Real Estate and Automobile Sectors in the ensuing years are expected to augment demand for steel, which in turn would raise the demand and prices of pellets in the near future.

## Sintering

In sintering process, iron ore fines, other iron-bearing wastes and coke dust are blended and combusted. The heat fuses the fines into course lumps that can be charged to a blast furnace. There are about thirty-nine sintering plants in the country about which information is available and have a total capacity of about 96.131 million tonnes per annum. Most of the Integrated Steel Plants (ISP) in the country have their own sintering plants. Sinter plants receive raw material mostly from their captive mines. Information on capacity and production of pellets and sintering plants is provided in Table-8.

## Pig Iron

Pig iron is one of the basic raw materials required by Foundry and Casting Industry for manufacturing various types of castings for the engineering section.The post-liberalisation regime has witnessed Expression of Interest from a large number of entrepreneurs for setting up mini-blast furnaces for production of hot metal/pig iron. Commissioned pig iron units are mostly of stand-alone type.

The production of pig iron has increased from 1.6 million tonnes in 1991-92 to 4.84 million tonnes in 2020-21. Production of pig iron in 2019-20 was 4.84 MT, a decline of 10.70% over that of last year.The Private Sector accounted for 86% of the total production of pig iron (4.17 MT) in the country in 2020-21. As per National Steel Policy 2017, the demand for pig iron for merchant use, such as, for castings and supplementary metallic in the electric arc or induction furnaces is projected to increase to 17 million tonnes by 2030- 31.

### Sponge iron

India is the world's largest producer of sponge iron or Direct Induced Iron (DRI) with a host of coal-based units located in the mineral-rich States of the country. Over the years, the coal-based route has emerged as a key contributor and accounted for 82% of the total sponge iron production in the country. The growth of Sponge Iron Industry during the last few years in terms of capacity has been substantial. The installed capacity of sponge iron increased from 1.52 million tonnes per annum in 1990-91 to around 47.85 million tonnes in 2019-2020. Production has increased from 0.9 million tonnes in 1990-91 to 34.15 million tonnes in 2020-21. As per National Steel Policy 2017, the demand for sponge iron is projected to increase to 80 million tonnes by 2030-31. It is projected that the sponge iron capacity may increase to 114 million tonnes by 2030-31 with around 30% share of gas-based capacities on account of increased environmental considerations and long-term availability of gas.

Sponge iron is a good substitute for scrap which is required by the electric arc furnaces and induction furnaces or mini-steel plants in the country. The availability of indigenous metal scrap is scarce, and therefore, to meet the domestic demand, scrap is usually imported. Sponge iron is a viable alternative for scrap and is produced by direct reduction of high-grade iron ore or pellets to metallic iron ore in solid state by using coal or natural gas as reductant. It is also known as Direct Reduced Iron (DRI) or Hot Briquetted Iron (HBI).

### Iron & Steel

The details of the Iron & Steel Industry are provided in the Review on "Iron, Steel & Scrap and Slag".

### Ferroalloys

Iron is an important constituent of ferro-alloys, like ferromanganese (high carbon, medium carbon and low carbon), ferrosilicon, ferrochrome (high carbon and low carbon)/charge chrome, ferromolybdenum, ferrovanadium, ferrotungsten, ferro-silicon-magnesium, ferroaluminium, ferro-silicon-zirconium, ferrotitanium, etc. Ferroalloys are used in Steel Industries to impart some special qualities in steel making process.They are consumed in domestic industries and are also exported. The details about the Ferroalloys Industry are provided in the Review on 'Ferroalloys'.

### Cement

Iron ore lumps and powder containing +58% Fe are normally used in the Cement Industry as they improve burning properties, impart colour and balance the composition of the mix. Further details about the Cement Industry are provided in the Review on 'Cement'.

## USES & SPECIFICATIONS

Iron ore is mainly used for manufacturing pig iron, sponge iron and steel. It is also used in Cement, Coal Washeries, Ferroalloys, Foundry and Glass Industries. The specifications of iron ore consumed by major sponge iron plants are furnished in Table-9.

## CONSUMPTION

In 2019-20, about 180.68 million tonnes iron ore that were consumed in various industries like Iron & Steel, Sponge Iron, alloy steel, ferroalloys and cement were slightly higher than 174.551 million tonnes consumed in the preceding year. Iron & Steel including pelletisation (87.57%) and Sponge Iron industries (11.95%) were the major consumers of iron ore and accounted together for over 99.52 % of the consumption. Plantwise consumption of iron ore in steel plants has been furnished in Table-10 and industrywise consumption of iron ore from 2017-18 to 2019-20 has been provided in Table-11.

