

8 Production

MINERALS

The total value of mineral production (excluding atomic minerals) at Rs. 1,14,515 crore during 2007-08 increased by about 10% as compared to the previous year due to rise in the production of coal, lignite, natural gas (utilised), bauxite, copper concentrate, gold, lead concentrate, iron ore, manganese ore, zinc concentrates, phosphorite/rock phosphate, etc.

In the total value of mineral production, the fuel minerals contributed the major share of Rs.70,336 crore or 61%. The rest was accrued from metallic minerals Rs. 24,038 crore or 21 %, non-metallic minerals Rs. 3,446 crore or 3% and minor minerals Rs.16,695 crore or 15% (Table-1).

Fuel Minerals

The value of fuel minerals in 2007-08 at Rs. 70,336 crore increased by 6% as compared to the preceding year. The production of **coal** at 457 million tonnes during 2007-08 increased by more than 6% over the previous year. Jharkhand, Chhattisgarh, Orissa, Madhya Pradesh, Andhra Pradesh, Maharashtra, West Bengal and Uttar Pradesh continued to be the principal producing states accounting for 98.3% of the total production of coal in the country during 2007-08. The remaining 1.7% of the total production was reported from Meghalaya, Assam and Jammu & Kashmir. The production of **lignite** at 34 million tonnes registered an increase of 9 % over the previous year. Major quantity of 22 million tonnes or 64% was reported from Tamil Nadu and the rest of 12 million tonnes or 36% of lignite from Gujarat and Rajasthan.

The production of **petroleum (crude)** at 34 million tonnes during 2007-08 increased marginally as compared to the previous year. Offshore contributed 67.1%, followed by Gujarat 18.1% and Assam 12.8%. The remaining 2% was jointly shared by Andhra Pradesh, Tamil Nadu, and Arunachal Pradesh. During 2007-08, production of **natural gas (utilised)** at 32,274 m cu m recorded

an increase of 2% as compared with that of the previous year. Offshore, which is the largest source for natural gas accounted for 71.9% of the total production followed by Gujarat 9.1%. The remaining 19% was contributed by Assam, Rajasthan, Tamil Nadu, Tripura, Andhra Pradesh and Arunachal Pradesh.

Metallic Minerals

The value of metallic minerals in 2007-08 at Rs. 24,038 crore increased by about 31% over the previous year. Among the principal metallic minerals, iron ore contributed Rs. 18,495 crore or 77%, chromite Rs. 2,020 crore or 8%, manganese ore Rs. 1,098 crore or 5%, lead (concentrate) & zinc (concentrate) Rs. 1,080 crore or 4%, bauxite Rs. 526 crore and copper (concentrate) Rs. 383 crore or about 2% each, gold Rs. 283 crore or 1%, while the remaining was jointly shared by silver and tin concentrates.

The production of **iron ore** at about 206.45 million tonnes in 2007-08 registered an increase of 10% over the previous year. About 32% of the total production was shared by Public Sector Companies like SAIL (including IISCO), NMDC etc. The share of Private Sector was 68%. Almost the entire production of iron ore (94%) accrued from Orissa, Karnataka, Chhattisgarh, Goa and Jharkhand during the year. The remaining 6% production was reported from Andhra Pradesh, Madhya Pradesh, Maharashtra and Rajasthan.

The production of **copper concentrate** at 159 thousand tonnes in 2007-08 increased by about 6% as compared to the previous year. Average metal content in copper conc. was 21.75% Cu. The production of **chromite** at 4.8 million tonnes in 2007-08 decreased by 9% as compared to the previous year. Orissa reported almost entire output of chromite (99.9%) in the country. A nominal production was reported from Karnataka. Mining of chromite was mostly dominated by private sector producers, viz, Tata Steel (formerly TISCO), IMFAL, Balasore Alloys Ltd and FACOR having their own plants, jointly accounted for 60%

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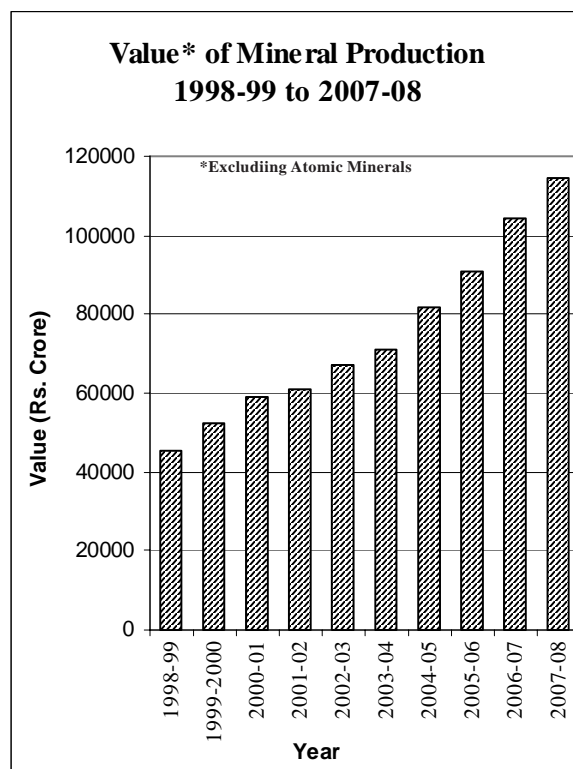
of total production during 2007-08. Three public sector companies viz. OMC, MML and Industrial Development Corpn. of Orissa Ltd (IDCOL) together reported 30% of the total production in 2007-08. The production of **manganese ore** at 2.6 million tonnes in 2007-08 increased by about 21% as compared to that in the previous year. MOIL continued to be the largest producer of manganese ore with a share of 50% of the total production in 2007-08 followed by Tata Steel (12%), SMIOR (9%) and Mangilal Rungta (4%). Of the total production of manganese ore in 2007-08, Maharashtra contributed 34%, Orissa 26%, Madhya Pradesh 22% and Karnataka 12%. The remaining 3% was jointly shared by Andhra Pradesh and Jharkhand.

The production of **gold** at 2,858 kg (excluding by-product gold recovery from imported concentrates) in 2007-08 registered an increase of about 21% as compared to the previous year. Karnataka was the leading producer of gold accounting for 99% of the total production. The remaining production was reported from Jharkhand. The production of **bauxite** at 23.1 million tonnes in 2007-08 increased by 47% as compared to the previous year. The five major companies namely NALCO, Hindalco, Prabhu Das Vithal Das, BALCO and Bombay Minerals Ltd engaged in bauxite mining in the country, jointly contributed 49% of the total production of bauxite in 2007-08. Gujarat accounted for 54% of the total output of bauxite during 2007-08 followed by Orissa 20%, Chhattisgarh and Maharashtra 8% each and Jharkhand 5%.

During 2007-08, the production of **lead concentrate** at 126 thousand tonnes increased by 17% and that of zinc concentrate at 1,036 thousand tonnes showed an increase of 9% over the previous year. Average metal content in lead concentrate was 61.74% Pb and that in zinc concentrate was 62.76% Zn. Rajasthan accounted for the entire production of lead concentrate and zinc concentrate during 2007-08.

