CHAPTER - II

REVIEW OF MINERAL RESOURCE DEVELOPMENT
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The history of mineral development is as old as human civilisation itself. Through the ages, the earth has proved itself as a marvellous treasure of minerals which have now intrinsically woven into the fabric of human society. A brief review of mineral resource development in India and Andhra Pradesh is presented here.

2.1. INDIAN MINERAL INDUSTRY:

India has a long tradition of mining and smelting gold, copper, lead, zinc and iron ores and mining and cutting of diamond. Until 1886 the entire diamond wealth of the world had its origin in India. The first tonne of Indian coal was struck in the Raniganj Coal Fields as far back as in 1775. Effect of the Second World War was the unprecedented rise in the production of iron and steel. India exported about 0.508 million tonnes of pig iron to Japan, U.S.A. and U.K. The output of iron ore rose to over 3,048 million tonnes. Lead, zinc and emerald mining was started in Rajasthan. Mica mining in Rajasthan also received a stimulus during the war.

The Second World War showed that the establishment of a healthy and sound mining industry was the backbone of
all major industries. This required a change in the attitude of the government towards the industry which had so far been almost neglected.

The Indian mining industry experienced great depression in 1930. But after three years Indian mining industry slowly started its recovery and a definite rising trend was visible in 1934. The value of the mineral production increased from Rs.14.79 crores in 1932 to Rs.33.81 crores in 1938. A very important event in the history of Indian mining was the 1937 ban on employment of women in the mines below the surface.

With the adoption of Industrial Policy Resolution, 1948 the search for minerals, particularly for those essential to industrial development was intensified. Geological Survey of India (GSI) which was the only organisation set up to undertake the investigation of mineral deposits was strengthened and Indian Bureau of Mines (IBM) was established in 1948. Later, the Mineral Exploration Corporation Limited, a public sector company was set up in 1972 for the exploration of mineral deposits. Besides, various State Directorates of Geology and Mining also started their search for minerals to augment the mineral resources in their states and have
also taken up exploration and exploitation of mineral deposits on a commercial scale.

A massive exploration activity was taken up during the five year plan periods which includes the augmentation of mineral inventory as well as addition of a number of mineral reserves to the existing ones. The performance of mining (mineral) industry under the five year plans is presented below.

First Five Year Plan (1951-56):

The first five year plan provided for a systematic and detailed investigation and survey by the GSI, the IBM and the National Laboratories with a view to assess the country's reserves of important minerals. An outlay of Rs.179 crores was allotted to mining and industrial sector. A sum of Rs.1.0 crores was allotted for the expansion of the GSI and IBMs which subsequently increased to Rs.2.5 crores to enable them to expand more rapidly. The value of mineral production increased from Rs.85.0 crores in 1950 to Rs.432.41 crores in 1955. The export value of mineral production also increase from Rs.65.0 crores in 1950 to Rs.228.87 crores in 1955-56.
Second Five Year Plan (1956-61):

The second five year plan assigned more importance to industrial development and an outlay of Rs.1,545 crores was allocated to industrial and mining sector. Out of that public sector accounts for Rs.870.0 crores and private sector for Rs.675.0 crores. The expansion of steel in got capacity to 6 million tonnes called for a large scale increase in the output of iron ore, coal, limestone and dolomite and refractory materials. The development of aluminium industry increased the demand for bauxite and of cement industry for limestone, gypsum and clay.

Government has initiated various steps to increase the mineral production in the form of surveying the mineralised areas and the principal mineral regions have been ascertained. Mining sector's contribution to Gross Domestic Product increased from 4.40 per cent in the first plan to 6.96 per cent in second plan. The value of mineral production during second five year plan was Rs.677.95 crores. The export value of minerals increased from Rs.228.87 crores in first plan to Rs.316.09 crores in second five year plan.3

Third Five Year Plan (1961-66):