## Table – 8 : Installed Capacity & Production of Pellets and Sinters, 2018-19 & 2019-20 (By Plants)

(In '000 tonnes)

| Name & location of plant | Annual installed capacity | Production | | Iron ore fines consumed | |
|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 (P) | 2018-19 | 2019-20 (P) |
| **A) Pellet Plants** | | | | | |
| 1. Amba River Coke Ltd, (A wholly owned subsdiary co. of JSW Steel Ltd ), Dolvi, Maharashtra | 4000 | 1368 | 1869 | 2894 | 1817 |
| 2. Atibir Industries Co. Ltd. Unit-II, Bhorandiha, Jharkhand | 300 | 229 | 155 | 1011 | 769 |
| 3. Ardent Steel Ltd, Phulj Keonjhar, Odisha | 600 | NA | NA | NA | NA |
| 4. Arya Iron and Steel Company (AISCO) Barbil, Odisha | 1200 | 803 | NA | NA | NA |
| 5. Pellet Sponge Iron Plant BMM Ispat, Karnataka | 2400 | 1696 | 2040 | 2248 | 2448 |
| 6. Arcelor Mittal Nippon Steel India, Visakhapatnam, Andhra Pradesh | 8000 | NA | NA | NA | NA |
| 7. Arcelor Mittal Nippon, Steel India, Paradip Port,Odisha. | 6000 | NA | NA | NA | NA |
| 8. Godawari Power & Ispat Ltd Siltara, Chhattisgarh | 2100 | NA | NA | NA | NA |
| 9. Jindal Steel & Power Ltd, Barbil, Odisha | 9000 | NA | NA | NA | NA |
| 10. Jindal Saw Ltd, Bhilwara, Rajasthan | 1500 | 1415 | 1380 | 1350 | 1367 |
| 11. Jindal Saw Ltd, Gujarat | NA | NA | NA | 185 | 211 |
| 12. JSW Steel Ltd, Tornagallu, Toranagally, Ballari, Karnataka | 9200 | 7870 | 8048 | NA | 17232 |
| 13. Jayaswal Neco Industries Ltd, Siltara, Raipur, Chhattisgarh | 1200 | 1200 | 1128 | 1834 | 1902 |
| 14. KIOCL Ltd, Panambur, Mangaluru, Karnataka | 3500 | 2238 | 2375 | 2173 | 2367 |
| 15. Mandovi Pellets Ltd, Near Borim Bridge, Shiroda, Goa – 403 103 | 1800 | NA | NA | NA | NA |

(contd)

Table-8 (contd)

(In '000 tonnes)

| Name & location of plant | Annual installed capacity | Production | | Iron ore fines consumed | |
|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 (P) | 2018-19 | 2019-20 (P) |
| 16. Minera Steel & power Private Ltd, Ballari, Karnataka | 600 | 543 | 599 | 597 | 678 |
| 17. Monnet Ispat and Energy Raigarh, Chhattisgarh | 1200 | NA | NA | NA | 2018 |
| 18. MSP Steel & Power Ltd, Raigarh, Chhattisgarh | 900 | 1007 | 1092 | NA | 949 |
| 19. NMDC Ltd, Donimalai, Karnataka. | 1200 | 1156 | 1105 | NA | NA |
| 20. Orissa Metalics Private Ltd, Paschim Mednapore, West Bengal | 2520 | 1328 | 2047 | NA | 2809 |
| 21. Orissa Manganese & Minerals Limited (OMML), Kandra Saraikela Kharsawan, Jharkhand | 1200 | NA | NA | NA | NA |
| 22. Rashmi Metaliks Ltd, Shyamraipur, Gokulpur, West Midnapore, West Bengal | 900 | 743 | 559 | NA | 1508 |
| 23. Rexon Strips Ltd, Kumakela, Lathikata Rourkela, Sundargarh, Odisha | 300 | NA | NA | NA | NA |
| 24. Sarda Energy and Minerals Ltd, Siltara, Mandhar, Raipur, Chhattisgarh | 600 | 600 | 600 | NA | 549 |
| 25. Shri Bajarang Power & Ispat Ltd, Borjhara, Tilda & Gondwara, Raipur, Chhattisgarh | 1400 | NA | NA | NA | NA |
| 26. Tata Steel Limited, Jamshedpur | 6000 | 6330 | 5600 | NA | 13208 |
| 27. Usha Martin Ltd, Usha Alloy & Steel, Division, Jamshedpur | 1200 | NA | NA | NA | NA |
| 28. Xindia Steels Ltd, Kunikere & Hirebaganal Ginigera, Koppal, Karnataka | 800 | NA | NA | NA | NA |

(contd)

Table-8 (contd) (In '000 tonnes)