Non-Metallic Minerals

The value of production of non-metallic minerals at Rs. 3,446 crore during 2007-08 increased by 3% as compared to the previous year. Limestone retained its leading position by



contributing 70% of the total value of non-metallic minerals in 2007-08. The other non-metallic minerals in the order of importance were phosphorite/rock phosphate (9%), kaolin (4%), dolomite (4%), barytes, gypsum, talc/soapstone/steatite (about 2% each), magnesite, silica sand and garnet (abrasive) (about 1% each). The remaining 4% was from other non-metallic minerals.

The production of **limestone** at 188 million tonnes in 2007-08 registered a decline of 4% over the previous year. Limestone is widely produced in India. As much as 87% of the total output in 2007-08 was contributed by seven principal states viz. Andhra Pradesh (20%), Rajasthan (16%), Madhya Pradesh (14%), Gujarat (12%), Tamil Nadu (9%), Chhattisgarh and Karnataka (8% each). The remaining 13% of the total production was shared by other limestone producing states. About 55% of the total production was reported by 15 private sector companies. Some of them are Grasim Industries Ltd. The ACC Ltd, Ultra Tech Ltd (9% each), India Cement Ltd and Gujarat Ambuja Ltd (5% each), Birla Corporation Ltd, Madras Cement Ltd and Shree Cement (3% each).

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The Graphical Representations have been deleted

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**Table - 1 : Mineral* Production in India, 2005-06 to 2007-08
(By Mineral Groups & Minerals)**

(Value Rs.'000)

| Mineral | Unit | 2005-06 | | 2006-07 | | 2007-08 (p) | |
|------------------------------|-------------|----------|------------------|----------|-------------------|-------------|-------------------|
| | | Quantity | Value | Quantity | Value | Quantity | Value |
| All Minerals | | | 907448097 | | 1044904932 | | 1145149911 |
| Fuel Minerals | | | 630665093 | | 661582924 | | 703363416 |
| Coal | '000 tonnes | 407039 | 336752625 | 430832 | 348367906 | 457003 | 384493450 |
| Lignite | '000 tonnes | 30066 | 21531368 | 31285 | 26260258 | 33980 | 29608836 |
| Natural gas (utilised) | m cu m | 32202 | 93082800 | 31747 | 97641600 | 32274 | 99229440 |
| Petroleum (crude) | '000 tonnes | 32190 | 179298300 | 33988 | 189313160 | 34117 | 190031690 |
| Metallic Minerals | | | 139034440 | | 182858054 | | 240381360 |
| Bauxite | tonne | 12595803 | 2933230 | 15732535 | 3847802 | 23084677 | 5259380 |
| Chromite | tonne | 3714284 | 10929529 | 5295551 | 14501689 | 4798515 | 20201550 |
| Copper ore | tonne | 2642706 | - | 3273906 | - | 3242371 | - |
| Copper conc. | tonne | 125392 | 2508963 | 149584 | 3117098 | 158555 | 3825408 |
| Gold ore | tonne | 479353 | - | 512609 | - | 692338 | - |
| Gold | kg | 2880 | 2700033 | 2361 | 2173412 | 2858 | 2825920 |
| Gold (by-product) | kg | 167 | 122763 | 127 | 117513 | - | - |
| Iron ore | '000 tonnes | 165230 | 108038760 | 187696 | 142043084 | 206452 | 184954025 |
| Lead & zinc ore | tonne | 4801184 | - | 5139915 | - | 5817059 | - |
| Lead conc. | tonne | 95738 | 768073 | 107334 | 1331434 | 125756 | 1421788 |
| Zinc conc. | tonne | 889007 | 5719678 | 947387 | 9714664 | 1035827 | 9375366 |
| Manganese ore | tonne | 1906353 | 5070450 | 2115507 | 5573734 | 2550560 | 10983042 |
| Silver | kg | 27961 | 228123 | 53271 | 419262 | 80684 | 1521158 |
| Tin conc. | kg | 98734 | 14838 | 100835 | 18362 | 61522 | 13723 |
| Non-Metallic Minerals | | | 28946072 | | 33514560 | | 34455741 |
| Agate | tonne | 9 | 5 | 38 | 23 | 15 | 9 |
| Apatite | tonne | 9053 | 17942 | 9464 | 18359 | 6691 | 12799 |
| Phosphorite/Rock phosphate | tonne | 2049277 | 2942798 | 1586843 | 2184561 | 1859851 | 3090409 |
| Asbestos | tonne | 2323 | 19296 | 390 | 14921 | 261 | 9764 |
| Ball clay | tonne | 406675 | 49315 | 626801 | 138652 | 640869 | 145656 |
| Barytes | tonne | 1156227 | 444147 | 1680695 | 947053 | 1071765 | 553202 |
| Calcite | tonne | 73558 | 19486 | 105724 | 37520 | 81548 | 30705 |
| Chalk | tonne | 148352 | 41208 | 210838 | 69137 | 192402 | 63057 |
| Clay (others) | tonne | 805765 | 36006 | 1224235 | 105245 | 802621 | 63169 |
| Corundum | kg | 58000 | 116 | 156000 | 378 | 84500 | 287 |
| Diamond | carat | 44170 | 233710 | 2180 | 14683 | 586 | 5701 |
| Diaspore | tonne | 24494 | 16954 | 15944 | 11691 | 22393 | 17629 |
| Dolomite | tonne | 4750512 | 1162833 | 5171649 | 1125676 | 5117461 | 1266670 |
| Dunite | tonne | 36621 | 7979 | 29708 | 4061 | 29169 | 10744 |
| Felspar | tonne | 426498 | 70740 | 479715 | 86044 | 410926 | 76769 |

(Contd.)

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Table - 1 (Concl.d.)