The ground for rapid industrialisation over the next 15 years was prepared during the third plan period.
Allocation of outlay to mineral and industrial sector was Rs. 2,570 crores. Of that public sector outlay was Rs. 1,520 crores and that of the private sector was Rs. 1,050 crores. Greater emphasis was laid on the expansion of industry during third plan and high priority was given to exploration and exploitation of the mineral oil resources in the country. The allocations for industries and minerals in the public sector amounted to Rs. 1,520 crores as compared the requirements of Rs. 1,882 crores. The gap between the requirements and actual availability of resources suggests that there was a sizable spillover into the fourth plan and that some of the physical targets were not be fully achieved by the end of the third plan period. Mining sector's contribution to gross domestic product of this plan was 6.76 per cent. The total value of minerals increased from Rs. 1,178.69 crores against Rs. 677.98 crores in the second plan. The export value of minerals in the third plan was Rs. 356.09 crores.

Fourth Five Year Plan (1969-74):

The main emphasis during the fourth plan period was on accelerating the tempo of industrial growth with conditions of stability and reduced uncertainties. The
outlay for mineral and industrial sector was Rs.6,286 crores. Of that public sector outlay was Rs.3,936 crores and Rs.2,350 crores was in private and co-operative sector. The bulk of the public sector investment was proposed for the development of industries like steel, non-ferrous metals etc. Mining sector's contribution to gross domestic product decreased from 6.76 in third plan to 5.38 in fourth plan. A major reason for this has been the inadequate preparatory work. Feasibility studies in respect of several projects had not been completed well in time before the plan commenced and also sufficient detailed investigations had not been undertaken in mineral sector. The production value of minerals in fourth plan was Rs.2,575.76 crores. The export value of minerals increased to Rs.787.75 crores which was only Rs.356.09 crores in third five year plan.5

Fifth Five Year Plan (1974-79):

The programmes of development in the industrial and mineral sector during the fifth plan have been formulated keeping in view the twin objectives of self-reliance and growth with social justice. The plan for the industrial and mineral sector aimed at an annual growth rate of 8.1 per cent. Actual outlay for industrial and mineral sector was Rs.15,189 crores of which Rs.8,939 crores was in public
sector and Rs.6,250 crores was in private sector. The contribution of mining sector to gross domestic product in this plan was 5.38 per cent. The value of mineral production increased to Rs.6,404.8 crores which was Rs.2,575.76 crores in fourth plan. The export value of minerals in this plan was Rs.3,209.09 crores.6

Sixth Five Year Plan (1980-85):

The objectives of sixth five year plan emphasised progressive reduction in regional inequalities and significant step up of the growth of the economy. The overall outlay envisaged in the plan to industry and mining sector was Rs.30,402 crores. Of that outlay an amount of Rs.15,220 crores was in public sector and Rs.15,182 crores was in private, corporate and co-operative sectors. The share of mining sectors in gross domestic product was 6.91 per cent in sixth plan. The value of mineral production in this plan increased to Rs.26,238.8 crores which was Rs.6,404.8 crores in fifth plan. The export value of minerals was Rs.11,252.13 crores in this plan which was Rs.3,209.09 crores in fifth plan.7

Seventh Five Year Plan (1985-90):

Seventh five year plan laid emphasis on increasing productivities in the industrial sector for its survival
and growth. The overall outlay envisaged in the seventh plan for industrial and mineral programmes was Rs.22,460.83 crores, out of which Rs.18,268 crores were in central sector (excluding coal and petroleum, which form part of the energy sector) and the balance Rs.2,440 crores were in the plans of states and union territories. The actual expenditure (at current prices) was Rs.23,175 crores in the central sector and Rs.3,120 crores by states and union territories. The value of mineral production in this plan has tremendously increased and reached to Rs.20,280.79 crores.8

Eighth Five Year Plan (1990-95):

The overall outlay envisaged in the eighth five year plan for industrial and mineral programmes in public sector is Rs.40,673.43 crores. Out of which Rs.35,150 crores are for the central sector and the balance of Rs.5,523.43 crores is for the state sector. Considering the time lag between discovery and eventual production of minerals, a greater thrust on mineral exploration activities need to be given during the eighth plan, particularly, towards exploration by adoption of improved technology, including remote-sensing and geophysical techniques. The exploration strategy has to be on those minerals in which the resources are poor as gold, base metals, platinum group of metals, diamonds,
nickel, tungsten and rock phosphates etc. In the eighth five year plan mining and quarrying outlay was Rs.28,500 crores in the public sector and Rs.11,100 crores in private sector. It accounted for 4.96 per cent of the total outlay of the plan.\footnote{9}