| Name & location of plant | Annual installed capacity | Production | | Iron ore fines consumed | |
|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 (P) | 2018-19 | 2019-20 (P) |
| **B) Sintering Plant** | | | | | |
| 1. Atibir Industries Co. Ltd. Unit-II, Bhorandiha, Jharkhand | 680 | 582 | 415 | 1011 | 769 |
| 2. Bokaro Steel Plant, Jharkhand | 6900 | 5870 | 5681 | NA | 3882 |
| 3. Bhilai Steel Plant, Bhilai, Durg, Chhattisgarh. | 6334 | NA | NA | NA | NA |
| 4. Bhushan Steel Ltd, Dhenkanal, Odisha | 6680 | 4951 | 4967 | 4449 | 4297 |
| 5. Durgapur Steel Plant, West Bengal | 3009 | 3374 | 3299 | NA | 2531 |
| 6. Electrosteel Casting Ltd Khardah, Barrackpore, West Bengal | 365 | 365 | 363 | 326 | 292 |
| 7. Electrosteels Ltd, Siyaljori, Jharkhand | 2980 | 1948 | 2265 | NA | 1444 |
| 8. Gerdau Steel India Ltd, Tadipatri, Anantpur, A.P. | 470 | NA | NA | NA | NA |
| 9. IISCO Steel Plant, SAIL Burnpur, West Bengal | 3880 | 3277 | 3709 | 398 | 462 |
| 10. Jayaswal Necco Industries Ltd, Siltara Growth Centre, Raipur-493 221, Chhattisgarh | 729 | NA | NA | 1834 | 1902 |
| 11. Jindal Steel & Power Ltd, Raigarh, Chhattisgarh | 2300 | NA | NA | NA | NA |
| 12. Jindal Saw Ltd, Mundra, Gujarat | 900 | 747 | 708 | 262 | 1124 |
| 13. JSW Steel Ltd, Tornagallu, Toranagallu, Ballari, Karnataka | 12950 | 13996 | 12925 | NA | 17232 |
| 14. JSW Steel Ltd, Dolvi Works, Raigad, Maharashtra | 5400 | 4160 | 4503 | 4570 | 5316 |
| 15. JSW Steel Ltd Salem works, Mkalipatti, Metturdam, Tamil Nadu | 1106 | 1329 | 1380 | NA | 774 |

Table-8 (contd) (In '000 tonnes)

| Name & location of plant | Annual installed capacity | Production | | Iron ore fines consumed | |
|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 (P) | 2018-19 | 2019-20 (P) |
| 16. Jai Balaji Industries Banskopa, West Bengal | 608 | 513 | 526 | 546 | 466 |
| 17. Kalyanigerdua Steels Ltd, formerly sjk steel plant, Jambulapadu, Tadipatri, Andhra Pradesh | 500 | 456 | 437 | 283 | 229 |
| 18. Kirloskar Ferrous Industries Ltd, Bevinahalli, Koppal, Karnataka. | 500 | 460 | 455 | NA | 378 |
| 19. KIC Metaliks Ltd, Raturia, Angadpur, Durgapur. West Bengal | 336 | 179 | 144 | NA | 115 |
| 20. Monnet Ispat and Energy Raigarh, Chhattisgarh | 962.3 | NA | NA | NA | 2018 |
| 21. Mukund Ltd, M/s Hospet Steel Ltd, Ginigera, Koppal, Karnataka | 500 | NA | NA | 359 | 223 |
| 22. Neometaliks Ltd, Gopalpur, Durgapur, West Bengal | 316 | 266 | 290 | NA | 208 |
| 23. Neelachal lspat Nigam Ltd, Kalinga Nagar, Industrial Complex, Duburi-755 026, Distt Jajpur, Odisha. | 1710 | NA | NA | 215 | 215 |
| 24. Rashmi Metaliks Ltd, Shyamraipur, Gokulpur, West Midnapore, West Bengal. | 1440 | 508 | 515 | NA | 1508 |
| 25. RINL, Visakhapatnam Steel Plant No. -1& 2 , Visakhapatnam, Andhra Pradesh | 5256 | 4240 | 3590 | 5317 | 4787 |

(contd)

Table-8 (concld) (In '000 tonnes)

| Name & location of plant | Annual installed capacity | Production | | Iron ore fines consumed | |
|---|---|---|---|---|---|
| | | 2018-19 | 2019-20 (P) | 2018-19 | 2019-20 (P) |
| 26. RINL, Visakhapatnam Steel Plant No. -3, Andhra Pradesh | 3600 | NA | NA | NA | NA |
| 27. Rourkela Steel Plant, Odisha | 5300 | 6310 | 6020 | 3963 | 3802 |
| 28. SBQ Steel Ltd, Gudur, Nellore, Andhra Pradesh | 240 | NA | NA | NA | NA |
| 29. Sri Kalahasthi Pipes Ltd, Chitoor, Andhra Pradesh | 500 | 402 | 425 | 394 | 388 |
| 30. SLR Metaliks Ltd, Ballari, Karnataka | 350 | 361 | 361 | NA | 189 |
| 31. Sesa Goa Ltd, Vedanta Ltd, North Goa | 1000 | NA | NA | NA | NA |
| 32. Sunflag Iron & Steel Co. Ltd, Warrthy, Bhandara, Maharashtra | 450 | 312 | 429 | 67 | 14 |
| 33. Tata Steel Ltd, Jamshedpur, Jharkhand | 8000 | 8179 | 8611 | 17060 | 16807 |
| 34. Tata Metaliks Ltd, Kharagpur, West Bengal | 528 | NA | NA | 338 | 329 |
| 35. Tata Steel Ltd, Kalingnagar, Odisha | 5750 | NA | NA | 1111 | 896 |
| 36. Usha Martin Ltd (Usha Alloys and Steel Division), Jamshedpur. | 715 | NA | NA | 2312 | 2312 |
| 37. Uttam Galva, Metallics Ltd, Wardha, Maharashtra | 887 | 623 | 620 | 724 | 756 |
| 38. Vedanata Ltd. Amona, Goa | 1000 | NA | NA | NA | NA |
| 39. Value Added business, Amona, Goa | 1000 | 0 | 0 | NA | 490 |