| Mineral | Unit | 2005-06 | | 2006-07 | | 2007-08 (p) | |
|-------------------------|-------------|----------|------------------|----------|------------------|-------------|------------------|
| | | Quantity | Value | Quantity | Value | Quantity | Value |
| Fireclay | tonne | 535735 | 62448 | 497315 | 65868 | 460380 | 73069 |
| Felsite | tonne | 981 | 838 | 642 | 790 | 200 | 400 |
| Fluorite (graded) | tonne | 5577 | 14594 | 2053 | 8905 | 3502 | 15791 |
| Fluorite (conc.) | tonne | 3764 | 35082 | - | - | 3794 | 45555 |
| Garnet (abrasive) | tonne | 671541 | 182814 | 858843 | 259167 | 873498 | 303239 |
| Graphite (r.o.m.) | tonne | 125651 | 43050 | 162293 | 59296 | 116007 | 47430 |
| Gypsum | tonne | 3291478 | 401288 | 3005572 | 494242 | 2606788 | 542320 |
| Jasper | tonne | 536 | 196 | - | - | - | - |
| Kaolin | tonne | 1335744 | 2053626 | 1460363 | 1622193 | 1291724 | 1547852 |
| Kyanite | tonne | 8869 | 7141 | 8059 | 7584 | 4804 | 4696 |
| Sillimanite | tonne | 33119 | 174383 | 26366 | 101304 | 42566 | 179916 |
| Laterite | tonne | 1040816 | 98124 | 1373325 | 157624 | 1430578 | 197794 |
| Limestone | '000 tonnes | 170029 | 19060882 | 196695 | 24050066 | 188125 | 24135445 |
| Lime kankar | tonne | 291926 | 54776 | 395817 | 68378 | 336440 | 58031 |
| Limeshell | tonne | 110296 | 59832 | 103548 | 72949 | 138612 | 90748 |
| Magnesite | tonne | 340674 | 385770 | 238981 | 341740 | 247527 | 369866 |
| Mica (crude) | tonne | 2116 | 34439 | 1411 | 37635 | 1242 | 33872 |
| Mica (waste & scrap)** | tonne | 4754 | - | 3170 | - | 3341 | - |
| Ochre | tonne | 1007088 | 62894 | 1047831 | 93569 | 917552 | 83610 |
| Perlite | tonne | 122 | 110 | 68 | 68 | - | - |
| Pyrophyllite | tonne | 182526 | 35948 | 147807 | 29929 | 204889 | 42398 |
| Pyroxenite | tonne | 340953 | 111957 | 301733 | 82693 | 314554 | 95825 |
| Quartz | tonne | 302259 | 44036 | 293660 | 45134 | 264664 | 38963 |
| Quartzite | tonne | 109210 | 54590 | 102711 | 95191 | 84312 | 24940 |
| Silica sand | tonne | 2369977 | 287542 | 2663289 | 377887 | 3931351 | 414979 |
| Sand (others) | tonne | 2277632 | 77523 | 1770235 | 67080 | 1424103 | 58859 |
| Salt (rock) | tonne | 1871 | 2954 | 1714 | 2706 | 1197 | 2479 |
| Shale | tonne | 2683853 | 67817 | 2849877 | 90779 | 2823089 | 68717 |
| Slate | tonne | 2527 | 694 | 4 | 1 | - | - |
| Selenite | tonne | - | - | - | - | 3341 | 2339 |
| Sulphur*** | tonne | 152090 | - | 204186 | - | 227311 | - |
| Talc/steatite/soapstone | tonne | 681534 | 363835 | 739849 | 401169 | 825986 | 519568 |
| Vermiculite | tonne | 6674 | 5060 | 11827 | 8523 | 10801 | 8532 |
| Wollastonite | tonne | 128582 | 99294 | 131572 | 114086 | 118666 | 101938 |
| Minor Minerals@ | | - | 108802492 | - | 166949394 | - | 166949394 |

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

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

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

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

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The production of **phosphorite/rock phosphate** at 1,860 thousand tonnes increased by 17% in 2007-08 as compared to the previous year. The entire production was from Public Sector. Rajasthan, the major producing state of phosphorite/rock phosphate contributed 94% of the total production during 2007-08. Jhamarkotra mine of Rajasthan State Mines & Minerals Ltd alone accounted for 94% of the total production during the year. The production of **dolomite** at 5,117 thousand tonnes in 2007-08 showing a marginal decrease as compared to the preceding year. Four major companies, viz, SAIL (21%), Bisra Stone Lime Co. (12%), Rashtriya Ispat Nigam Ltd (13%) and Tata Steel (9%) together accounted for 55% of the dolomite produced in 2007-08. Orissa, Andhra Pradesh and Chhattisgarh were the principal producing states of dolomite accounting for 32%, 25% and 23%, respectively, of the total production and the remaining 20% was contributed by Karnataka, Jharkhand, Gujarat, Madhya Pradesh, Maharashtra and Rajasthan during the year.

The production of **kaolin** in 2007-08 at 1,292 thousand tonnes decreased by 12% as compared to that in the previous year. Nearly 38% of total output of kaolin in 2007-08 was reported from Gujarat followed by Kerala 30% and Rajasthan 16%. Production of **gypsum** at 2.6 million tonnes in 2007-08 registered a decrease of 13% as compared to the previous year. By and large, the entire production of gypsum was reported from Rajasthan (99%). The remaining output accrued from Jammu & Kashmir and Gujarat. Two public sector companies, namely, RSMML and Fertiliser Corporation of India Ltd accounted for almost the entire production. The production of **magnesite** at 248 thousand tonnes during 2007-08 increased by 4% as compared to the previous year.

The production of **talc/soapstone/steatite** in 2007-08 at 826 thousand tonnes increased by about 12% over the previous year. Rajasthan, the principal state accounted for 70% of the total production in 2007-08. Five principal producers in Rajasthan, namely Associated Soapstone Distributing Co. (P) Ltd (25%), Udaipur Mineral Development Syndicate (P) Ltd (23%), Parbatia Mines (6%), Nalwaya Mineral Industries Pvt. Ltd and Katiyar Mining and Industrial Corpn. (5% each) together accounted for 64% in the total production of talc/soapstone/steatite in 2007-08.

Reporting Mines

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

At all-India level, 2,854 working mines (excluding atomic & minor minerals and petroleum (crude) & natural gas) located in 20 states reported production during 2007-08. Among them, 569 mines belonged to coal & lignite, 676 to metallic minerals and 1,609 to non-metallic minerals. There were 755 mines in public sector and the rest of 2,099 mines in private sector. The reporting mines concentrated in eleven major states, namely, Andhra Pradesh, Chhattisgarh, Gujarat, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Orissa, Rajasthan, Tamil Nadu and West Bengal were 2,626 or 92% of the total reporting mines.

Employment

The estimated average daily employment of labour engaged in mining sector was 5,14,009 in 2007-08. Of this, 4,22,048 or 82% were in public sector and 91,961 or 18% in private sector. Fuel minerals accounted for 76%, metallic minerals 15% and non-metallic minerals 9% of the total labour force during the year.

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Role of Public Sector

The value of mineral production (excluding atomic minerals) in public sector was at Rs.72,863 crore or 64% in the overall value of mineral production in 2007-08. The share of public sector in the total value of fuel minerals was 88%, in metallic minerals 41% and 25% in non-metallic minerals during the year.

The entire production of copper conc. among metallic minerals and diamond, dunite, fluorite

(concentrate), fluorite (graded), phosphorite/rock phosphate, salt (rock), sand (others), selenite and sulphur in respect of non-metallic minerals was reported from the public sector. By and large, the entire production of lignite, gold (total), barytes and gypsum came from public sector during 2007-08. Public Sector also had sizeable contribution in production of coal (92%), petroleum (crude) (85%), natural gas (utilised) (76%), sillimanite (71%) and kyanite (75%) (Table-2).