Table No.2.1.1 summarises the investments made on mineral and industrial sectors in India during the five year plans. The mineral activity was exclusively in the private sector during the first five year plan and the public sector entered the industry in the second five year plan period. The investment made by the private sector in the mineral industry increased more than twice its investments in the preceding plan from the second plan onwards. By the sixth plan period the share of private investment in mineral industry was more or less equal to the share of public sector investment.

Mineral industry started its activity with Rs.17.9 crores investment in the first five year plan. Much attention has not been paid to mineral development in the next two five year plans. It was during the fifth five year plan period that larger investments were made in the mineral industry and the investment was doubled in the next successive five year plans.
TABLE NO. 2.1.1

INVESTMENT ON MINERAL AND INDUSTRIAL SECTOR

DURING FIVE YEAR PLANS

<table>
<thead>
<tr>
<th>Plan</th>
<th>Public sector</th>
<th>Private sector</th>
<th>Total (Rs. in crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(Rs. in crores)</td>
<td>(Rs. in crores)</td>
<td></td>
</tr>
<tr>
<td>I Plan</td>
<td>179 (100.00)</td>
<td>--</td>
<td>179</td>
</tr>
<tr>
<td>II Plan</td>
<td>870 (56.31)</td>
<td>675 (43.69)</td>
<td>1,545</td>
</tr>
<tr>
<td>III Plan</td>
<td>1,520 (59.14)</td>
<td>1,050 (40.86)</td>
<td>2,570</td>
</tr>
<tr>
<td>IV Plan</td>
<td>3,936 (62.62)</td>
<td>2,350 (37.38)</td>
<td>6,286</td>
</tr>
<tr>
<td>V Plan</td>
<td>8,939 (58.85)</td>
<td>6,250 (41.15)</td>
<td>15,189</td>
</tr>
<tr>
<td>VI Plan</td>
<td>15,220 (50.06)</td>
<td>15,182 (49.94)</td>
<td>30,402</td>
</tr>
<tr>
<td>VII Plan</td>
<td>22,461</td>
<td>N.A.</td>
<td>--</td>
</tr>
<tr>
<td>VIII Plan</td>
<td>40,673</td>
<td>N.A.</td>
<td>--</td>
</tr>
<tr>
<td></td>
<td>* 28,500</td>
<td>11,100</td>
<td>39,600</td>
</tr>
</tbody>
</table>

Note: Figures in the brackets indicate percentage to total.


*: Mining and quarrying outlay.
Value of mineral production during the five year plans in India is shown in Table No.2.1.2. As a corollary to the level of investment, the value of mineral production also increased significantly from plan to plan. On an average, it was ₹₮86.5 crores per annum during the first five year plan and increased by a three fold by the end of the third five year plan. Later on, it increased more than double in every successive five year plan. Nearly ₹₮16,000 crores worth of mineral production per annum has been realised by the end of the seventh five year plan.

The value of minerals exported to other countries during the five year plans is presented in Table No.2.1.3. As stated earlier, the export value of minerals showed a philip during the fifth five year plan. It was ₹₮3,209.09 crores by the end of the fifth plan and increased to ₹₮11,252.13 crores and ₹₮20,280.79 crores by the end of next two five year plans. On an average, the annual export value of minerals was ₹₮46.0 crores during the first five year plan and increased to ₹₮641.8 crores by the end of the fifth plan. A significant rise in the annual value of exports is noticed between the sixth plan at ₹₮2,250.4 crores and the seventh plan at ₹₮4,056.2 crores. Thus, mining and mineral industry has been contributing more and more to the gross domestic product and still there is scope for rational exploration and exploitation of these minerals in our country.
TABLE NO. 2.1.2