**Table - 9 : Specifications of Iron Ore Consumed by Major Sponge Iron Plants**

| Sl. No. | Name of the Plant | Specifications | | | | |
|---|---|---|---|---|---|---|
| | | Size | Fe | $Al_2O_3 + SiO_2$ | P | S |
| 1. | Orissa Sponge Iron Plant | 5– 18 mm | 65% min. | 4.5% max. | 0.03% max. | N. A. |
| 2. | Welspun Max Steel Ltd | 9– 16 mm | 66% | 2.6% max. | 0.05% | 0.01% |
| 3. | Sunflag Iron & Steel Ltd | 5– 20 mm | 67.5% | – | – | – |
| 4. | NMDC Ltd (Sponge iron unit) | 6– 20 mm | 55–58% & 64–66% | – | – | – |
| 5. | Essar Steel Ltd | 10– 40 mm | 67% | 2.60% max. | 0.05% | 0.01% |
| 6. | Jindal Steel & Power Ltd | 10– 30 mm | 65% min. | 3% max. ($SiO_2$) | 0.05% | – |
| 7. | Tata Sponge Iron Ltd | 5– 18 mm | 65% min. | 5% max. | – | – |
| 8. | Steel Exchange India Ltd | 10– 40 mm | 62% | – | – | – |
| 9. | Sarda Energy & Minerals Ltd | 5– 18 mm | 65–66% | – | – | – |
| 10. | OCL Iron & Steel Ltd | Sized | 62% min. | – | – | – |
| 11. | Nalwa Steel & Power Ltd | 5– 20 mm | 63% min. | – | – | – |
| 12. | Shri Bajrang Power & Ispat Ltd | 5– 18 mm | 64% min. | – | – | – |
| 13. | Jai Balaji Industries Ltd | 5– 18 mm | 65% | 5% | 0.05% | 0.03% |
| | | 10– 30 mm | – | – | – | – |
| | | 10-150 mm | – | – | – | – |

**Table – 10 : Consumption and Specifications of Iron Ore, 2018-19 and 2019-20 (By Steel Plants)**

(In '000 tonnes)

| Steel plant | Iron ore consumption | | | | Specifications |
|---|---|---|---|---|---|
| | 2018-19 | | 2019-20 (P) | | |
| | Lumps | Fines | Lumps | Fines | |
| Bokaro Steel Plant, Bokaro, Jharkhand | NA | NA | 2622 | 3882 | Lumps: Fe-63.40%, $SiO_2$:2.25%, $Al_2O_3$ 2.39%, Size: 10-40 mm Fines: Fe - 62.24%, $SiO_2$ - 3.36%, $Al_2O_3$ - 3.45% |
| Durgapur Steel Plant, Durgapur, West Bengal | NA | NA | 1439 | 2531 | Lumps : Fe - 62.48%, $Al_2O_3$ - 2.42%, Size: 10-50 mm Fines: Fe - 62.8%, $SiO_2$ - 2.28%, Size : -10 mm |
| IISCO Steel Plant, Burnpur, West Bengal | 1137 | 2698 | 1098 | 3173 | Lumps: Fe - 62.86%, $SiO_2$ - 2.56%, $Al_2O_3$ - 2.56% (max.), Size: 10-40 mm |
| Bhilai Steel Plant, Chhattisgarh | NA | NA | NA | NA | - |
| Rourkela Steel Plant SAIL, Rourkela,Odisha | 2428 | 3963 | 2419 | 3802 | - |

(contd)

Table-10 (concld) (In '000 tonnes)

| Steel plant | Iron ore consumption | | | | Specifications |
|---|---|---|---|---|---|
| | 2018-19 | | 2019-20 (P) | | |
| | Lumps | Fines | Lumps | Fines | |
| JSW Steel Ltd Dolvi Works Raigad, Maharashtra. | 296 | 4570 | 283 | 5316 | |
| JSW Steel Ltd Tornagallu, Sandur, Ballari Karnataka | NA | NA | 14052 | 17232 | - |
| JSW Steel Ltd Salem works, Mkalipatti, Metturdam, Tamil Nadu | 1003 | 4156 | 755 | 774 | |
| Tata Steel Limited, Jamshedpur | NA | NA | 3598 | 13208 | |
| RINL Vishakhapatnam Steel Plant, Andhra Pradesh | 3547 | 5317 | 3117 | 4787 | Lumps : Fe 65.5 % min. $SiO_2$ 2.25 % max., $Al_2O_3$ 2.25 % max. Fines : Fe 64.5 % min. $SiO_2$ 3.00 % max. $Al_2O_3$ 3.00 % max. |

**Table -11 Estimated Consumption* of Iron Ore@ 2017-18 to 2019-20 (By Industries)**

(In tonnes)

| Industry | 2017-18 | 2018-19 (R) | 2019-20 (P) |
|---|---|---|---|
| **All Industries** | **159575800(308)** | **174551400(343)** | **180684900(330)** |
| Cement | 826400 | 1079700 | 824800 |
| Iron & steel ** | 144129900 | 154365100 | 158231600 |
| Sponge iron | 14603200 | 19087700 | 21606200 |
| Others (electrode,foundry, paint, chemical, Pulverising & refractory) | 16300 | 18900 | 22300 |

*Figures rounded off*
**Includes actual reported consumption and/or estimates made wherever required.*
*@Does not include consumption of pellets & sinters; includes consumption of iron ore (fines) consumed in the production of pellets & sinters.*
*** including pelletisation, Alloy steel & Ferroalloys.*
*() No. of plant reported/estimated.*

# TRADE POLICY

To ensure easy availability of raw material in domestic market at reasonable prices, export duty on iron ore is @ 30% for both lumps and fines varieties of 58% Fe content and above. The export duty is @ 0% for both lumps and fines varieties of iron ore less than 58% Fe content. The export duty on iron ore pellets is NIL. Export duty on iron ore originated from NMDC is @ 10% when exported by MMTC Ltd under LTA to Japan and South Korea.