Table - 2 : Mineral Production (Quantity), 2006-07 and 2007-08 (By Sectors)

| Mineral | Unit | All India | | Public sector | | Private sector | | % share of public sector in total production | | Overall increase (+) or decrease (-) in production in 2007-08 over 2006-07 |
|------------------------------|--------|-----------|----------|---------------|---------|----------------|----------|--|---------|--|
| | | 2006-07 | 2007-08 | 2006-07 | 2007-08 | 2006-07 | 2007-08 | 2006-07 | 2007-08 | |
| Fuel Minerals | | | | | | | | | | |
| Coal | '000 t | 430832 | 457003 | 400393 | 422087 | 30439 | 34916 | 92.93 | 92.36 | 6.07 |
| Lignite | '000 t | 31285 | 33980 | 31201 | 33889 | 84 | 91 | 99.73 | 99.73 | 8.61 |
| Natural gas (utilised) | m cu m | 31747 | 32274 | 24708 | 24547 | 7039 | 7727 | 77.83 | 76.06 | 1.66 |
| Petroleum (crude) | '000 t | 33988 | 34117 | 29158 | 29040 | 4830 | 5077 | 85.79 | 85.12 | 0.38 |
| Metallic Minerals | | | | | | | | | | |
| Bauxite | tonne | 15732535 | 23084677 | 4835198 | 5860205 | 10897337 | 17224472 | 30.73 | 25.39 | 46.73 |
| Chromite | tonne | 5295551 | 4798515 | 1616602 | 1442242 | 3678949 | 3356273 | 30.53 | 30.06 | -9.39 |
| Copper conc. | tonne | 149584 | 158555 | 149584 | 158555 | - | - | 100.00 | 100.00 | 6.00 |
| Copper ore | tonne | 3273906 | 3242371 | 3273906 | 3242371 | - | - | 100.00 | 100.00 | -0.96 |
| Gold (total) | kg | 2488 | 2858 | 2461 | 2831 | 27 | 27 | 98.91 | 99.06 | 14.87 |
| Gold ore | tonne | 512609 | 692338 | 501340 | 684993 | 11269 | 7345 | 97.80 | 98.94 | 35.06 |
| Iron ore (total) | '000 t | 187696 | 206452 | 62759 | 65521 | 124937 | 140931 | 33.44 | 31.74 | 9.99 |
| Lead & zinc ore | tonne | 5139915 | 5817059 | - | - | 5139915 | 5817059 | - | - | 13.17 |
| Lead conc. | tonne | 107334 | 125756 | - | - | 107334 | 125756 | - | - | 17.16 |
| Manganese ore | tonne | 2115507 | 2550560 | 1059475 | 1376136 | 1056032 | 1174424 | 50.08 | 53.95 | 20.56 |
| Silver | kg | 53271 | 80684 | 1976 | 281 | 51295 | 80403 | 3.71 | 0.35 | 51.46 |
| Tin conc. | kg | 100835 | 61522 | 74408 | 47051 | 26427 | 14471 | 73.79 | 76.48 | -38.99 |
| Zinc conc. | tonne | 947387 | 1035827 | - | - | 947387 | 1035827 | - | - | 9.34 |
| Non-Metallic Minerals | | | | | | | | | | |
| Agate | tonne | 38 | 15 | - | - | 38 | 15 | - | - | -60.53 |
| Apatite | tonne | 9464 | 6691 | 5744 | 2838 | 3720 | 3853 | 60.69 | 42.42 | -29.30 |
| Phosphorite/rock phosphate | tonne | 1586843 | 1859851 | 1586843 | 1859851 | - | - | 100.00 | 100.00 | 17.20 |
| Asbestos | tonne | 390 | 261 | - | - | 390 | 261 | - | - | -33.08 |
| Ball clay | tonne | 626801 | 640869 | 104366 | 84503 | 522435 | 556366 | 16.65 | 13.19 | 2.24 |
| Barytes | tonne | 1680695 | 1071765 | 1630479 | 1040532 | 50216 | 31233 | 97.01 | 97.09 | -36.23 |
| Calcite | tonne | 105724 | 81548 | - | - | 105724 | 81548 | - | - | -22.87 |
| Chalk | tonne | 210838 | 192402 | - | - | 210838 | 192402 | - | - | -8.74 |
| Clay (others) | tonne | 1224235 | 802621 | - | - | 1224235 | 802621 | - | - | -34.44 |
| Corundum | kg | 156000 | 84500 | 66000 | 63000 | 90000 | 21500 | 42.31 | 74.56 | -45.83 |
| Diamond | carat | 2180 | 586 | 2180 | 586 | - | - | 100.00 | 100.00 | -73.12 |
| Diaspore | tonne | 15944 | 22393 | 2065 | 1174 | 13879 | 21219 | 12.95 | 5.24 | 40.45 |
| Dolomite | tonne | 5171649 | 5117461 | 2550597 | 2448230 | 2621052 | 2669231 | 49.32 | 47.84 | -1.05 |
| Dunite | tonne | 29708 | 29169 | 29456 | 29169 | 252 | - | 99.15 | 100.00 | -1.81 |
| Felsite | tonne | 642 | 200 | - | - | 642 | 200 | - | - | -68.85 |
| Felspar | tonne | 479715 | 410926 | - | - | 479715 | 410926 | - | - | -14.34 |

(Contd.)

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Table - 2 (Concl.d.)

| Mineral | Unit | All India | | Public sector | | Private sector | | % share of public sector in total production | | Overall increase (+) or decrease (-) in production in 2007-08 over 2006-07 |
|-----------------------------|--------|-----------|---------|---------------|---------|----------------|---------|--|---------|--|
| | | 2006-07 | 2007-08 | 2006-07 | 2007-08 | 2006-07 | 2007-08 | 2006-07 | 2007-08 | |
| Fireclay | tonne | 497315 | 460380 | 35 | 112 | 497280 | 460268 | 0.01 | 0.02 | -7.43 |
| Fluorite conc. | tonne | - | 3794 | - | 3794 | - | - | - | 100.00 | - |
| Flourite graded | tonne | 2053 | 3502 | 2053 | 3502 | - | - | 100.00 | 100.00 | 70.58 |
| Garnet (abrasive) | tonne | 858843 | 873498 | 18660 | 23254 | 840183 | 850244 | 2.17 | 2.66 | 1.71 |
| Graphite (r.o.m.) | tonne | 162293 | 116007 | 58961 | 49308 | 103332 | 66699 | 36.33 | 42.50 | 28.52 |
| Gypsum | tonne | 3005572 | 2606788 | 2977564 | 2606660 | 28008 | 128 | 99.07 | 100.00 | -13.27 |
| Kaolin (total) | tonne | 1460363 | 1291724 | 51689 | 105584 | 1408674 | 1186140 | 3.54 | 8.17 | -11.55 |
| Kyanite | tonne | 8059 | 4804 | 6975 | 3624 | 1084 | 1180 | 86.55 | 75.44 | -40.39 |
| Laterite | tonne | 1373325 | 1430578 | 5386 | 7947 | 1367939 | 1422631 | 0.39 | 0.56 | 4.17 |
| Lime kankar | tonne | 395817 | 336440 | - | - | 395817 | 336440 | - | - | -15.00 |
| Limeshell | tonne | 103548 | 138612 | 26752 | 27990 | 76796 | 110622 | 25.84 | 20.19 | 33.86 |
| Limestone | '000 t | 196695 | 188125 | 12065 | 11930 | 184630 | 176195 | 6.13 | 6.34 | -4.36 |
| Magnesite | tonne | 238981 | 247527 | 155949 | 167300 | 83032 | 80227 | 65.26 | 67.59 | 3.58 |
| Mica (crude) | kg | 1410576 | 1242271 | - | - | 1410576 | 1242271 | - | - | -11.93 |
| Mica (Waste & scrap) | kg | 3169838 | 3340794 | - | - | 3169838 | 3340794 | - | - | 5.39 |
| Ochre | tonne | 1047831 | 917552 | - | - | 1047831 | 917552 | - | - | -12.43 |
| Perlite | tonne | 68 | - | - | - | 68 | - | - | - | - |
| Pyrophyllite | tonne | 147807 | 204889 | 15269 | 19290 | 132538 | 185599 | 10.33 | 9.41 | 38.62 |
| Pyroxenite | tonne | 301733 | 314554 | - | - | 301733 | 314554 | - | - | 4.25 |
| Quartz | tonne | 293660 | 264664 | 4350 | 4147 | 289310 | 260517 | 1.48 | 1.57 | -9.87 |
| Quartzite | tonne | 102711 | 84312 | - | - | 102711 | 84312 | - | - | -17.91 |
| Salt (rock) | tonne | 1714 | 1197 | 1714 | 1197 | - | - | 100.00 | 100.00 | -30.16 |
| Sand (others) | tonne | 1770235 | 1424103 | 1770235 | 1424103 | - | - | 100.00 | 100.00 | -19.55 |
| Shale | tonne | 2849877 | 2823089 | 102000 | 71542 | 2747877 | 2751547 | 3.58 | 2.53 | -0.94 |
| Silica sand | tonne | 2663289 | 3931351 | 45990 | 74579 | 2617299 | 3856772 | 1.73 | 1.90 | 47.61 |
| Sillimanite | tonne | 26366 | 42566 | 20260 | 30340 | 6106 | 12226 | 76.84 | 71.28 | 61.44 |
| Selenite | tonne | - | 3341 | - | 3341 | - | - | - | 100.00 | - |
| Slate | tonne | 4 | - | - | - | 4 | - | - | - | - |
| Sulphur | tonne | 204186 | 227311 | 204186 | 227311 | - | - | 100.00 | 100.00 | 11.33 |
| Talc/soapstone/ steatite | tonne | 739849 | 825986 | - | - | 739849 | 825986 | - | - | 11.64 |
| Vermiculite | tonne | 11827 | 10801 | 1491 | 1685 | 10336 | 9116 | 12.61 | 15.60 | -8.68 |
| Wollastonite | tonne | 131572 | 118666 | - | - | 131572 | 118666 | - | - | -9.81 |