As per the Foreign Trade Policy (FTP) for 2015-20 and the amended Export and Import Policy incorporated in the FTP, the present export policy for iron ore as construed is furnished below in brief. As per the policy, imports of iron ore lumps, fines, concentrates and agglomerated pellets are freely allowed.

| HS Code | Item | Export Policy |
|---|---|---|
| 2601 | Iron ore and concentrates, including roasted iron pyrites | Free |
| 260111 | Iron ore and concentrates, other than roasted iron pyrites: Non-agglomerated | Free |
| 26011111 | 60% Fe or more but below 62% Fe | Free |
| 26011112 | 62% Fe or more but below 65% Fe | Free |
| 26011119 | 65% Fe and above | Free |
| 26011121 | Iron ore lumps (below 60% Fe, including black iron ore containing up to 10 % Mn)–Iron Ore lumps below 55% Fe | Free |
| 26011122 | Iron ore lumps (below 60% Fe, including black iron ore containing up to 10 % Mn) – Iron Ore lumps 55% Fe or more but below 58% Fe | Free |
| 26011129 | Iron ore lumps (below 60% Fe, including black iron ore containing up to 10 % Mn) – Iron Ore lumps 58% Fe or more but below 60% Fe | Free |
| 26011131 | Iron ore fines (62% Fe or more)– 62% Fe or more but below 65% Fe | Free |
| 26011139 | Iron ore fines (below 62% Fe or more)– 65% Fe and above | Free |
| 26011141 | Iron ore fines (below 62% Fe) – below 55% Fe | Free |
| 26011142 | Iron ore fines (below 62% Fe) –55% Fe or more but below 58% Fe | Free |
| 26011143 | Iron ore fines (below 62% Fe) – 58% Fe or more but below 60% Fe | Free |
| 26011149 | Iron ore fines (below 62% Fe) – 60% Fe or more but below 62% Fe | Free |
| 26011150 | Iron ore concentrates | Free |
| 26011190 | Others | |
| 260112 | Iron ore and concentrates other than roasted iron pyrites: Agglomerated | Free |
| 26011210 | Iron ore pellets | Free |
| 26011290 | Other | Free |
| 26012000 | Roasted iron pyrites | Free |

***Source**: ITC(HS), 2018, Schedule 2 Export Policy ; STE: State Trading Enterprise*

# WORLD REVIEW

The world reserves of crude iron ore are estimated to be around 180 billion tonnes. In terms of iron content, the iron ore reserves are estimated to be around 84 billion tonnes. The world reserves of crude iron ore and iron content by principal countries are furnished in Table - 12.

In 2020, the world production of iron ore was 3,016 million tonnes as against 3,057 million tonnes in the previous year. Australia 918 million tonnes (30%), China 845 million tonnes (28%), Brazil 388 million tonnes (13%), India 204 million tonnes (7%), Russia 100 million tonnes (3%), Iran 91 million tonnes (3%), South Africa 55 million tonnes (2%), Ukraine 78 million tonnes (3%) and Canada 60 million tonnes (2%) were the principal producers. These nine countries accounted for about 91% of the world production of iron ore and remaining 9% was contributed by the other countries. The world production of iron ore is provided in Table-13.

To provide a generalised view of the development

in various countries, country-wise description sourced from the latest available publication of Minerals Yearbook 'USGS' 2018 is furnished below.

## Australia

Production of iron ore in Australia was 900 million tonnes in 2018, a slight increase from 885 million tonnes in 2017. Three iron-ore mining companies in Australia—BHP Billiton Ltd., Fortescue Metals Group Ltd., and Rio Tinto Ltd.—were among the four leading iron ore producers in the world and accounted for most of the iron ore produced in Australia. BHP Billiton's iron ore production in Australia in fiscal year (FY) 2018, which ended June 30, 2018, was 238 million tonnes, a 3% increase from that of FY 2017. The company reported a decrease in production costs and an increase in seaborne ore prices in FY 2018 compared with those in the FY 2017. In 2018, BHP Billiton planned to improve productivity through transportation improvements at Port Hedland and a dumper car maintenance program to achieve between 241 and 250 million tonnes of iron ore production in FY 2019 . Fortescue's iron ore shipments were 168 million tonnes in FY 2019, a slight decrease from 170 million tonnes in FY 2018. Fortescue approved the $2.6 billion Iron Bridge Magnetite Project to develop 22 million tonnes/yr of 67% concentrates by midyear 2022. The company continued its autonomous haulage truck project, completing conversion to a fully autonomous fleet by midyear 2020. Rio Tinto's share of iron ore production at its operations in Australia was 281 million tonnes in 2018, a 4% increase from 271 million tonnes in 2017. In December 2018, Rio Tinto launched the world's first automated heavy-haul, long-distance rail network. The company approved the Koodaideri Mine Project, a $2.6 billion, 43-million tonnes/yr iron ore mine and processing facility to be completed in late 2021.

## Brazil

Production of iron ore in Brazil was 460 million tonnes in 2018, a slight increase from 454 million tonnes in 2017. Vale S.A., leading iron ore producer in Brazil, increased production in 2018 to 385 million tonnes, a 5% increase from 367 million tonnes in 2017, and increased its pellet production in 2018 to 55.3 million tonnes, a 10% increase from 50.3 million tonnes in 2017 In December 2018, Anglo American plc restarted operations at the Minas Rio Mine in Minas Gerais following the March 2018 discovery of leaks in a slurry pipeline that transported ore to a port in Rio de Janeiro. Repairs required the replacement of approximately 4 kilometers (2.5 miles) of pipeline.

## China

China produced 335 million tonnes of iron ore in 2018, a 3% decrease from 345 million tonnes in 2017. Increasing demand from steel producers in China for high-grade iron ore blends, primarily originating in Australia and Brazil, were driven by stricter emissions requirements from the Government of China for steel producers.

**Table – 12 : World Reserves of Iron Ore (By Principal Countries)**

(In million tonnes)

| Country | Reserves | |
|---|---|---|
| | Crude ore | Iron content |
| **World : Total (rounded off)** | **180000** | **84000** |
| Australia [a] | [7]51000 | 24000 |
| Brazil | 34000 | 2300 |
| Canada | 6000 | 2300 |
| Chile | NA | NA |
| China | 20000 | 6900 |
| India* | 5500 | 3400 |
| Iran | 2700 | 1500 |
| Kazakhstan | 2500 | 900 |
| Mexico | NA | NA |
| Peru | 2600 | 1500 |
| Russia | 25000 | 14000 |
| South Africa | 1000 | 640 |
| Sweden | 1300 | 600 |
| Turkey | 130 | 38 |
| Ukraine[b] | [8]6500 | 2300 |
| USA | 3000 | 100 |
| Other countries | 18000 | 9500 |

***Source:*** *USGS, Mineral Commodity Summaries, 2022.*

*(a): For Australia Joint Ore Reserves Committee compliant reserves were about 23 billion tonnes for crude ore and 11 billion tonnes for iron content.*

*(b): For Ukraine, reserves consist of the A and B categories of the Soviet reserves classification system.*

** As per UNFC system as on 1.4.2020, India's reserves/ resources of Iron ore (Haematite) and Iron ore (Magnetite) were estimated at 24,057 million tonnes and 11,227 million tonnes respectively.*

*NA - Not available.*

**Table – 13 : World Production of Iron Ore (By Principal Countries)**

(In million tonnes)

| Country | 2018 | 2019 | 2020 (P) |
|---|---|---|---|
| **World : Total (rounded off)** | **2945000000** | **3057000000** | **3016000000** |
| Australia | 907818648 | 917045579 | 918063223 |
| China | 763374000 | 844356000* | 845000000 |
| Brazil | 450393000 | 396841000* | 388000000 |
| India[(h)]* | 206446000[(h)] | 246081000[(h)] | 204481000 |
| Russia | 964100000 | 97500000 | 100200000 |
| Iran[(e)] | 93365420[(e)] | 91778118[(e)*] | 91800000 |
| Ukraine | 60549000 | 76134000 | 78837700 |
| Kazakhstan | 41876500 | 45221900 | 62865000 |
| Canada[(c)] | 52358000[(g)] | 59013000[(c)] | 60059572 |
| South Africa[(c)] | 74263738[(c)] | 72430288[(c)] | 55635308 |
| Other countries | 198644399 | 210858080 | 210989359 |

***Source:*** *BGS World Mineral Production, 2015-2019.*

***Note*** *: World Total may not tally as data has been rounded off*

*(a) Including by-product iron ore.*

*(b) Years ended 31st March following that stated*

*(c) Years ended 20th March following that stated*

*(d) Including by-product magnetite; (e) estimated*

** India's production of iron ore in 2018-19, 2019-20 and 2020-21 was 206.49 million tonnes 244.08 million tonnes and 204.48 million tonnes respectively.*

# FOREIGN TRADE

## Exports

Exports of iron ore increased by 57% to 57.72 million tonnes in 2020-21 from 36.62 million tonnes in the previous year. Exports were mainly to China (90%), Japan (3 %) The total exports of iron ore in 2020-21, in terms of quantity comprised iron ore fines 40.66 million tonnes (70%), iron ore pellets 14.46 million tonnes (25%), iron ore lumps 2.23 million tonnes (4%) and negligible quantity of iron ore non-agglomerated concentrate and iron ore pyrites. (Tables- 14 to 19).

## Imports

Unlike exports, imports of iron ore decreased drastically by 62% to 0.76 million tonnes in 2020-21 from 1.24 million tonnes in the previous year. Imports of iron ore were from Baharain (50%), South Africa (21%), Ukraine (12%) and Australia (7%) and negligible amount from other countries. The total imports in 2019-20 comprised iron ore lumps (21%), non-agglomerated concentrates (20%) (Tables-20 to 25).