Minor Minerals

The value of minor minerals at Rs 16,694.9 crore in 2006-07 was higher by 53.4% as compared to that in the previous year due to increase in production of Road Metal from Andhra Pradesh. Andhra Pradesh with a share of 49% in the value of minor minerals produced in the country continued to occupy the top position. Rajasthan remained at second place and had a share of 14.8% to the value of minor minerals. Next in the order were Uttar Pradesh with a share of 13.3%, Bihar 6.5%, Gujarat 3.6%, Kerala 3.5%, Madhya Pradesh 2.6% and Maharashtra 1.9%. The contribution of remaining States and Union Territories was less than one percent each (Table-3).

Mineralwise analysis revealed that road metals had the largest share of 36.4% to the value of minor minerals followed by building stone 20.4%, brick-earth 14.9%, ordinary sand 7.2%, gravel 5.1%, marble 3.8%, quartzite & sand stone 3.1%, limestone 2%, murrum & kankar 1.9% each and ordinary earth 1.4%. The individual share of remaining minerals was less than 1% which together contributed 1.7% of value of minor minerals (Table-4).

The share of minor minerals in the value of mineral production was about 11.99% in 2005-06 and 15.98% in 2006-07 (Table - 5).

PRODUCTION

Table - 3 : Share of Minor Minerals in Total Value of Mineral Production, 2004-05 to 2006-07 (By States)

(Value in Rs. '000)

| Year | All minerals | Minor minerals | % share of minor minerals |
|------------|--------------|----------------|---------------------------|
| 2004-05 | 818003084 | 86544978 | 10.58 |
| 2005-06 | 907448097 | 108802492 | 11.99 |
| 2006-07(p) | 1044904932 | 166949394 | 15.98 |

Table - 4 : Value of Minor Minerals 2004-05 to 2006-07 (By States)

(Value in Rs.'000)

| Mineral | 2004-05 | 2005-06 | 2006-07 (p) |
|---------------------------|-----------------|------------------|------------------|
| India | 86544978 | 108802492 | 166949394 |
| Andhra Pradesh | 22603329 | 33675621 | 81894496 |
| Arunachal Pradesh | 1523 | 1523 | 1523 |
| Assam | 223678 | 342553 | 342553 |
| Bihar | 10850274 | 10850274 | 10850274 |
| Chhattisgarh | 703374 | 534494 | 752041 |
| Goa | 55006 | 57266 | 57250 |
| Gujarat | 2992393 | 4843649 | 6063139 |
| Haryana | 1487198 | 1487198 | 1487198 |
| Himachal Pradesh | 164500 | 164500 | 257169 |
| Jammu & Kashmir | 284406 | 174715 | 231863 |
| Jharkhand | 401448 | 401448 | 401448 |
| Karnataka | 231959 | 260270 | 260270 |
| Kerala (1) | 3338216 | 4603728 | 5893196 |
| Madhya Pradesh | 2327088 | 3910483 | 4401874 |
| Maharashtra | 3251622 | 3621816 | 3173095 |
| Manipur | 2866 | 2866 | 2866 |
| Meghalaya | 59129 | 72075 | 72075 |
| Mizoram | 755 | 755 | 755 |
| Nagaland | 1774 | 1774 | 1774 |
| Orissa | 856767 | 856767 | 856767 |
| Punjab | 243375 | 152301 | 190534 |
| Rajasthan | 19883908 | 18738936 | 24771804 |
| Sikkim | 4279 | 33220 | 9050 |
| Tamil Nadu | 608971 | 590686 | 590686 |
| Tripura | 2421 | 5018 | 5507 |
| Uttar Pradesh | 14867539 | 21340302 | 22209832 |
| Uttarakhand | 317640 | 475154 | 475154 |
| West Bengal (2) | 726904 | 1455113 | 1455113 |
| Andaman & Nicobar Islands | 46194 | 141926 | 230751 |
| Chandigarh | 2 | 653 | 3575 |
| Daman & Diu | 375 | 233 | 587 |
| Puducherry | 6065 | 5175 | 5175 |

(1) Excluding data in respect of quarrying permits for which royalty does not exceed Rs.1,000/-.

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

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

Table - 5 : Value of Minor Minerals 2004-05 to 2006-07 (By Minerals)

(Value in Rs.'000)

| State | 2004-05 | 2005-06 | 2006-07(p) |
|---|-----------------|------------------|------------------|
| All minerals | 86544978 | 108802492 | 166949394 |
| Building stones | 20810683 | 29149609 | 34128784 |
| Gravel | 3404954 | 3487980 | 8509864 |
| Ordinary clay | 264086 | 1219460 | 1419267 |
| Ordinary sand (1) | 9069479 | 11034728 | 12031680 |
| Boulder | 643808 | 698755 | 836305 |
| Shingle | 24299 | 24299 | 49772 |
| Chalcedony or impure quartz pebbles (2) | 410 | 69 | 193 |
| Limeshell (3) | 6820 | 9105 | 5680 |
| Kankar (3) | 2234155 | 1588492 | 3159799 |
| Limestone (3) | 623709 | 3226719 | 3395253 |
| Murrum | 1760309 | 2780500 | 3190371 |
| Brick earth | 21896765 | 24602505 | 24912079 |
| Fuller's earth | 74816 | 80409 | 93366 |
| Bentonite | 83739 | 62198 | 115592 |
| Road metal | 12167250 | 18171180 | 60807783 |
| Reh matti | 4674 | 3227 | 9876 |
| Slate (4) | 33146 | 26247 | 36755 |
| Shale (4) | 22431 | 5076 | 40 |
| Marble | 5780012 | 5945862 | 6368476 |
| Stone (5) | 67440 | 159814 | 289259 |
| Quartzite/sandstone (6) | 6481887 | 5403806 | 5212994 |
| Saltpetre | 3071 | 2817 | 2827 |
| Ordinary earth (7) | 1087035 | 1119635 | 2373379 |

(1) Used for purposes other than (i) refractory and manufacture of ceramic, (ii) metallurgical, (iii) optical, (iv) stowing in coal mines, (v) manufacture of silviculture cement, sodium silicate, pottery & glass.