**Table – 14 : Exports of Iron Ore : Total (By Countries)**

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **36625** | **186092710** | **57723** | **362556021** |
| China | 31607 | 151430366 | 51975 | 314421802 |
| Japan | 1956 | 12842147 | 2000 | 15053929 |
| Malaysia | 266 | 1678942 | 742 | 6605067 |
| Oman | 531 | 3927902 | 698 | 6283030 |
| Korea, Rep. of | 1016 | 7187095 | 658 | 5710435 |
| Indonesia | 53 | 417540 | 594 | 5375145 |
| Brazil | 54 | 419716 | 331 | 4076384 |
| Baharain Is | - | - | 154 | 1976368 |
| Vietnam Soc.Rep | 47 | 307924 | 192 | 1036766 |
| Poland | - | - | 73 | 592883 |
| Other countries | 1095 | 7881078 | 306 | 1424212 |

*Figures rounded off*

## Table – 15: Exports of Iron Ore : Lumps (By Countries)

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **1480** | **8779976** | **2239** | **13118637** |
| China | 521 | 1991320 | 1502 | 6811960 |
| Japan | 935 | 6755427 | 723 | 6279621 |
| UAE | - | - | 13 | 25884 |
| Nepal | 1 | 666 | 1 | 732 |
| Ethiopia | - | - | ++ | 235 |
| Congo.D.Rep | - | - | ++ | 117 |
| Australia | - | - | ++ | 54 |
| Zambia | - | - | ++ | 34 |
| Germany | ++ | 5 | ++ | ++ |
| Saudi Arabia | 23 | 32558 | - | - |

*Figures rounded off*

## Table – 16: Exports of Iron Ore: Fines (By Countries)

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **22374** | **83422738** | **40661** | **215190641** |
| China | 20702 | 73961561 | 38388 | 200434020 |
| Japan | 919 | 5486160 | 1277 | 8774308 |
| Korea, Rep. of | 581 | 3597258 | 516 | 4109204 |
| Vietnam | - | - | 170 | 860475 |
| Indonesia | - | - | 97 | 469465 |
| Malaysia | 48 | 149165 | 65 | 234948 |
| Nepal | 75 | 127673 | 85 | 171405 |
| UAE | 22 | 62982 | 39 | 118907 |
| Bangladesh | - | - | 24 | 17896 |
| USA | - | - | ++ | 12 |
| Other countries | 27 | 37939 | ++ | 1 |

*Figures rounded off*

## Table – 17 : Exports of Iron Ore: Pyrites (By Countries)

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **++** | **25049** | **++** | **46040** |
| Taiwan | ++ | 124 | ++ | 14965 |
| China | - | - | ++ | 11204 |
| Saudi Arabia | ++ | 2501 | ++ | 5567 |
| Netherlands | ++ | 4187 | ++ | 2573 |
| Bangladesh | ++ | 3880 | ++ | 2465 |
| Thailand | ++ | 1270 | ++ | 2246 |
| UAE | ++ | 2777 | ++ | 1585 |
| Malaysia | ++ | 772 | ++ | 703 |
| Australia | ++ | 1910 | ++ | 614 |
| Uganda | ++ | 171 | ++ | 614 |
| Other countries | ++ | 7457 | ++ | 3504 |

*Figures rounded off*

**Table – 18: Exports of Iron Ore: Concentrates Non-agglomerated (By Countries)**

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **153** | **559743** | **363** | **1781069** |
| China | 152 | 557777 | 309 | 1707189 |
| Qatar | - | - | 44 | 59508 |
| Nepal | 1 | 1905 | 9 | 13018 |
| Kenya | - | - | 1 | 1329 |
| Australia | - | - | ++ | 12 |
| Reunion | - | - | ++ | 7 |
| Finland | - | - | ++ | 2 |
| France | - | - | ++ | 2 |
| Germany | - | - | ++ | 2 |
| Austria | ++ | 29 | - | - |
| Other countries | ++ | 32 | - | - |

*Figures rounded off*

**Table – 19 : Exports of Iron Ore: Pellets (By Countries)**

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **12618** | **93305204** | **14460** | **132419634** |
| China | 10232 | 74919708 | 11776 | 105457429 |
| Malaysia | 218 | 1529005 | 677 | 6369416 |
| Oman | 531 | 3927820 | 698 | 6283030 |
| Indonesia | 53 | 417540 | 497 | 4905680 |
| Brazil | 54 | 419697 | 331 | 4076384 |
| Baharain | - | - | 154 | 1976368 |
| Korea, Rep. of | 435 | 3589369 | 142 | 1600668 |
| Poland | - | - | 73 | 592883 |
| Egypt | - | - | 60 | 563127 |
| France | 55 | 428204 | 30 | 416870 |
| Other countries | 1040 | 8073861 | 22 | 177779 |

*Figures rounded off*

**Table – 20: Imports of Iron Ore: Total (By Countries)**

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **1245** | **9409772** | **766** | **8445221** |
| Baharain | ++ | 3838 | 379 | 4612542 |
| South Africa | 543 | 4528314 | 166 | 1793445 |
| Ukraine | - | - | 96 | 853813 |
| Australia | 171 | 874461 | 58 | 593329 |
| Finland | ++ | 7067 | 61 | 461841 |
| Turkey | 2 | 23867 | 3 | 36744 |
| France | ++ | 1160 | ++ | 26141 |
| Croatia | 2 | 19967 | 2 | 20341 |
| Russia | ++ | 579 | 1 | 14161 |
| Sweden | ++ | 14484 | ++ | 11707 |
| Other countries | 527 | 3936035 | ++ | 21151 |

*Figures rounded off*

**Table – 21: Imports of Iron Ore: Concentrates Non-agglomerated (By Countries)**

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **420** | **3063619** | **154** | **1484523** |
| Ukraine | - | - | 96 | 853772 |
| Australia | - | - | 58 | 593329 |
| France | ++ | 1160 | ++ | 25291 |
| Sweden | ++ | 13251 | ++ | 11270 |
| Singapore | - | - | ++ | 353 |
| USA | ++ | 314 | ++ | 321 |
| Mali | ++ | 52 | ++ | 102 |
| China | - | - | ++ | 49 |
| UK | ++ | 57 | ++ | 31 |
| Japan | - | - | ++ | 5 |
| Other countries | 420 | 3048785 | - | - |

*Figures rounded off*

## Table – 22: Imports of Iron Ore: Pellets (By Countries)

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **54** | **438140** | **379** | **4612581** |
| Bahrain | - | - | 379 | 4612542 |
| Ukraine | - | - | ++ | 39 |
| Iran | 54 | 438138 | - | - |
| Japan | ++ | 2 | - | - |

*Figures rounded off*

## Table – 23 : Imports of Iron Ore : Pyrites (By Countries)

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **5** | **86330** | **67** | **546483** |
| Finland | ++ | 7067 | 61 | 461841 |
| Turkey | 2 | 23867 | 3 | 36744 |
| Croatia | 2 | 19967 | 2 | 20341 |
| Russia | ++ | 579 | 1 | 14161 |
| China | ++ | 10240 | ++ | 8601 |
| Italy | ++ | 5738 | ++ | 3901 |
| Malaysia | - | - | ++ | 545 |
| USA | ++ | 81 | ++ | 349 |
| UAE | 1 | 15438 | - | - |
| Serbia | ++ | 2940 | - | - |
| Other countries | ++ | 413 | - | - |

*Figures rounded off*

## Table – 24: Imports of Iron Ore Lumps (By Countries)

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **543** | **4530382** | **166** | **1800782** |
| South Africa | 543 | 4528314 | 166 | 1793445 |
| Mozambique | - | - | ++ | 6768 |
| Sweden | ++ | 824 | ++ | 437 |
| Germany | ++ | 14 | ++ | 127 |
| Japan | - | - | ++ | 5 |
| Belgium | ++ | 715 | - | - |
| Brazil | ++ | 515 | - | - |

*Figures rounded off*

**Table – 25: Imports of Iron Ore: Fines**
**(By Countries)**

| Country | 2019-20 (R) | | 2020-21 (P) | |
|---|---|---|---|---|
| | Qty ('000 t) | Value (₹'000) | Qty ('000 t) | Value (₹'000) |
| **All Countries** | **223** | **1291301** | **++** | **852** |
| France | - | - | ++ | 850 |
| Ukraine | - | - | ++ | 2 |
| Australia | 171 | 874461 | - | - |
| Philippines | 52 | 416840 | - | - |

*Figures rounded off*

# FUTURE OUTLOOK

India is one of the leading producers of iron ore in the world. Among the consuming industries, Cement Industry is the second major consumer of iron ore after Iron & Steel Industry (including Sponge Iron Industry).

The Ministry of Steel under Government of India has introduced the new National Steel Policy, 2017 and with the roll out of the National Steel Policy, 2017 and the DMI & SP policy, it is envisaged that the industry can be steered with appropriate policy support in creating an environment for promoting domestic steel and thereby ensuring a scenario where production meets the anticipated pace of growth in consumption. Thus, the Indian Steel Sector is all set to achieve its vision thereby setting a global benchmark in terms of quality, standards and technology. It is anticipated that crude steel capacity of 300 million tonnes will be required by 2030-31 and to fulfill this capacity, about 437 million tonnes of iron ore is required. However, achieving crude steel capacity up to 300 million tonnes will require extensive mobilisation of natural resources, finances, manpower and infrastructure including land. To address the concerns regarding availability of raw material (iron ore) intensive & deeper exploration would have to be promoted for augmentation of resource base. Eco-friendly viable underground mining techniques for optimal utilisation of magnetite ore deposits locked in Western Ghats would also have to be explored in collaboration with mining research institutes. The Government has already promulgated the Mines and Minerals (Development and Regulation) Amendment Act, 2015 and therein has laid great emphasis on time bound mine development with increased stress on mineral exploration and sustainable mining operations which may support ore output growth.

The Act has brought clarity on mine allocation process (through auction) and procedures for mining lease renewal. The Act, further, provides for reservation of any particular mine for a particular end use and put conditions permitting auction among such eligible end users.