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

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

(4) Used for building material.

(5) Used for making household utensils.

(6) Used for purposes of building or for making road metals and household utensils.

(7) Used for purposes of construction of embankments, roads, railways and buildings.

PRODUCTION

Index of Mineral Production

During 2007-08, the index of mineral production in respect of mining and quarrying sector (excluding atomic minerals) (base 1993-94=100) at 172.4 displayed a growth of about

3% over the previous year. The positive growth in the index was owing to the upward movement in the index for fuel minerals by 3% and metallic group of minerals by 7% (Table-6).

**Table - 6 : Index of Mineral Production, 2005-06 to 2007-08
(Excluding Atomic Minerals)**

(Base 1993-94=100)

| Year | Index of mineral production (1000) | Coal & lignite (324.63) | Crude petroleum & natural gas (532.55) | Metallic minerals (80.76) | Non-metallic minerals (42.33) | Minor minerals (19.73) |
|-------------|--|----------------------------|--|------------------------------|-------------------------------------|---------------------------|
| 2005-06 | 157.40 | 163.84 | 138.75 | 240.17 | 191.18 | 143.76 |
| 2006-07 | 166.90 | 173.27 | 143.03 | 283.36 | 207.07 | 143.76 |
| 2007-08 (p) | 172.42 | 184.02 | 144.19 | 304.30 | 200.28 | 143.76 |

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

Gross Domestic Product from Mining & Quarrying Sector

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

During 2007-08, the mining and quarrying sector (excluding the minerals declared as prescribed substances under the Atomic energy Act, 1962) accounted for about 2.72% of the total GDP. The contribution of mining and quarrying sector in GDP during 2007-08 was Rs. 92,109 crore (excluding atomic minerals) indicating an increase of 9.69% compared to the preceding year. This was mainly due to rise in the value of coal & lignite, natural gas (utilised), bauxite, chromite, copper conc., gold, iron ore, lead conc., manganese ore, zinc conc., garnet (abrasive), dolomite, gypsum, laterite, magnesite and dunite during the year under report.

The contribution of fuel minerals in GDP in mining and quarrying sector during 2007-08 was

59%, metallic minerals 22%, non-metallic minerals 3% and minor minerals 16%.

In the case of fuel minerals, the share of coal & lignite to the GDP was 33% and that of petroleum (crude) and natural gas (utilised) was 26%. As regards contribution of metallic minerals, iron ore accounted for 17% and chromite about 2%. The other metallic minerals together shared 3% of GDP. Among the non-metallic minerals, the share of limestone was 2% while one percent was jointly contributed by the remaining non-metallic minerals (Table-7).

State-wise analysis reveals that offshore region continued to occupy the top position contributing 18% in the GDP of mining and quarrying sector during 2007-08 followed by Andhra Pradesh 13%, Orissa 12%, Chhattisgarh 9%, Jharkhand and Madhya Pradesh 7% each, Gujarat 5%, Karnataka, Maharashtra and Rajasthan 4% each, Assam, Uttar Pradesh and West Bengal 3% each. Remaining 8% was shared by other States/Union Territories (Table-8).

PRODUCTION

**Table - 7 : Gross Domestic Product* at Current Prices, 2005-06 to 2007-08
(By Principal Minerals)**

(In Rs. thousand)

| Mineral | 2005-06(R) | 2006-07 (R) | 2007-08 (p) | % change in 2007-08 over previous year | % share of the mineral in the GDP in 2007-08 |
|---|------------------|------------------|------------------|--|--|
| All Minerals | 717908787 | 839741616 | 921089374 | 9.69 | 100.00 |
| Fuel Minerals | 488871880 | 511885380 | 542573176 | 6.00 | 58.91 |
| Coal & Lignite | 263748901 | 274717271 | 303498851 | 10.48 | 32.95 |
| Natural Gas (utilised) & Petroleum (crude) | 225122979 | 237168109 | 239074325 | 0.80 | 25.96 |
| Metallic Minerals | 109209047 | 153549649 | 203369109 | 32.45 | 22.08 |
| Bauxite | 2453590 | 3143209 | 4468700 | 42.17 | 0.49 |
| Chromite | 9896412 | 12384548 | 17247526 | 39.27 | 1.87 |
| Copper conc. | 1957352 | 2423752 | 2974317 | 22.72 | 0.32 |
| Gold | 1991876 | 1507517 | 1960330 | 30.04 | 0.21 |
| Iron ore | 84232905 | 119931382 | 157688577 | 31.48 | 17.12 |
| Lead conc. | 435973 | 975731 | 1041946 | 6.79 | 0.11 |
| Manganese ore | 4796638 | 5659988 | 9588062 | 69.40 | 1.04 |
| Silver | 182808 | 386508 | 1515760 | 292.17 | 0.16 |
| Tin conc. | 14857 | 17699 | 13228 | -25.26 | 0.00 |
| Zinc conc. | 3246636 | 7119315 | 6870663 | -3.49 | 0.75 |
| Non-Metallic Minerals | 21905617 | 24052132 | 24892634 | 3.49 | 2.70 |
| Barytes | 428164 | 630278 | 368213 | -41.58 | 0.04 |
| Dolomite | 760724 | 728319 | 1062776 | 45.92 | 0.12 |
| Garnet (Abrasive & gem) | 164332 | 133516 | 160205 | 19.99 | 0.02 |
| Gypsum | 380955 | 470766 | 516658 | 9.75 | 0.06 |
| Kaolin | 2006789 | 1578370 | 1459522 | -7.53 | 0.16 |
| Laterite | 49210 | 148940 | 175657 | 17.94 | 0.02 |
| Limestone | 13570244 | 16361025 | 16063854 | -1.82 | 1.74 |
| Magnesite/Dunite | 269998 | 350470 | 359480 | 2.57 | 0.04 |
| Phosphorite/Rock phosphate | 2611703 | 1994550 | 2817447 | 41.26 | 0.31 |
| Silica sand | 258335 | 276351 | 330588 | 19.63 | 0.04 |
| Sillimanite | 138796 | 86834 | 147566 | 69.94 | 0.02 |
| Talc/steatite/soapstone | 298095 | 355490 | 424535 | 19.42 | 0.05 |
| Other non-metallic minerals | 968272 | 937223 | 1006133 | 7.35 | 0.11 |
| Minor Minerals | 97922243 | 150254455 | 150254455 | 0.00 | 16.31 |

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

PRODUCTION

**Table - 8 : Gross Domestic Product* at Current Prices, 2005-06 to 2007-08
(By State/Union Territory)**

(In Rs. thousand)

| State/Union Territory | 2005-06(R) | 2006-07(R) | 2007-08 (p) | % change in 2007-08 over previous year | % share of the State in the GDP in 2007-08 |
|---------------------------|------------------|------------------|------------------|--|--|
| India | 717908787 | 839741616 | 921089374 | 9.69 | 100.00 |
| Andhra Pradesh | 68635691 | 113655981 | 123126320 | 8.33 | 13.37 |
| Arunachal Pradesh | 480146 | 498560 | 470939 | -5.54 | 0.05 |
| Assam | 26147246 | 25730712 | 26103803 | 1.45 | 2.83 |
| Bihar | 9839149 | 9853447 | 9849508 | -0.04 | 1.07 |
| Chhattisgarh | 60218740 | 73583313 | 87215700 | 18.53 | 9.47 |
| Goa | 6840695 | 15819314 | 19626334 | 24.07 | 2.13 |
| Gujarat | 47078864 | 50098732 | 50040643 | -0.12 | 5.43 |
| Haryana | 1338502 | 1338478 | 1338478 | 0.00 | 0.15 |
| Himachal Pradesh | 650630 | 797580 | 851423 | 6.75 | 0.09 |
| Jammu & Kashmir | 223682 | 284956 | 277949 | -2.46 | 0.03 |
| Jharkhand | 61678397 | 61173107 | 68253465 | 11.57 | 7.41 |
| Karnataka | 23247846 | 29773069 | 36699578 | 23.26 | 3.98 |
| Kerala | 6182783 | 6887647 | 6849424 | -0.55 | 0.74 |
| Madhya Pradesh | 49603747 | 53709701 | 62841304 | 17.00 | 6.82 |
| Maharashtra | 33426878 | 33496904 | 39302452 | 17.33 | 4.27 |
| Manipur | 2579 | 2579 | 2579 | 0.00 | 0.00 |
| Meghalaya | 5692625 | 6061182 | 4257986 | -29.75 | 0.46 |
| Mizoram | 680 | 680 | 680 | 0.00 | 0.00 |
| Nagaland | 1596.6 | 1597 | 1597 | 0.00 | 0.00 |
| Orissa | 67177766 | 82601284 | 106765924 | 29.25 | 11.59 |
| Punjab | 137071 | 171481 | 171481 | 0.00 | 0.02 |
| Rajasthan | 27756165 | 37826902 | 40238923 | 6.38 | 4.37 |
| Sikkim | 32737 | 11672 | 8145 | -30.22 | 0.00 |
| Tamil Nadu | 14046896 | 16602941 | 17279510 | 4.07 | 1.88 |
| Tripura | 718612 | 830134 | 852350 | 2.68 | 0.09 |
| Uttar Pradesh | 28758412 | 26956997 | 26696091 | -0.97 | 2.90 |
| Uttarakhand | 571582 | 574083 | 577358 | 0.57 | 0.06 |
| West Bengal | 25618834 | 27423623 | 24399472 | -11.03 | 2.65 |
| Andaman & Nicobar Islands | 127733 | 207676 | 207676 | 0.00 | 0.02 |
| Chandigarh | 588 | 3218 | 3218 | 0.00 | 0.00 |
| Daman & Diu | 210 | 528 | 528 | 0.00 | 0.00 |
| Puducherry | 4658 | 4658 | 4658 | 0.00 | 0.00 |
| Offshore Region | 151667048 | 163758883 | 166773881 | 1.84 | 18.11 |

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

PRODUCTION

METALS

Ferrous Metals

As per the provisional data received from the Office of the Joint Plant Committee, Kolkata; India produced 58.3 million tonnes of finished steel (including C.R. Sheets), 22.7 million tonnes of semi-finished steel (including steel ingots), 5.1 million tonnes of pig iron, 18.4 million tonnes of sponge iron and 0.4 million tonnes of steel wires in 2007-08.

The production of finished steel (including C.R. Sheets), sponge iron registered an increase of 5.4% and 12.9%, respectively. Pig iron also registered an increase of 11.8% in 2007-08. The production of semi-finished steel (including steel ingots) decreased by 4.25% as also the production of steel wire which registered fall by 1.8% as compared to 2006-07 (Table-9).

**Table – 9 : Production of Ferrous Metals
2005-06 to 2007-08(p)**

| | (In '000 tonnes) | | |
|---|------------------|---------|------------|
| Ferrous Metals | 2005-06 | 2006-07 | 2007-08(p) |
| Finished steel (including C.R. sheets) | 47486 | 55287 | 58263 |
| Semi-finished steel (including steel ingots) | 20143 | 23692 | 22685 |
| Pig iron | 3699 | 4551 | 5088 |
| Sponge iron | 10902 | 16300 | 18400 |
| Steel wire | 389 | 435 | 427 |

Source: Office of Joint Plant Committee, Kolkata.

Ferro-alloys

The production of ferro-alloys increased from 2 million tonnes in 2006-07 to 2.36 million tonnes in 2007-08. The production of bulk ferro-alloys and noble ferro-alloys was 2.33 million tonnes and 29,685 tonnes, respectively, in 2007-08. The data on production of ferro-alloys for 2005-06 to 2007-08 received from Indian Ferro-Alloys Producers' Association (IFAPA), Mumbai, are given in Table-10.

Table - 10 : Production of Ferro-alloys, 2005-06 to 2007-08

| | (In tonnes) | | |
|-------------------------------|----------------|----------------|----------------|
| Ferro-alloy | 2005-06 | 2006-07 | 2007-08 |
| Total (A) + (B) | 1645427 | 2001451 | 2364614 |
| (A) Bulk Ferro-alloys | 1622378 | 1973688 | 2334929 |
| HC Ferro-manganese | 256121 | 281013 | 377958 |
| MC Ferro-manganese | 11796 | 9190 | 7517 |
| LC Ferro-manganese | 5140 | 6523 | 5735 |
| Silico-manganese | 564633 | 738314 | 858601 |
| MC silico-manganese | 27739 | 29581 | 35041 |
| LC silico-manganese | 4000 | 15067 | 17760 |
| Ferro-silicon | 90652 | 92632 | 83716 |
| HC Ferro-chrome/charge-chrome | 662062 | 801138 | 948366 |
| LC Ferro-chrome | 235 | 230 | 235 |
| (B) Noble Ferro-alloys | 23049 | 27763 | 29685 |
| Ferro-molybdenum | 2827 | 3120 | 2899 |
| Ferro-vanadium | 877 | 1139 | 1585 |
| Ferro-tungsten | 63 | 54 | 51 |
| Ferro-silico-magnesium | 11171 | 11387 | 13525 |
| Ferro-aluminium | 7214 | 9947 | 9377 |
| Ferro-silico-zirconium | 87 | 178 | 109 |
| Ferro-titanium | 735 | 1761 | 1937 |
| Ferro-boron | 75 | 80 | 80 |
| Ferro-nickel-magnesium | - | 97 | 122 |

Note : HC: High carbon MC: Medium carbon LC: Low carbon

Source : Indian Ferro-Alloys Producers' Association (IFAPA), Mumbai.

PRODUCTION

Non-ferrous Metals

The production of aluminium at 1,240 thousand tonnes in 2007-08 registered an increase of 11% over the previous year. Smelting and refining of copper is carried out by Hindustan Copper Ltd in their existing plants located at Khetri and Mosabani. Copper metal is also produced from imported copper concentrates at the plants of Sterlite Industries (India) Ltd. and Hindalco Industries Ltd. The production of copper blister at 45,346 tonnes in 2007-08 decreased by 11% as compared to 50,735 tonnes in the previous year. The production of copper cathodes at 501,485 tonnes in 2007-08 decreased by about 2% as compared to that in the previous year. The production of copper electrolytic wire bars was nil in 2007-08. The production of copper continuous cast wire rods at 283,570 tonnes in 2007-08 rose by about 3% over the previous year.

The production of lead (primary) at 58,246 tonnes in 2007-08 increased by about 31% as compared to that in the previous year. The production of zinc ingots in 2007-08 was 457,075 tonnes as against 380,945 tonnes in the previous year showing an increase of 20%.

Precious Metals

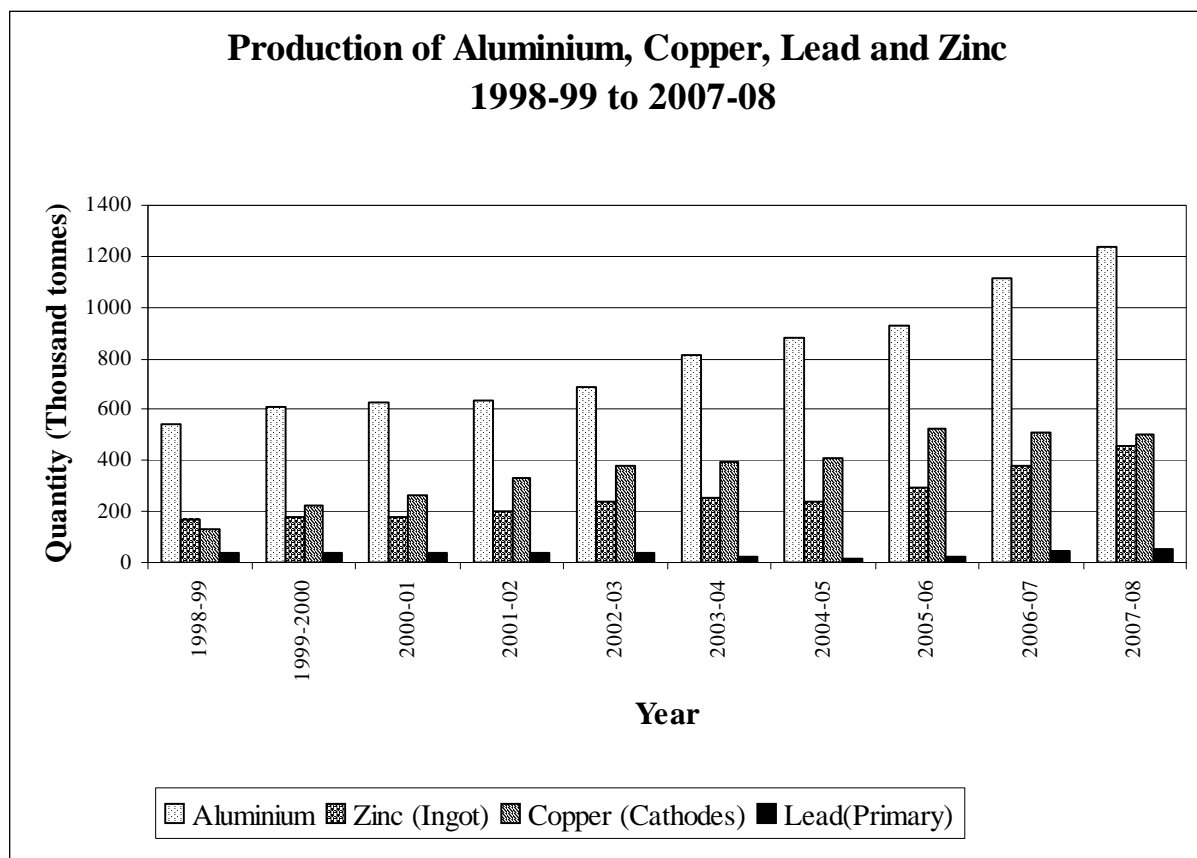
Gold primary is produced from gold ore by HGML in the state of Karnataka and a

small quantity by a private sector company in Jharkhand. Gold is also recovered as by-product from copper slime of Hindustan Copper Ltd in Jharkhand. Gold is also recovered from imported ores as by-product from copper slime by Hindalco Industries Ltd at Dahej Smelter in Gujarat. The total production of gold bullion during the year at 11,993 kg decreased by 6% as compared to 12,823 kg in the previous year.

Entire production of silver in India is recovered as by-product from copper, lead and zinc concentrates by HCL and HZL and as a co-product of gold refining by HGML. Besides, Hindalco also recovers silver from imported copper concentrates at its Dahej Smelter in Gujarat. The production of silver at 133,622 kg registered an increase of 31% as compared to that in the previous year.

Other Metals

Cadmium is a by-product of zinc smelting. Its production at 589 tonnes in 2007-08 increased by about 22% as compared to that in the previous year. Nil production of selenium was reported during 2007-08 (Table-11).



PRODUCTION

Table – 11 : Production and Value of Non-ferrous Metals, 2005-06 to 2007-08

(Value in Rs. '000)

| Metal | Unit of quantity | 2005-06 | | 2006-07 | | 2007-08 (p) | |
|-----------------------------------|------------------|----------|----------|----------|-----------|-------------|-----------|
| | | Quantity | Value | Quantity | Value | Quantity | Value |
| Aluminium | tonne | 930543 | 90055103 | 1113849 | 130571656 | 1239581 | 112101116 |
| Cadmium | tonne | 406 | 22852 | 481 | 28422 | 589 | 198345 |
| Copper (blister) | tonne | 310694 | - | 50735 | - | 45346 | - |
| Copper (cathode) | tonne | 529248 | 78755268 | 510623 | 161803160 | 501485 | 156929980 |
| Copper (electrolytic wire bar) | tonne | 1383 | 287699 | - | - | - | - |
| Copper (continuous cast wire rod) | tonne | 289185 | 43832261 | 275795 | 91621081 | 283570 | 90999023 |
| Gold* | kg | 9757 | 7341107 | 12823 | 11684714 | 11993 | 11425612 |
| Lead (primary) | tonne | 23817 | 702220 | 44627 | 1315781 | 58246 | 7566718 |
| Selenium | kg | 7719 | 28217 | - | - | - | - |
| Silver* | kg | 63038 | 621270 | 101633 | 1315927 | 133622 | 2511762 |
| Zinc ingot | tonne | 296460 | 12059202 | 380945 | 19088619 | 457075 | 62236418 |

Source : Individual producers/units.

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