VALUE OF MINERAL PRODUCTION DURING FIVE YEAR PLANS

<table>
<thead>
<tr>
<th>Plan</th>
<th>Total mineral production value</th>
<th>Average yearly production value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I plan</td>
<td>432.41</td>
<td>86.5</td>
</tr>
<tr>
<td>II plan</td>
<td>677.95</td>
<td>135.6</td>
</tr>
<tr>
<td>III plan</td>
<td>1,178.69</td>
<td>235.7</td>
</tr>
<tr>
<td>IV plan</td>
<td>2,575.76</td>
<td>515.2</td>
</tr>
<tr>
<td>V plan</td>
<td>6,404.80</td>
<td>1,280.9</td>
</tr>
<tr>
<td>VI plan</td>
<td>26,234.80</td>
<td>5,247.8</td>
</tr>
<tr>
<td>VII plan</td>
<td>79,762.23</td>
<td>15,952.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plan</th>
<th>Export value</th>
<th>Yearly average value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I Plan</td>
<td>228.87</td>
<td>45.8</td>
</tr>
<tr>
<td>II Plan</td>
<td>316.09</td>
<td>63.2</td>
</tr>
<tr>
<td>III Plan</td>
<td>358.67</td>
<td>71.2</td>
</tr>
<tr>
<td>IV Plan</td>
<td>787.75</td>
<td>157.6</td>
</tr>
<tr>
<td>V Plan</td>
<td>3,209.09</td>
<td>641.8</td>
</tr>
<tr>
<td>VI Plan</td>
<td>11,252.13</td>
<td>2,250.4</td>
</tr>
<tr>
<td>VII Plan</td>
<td>20,280.79</td>
<td>4,056.2</td>
</tr>
</tbody>
</table>

2.2. MINERAL RESOURCES OF ANDHRA PRADESH:

Andhra Pradesh is the fifth largest State in India. By 1991, the total population of Andhra Pradesh is 6.65 crores as against India's population of 84.3 crores. It has a long coast-line of 960 kms. spreading from Ichapuram in Srikakulam district in the north, to Tada in Nellore district in the south. Administratively the state is divided into 23 districts and regionally into Coastal region, Rayalaseema region and Telangana region.

Andhra Pradesh makes a significant contribution to the country's production in respect of certain specific minerals and it holds a monopoly or near monopoly in respect of "chrysotile variety of asbestos and barytes". Its contribution to the country's production of apatite, mica, limestone and clays is significant. The state has excellent potential in minerals like bauxite, lead, zinc, gold and hematite. Details relating to various mineral deposits available in Andhra Pradesh are presented hereunder.

Apatite:

The only occurrence of apatite in South India is found around Kasipatnam with a total resource of about 1.68 million tonnes at an average of around 4,000 to 5,000 tonnes
MINERAL MAP OF ANDHRA PRADESH
(SHOWING IMPORTANT MINERAL OCCURRENCES)

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.

REFERENCES

- Bauxite
- Asbestos
- Coal
- Clay
- Barite
- Graphite
- Felspar
- Bauxite
- Foundry Sand
- Iron-Ore
- Lead & Copper
- Lime
- Quartz
- Manganese-Ore
- Selenite

Topography based on Survey of India Maps with the permission of the Surveyor General of India.

Mineral information supplied by the Director of Mines and Geology, Andhra Pradesh.

Scale 1:4,700,000 (approx.)
per annum. There is a possibility of locating few more concealed deposits in Visakhapatnam and Vijayanagaram districts.

Asbestos:

The best variety of chrysotile asbestos which is found around Pulivendula and Brahmanapally of Cuddapah district is being presently mined by public sector and by private individuals. The reserves of these deposits at Pulivendula are placed at 2.5 lakh tonnes on the basis of visual estimates, which needs a greater attention for exploration and probing the continuity of the deposits. The present level of production is around 2,000 tonnes per annum.

Amethyst:

Semi-precious violet coloured amethyst, useful for ornamental purposes is occurring in Nalgonda, Kurnool, Warangal, Medak and Mahaboobnagar districts, is being mined by private individuals. It is being sent to Bombay and Jaipur for cutting and polishing.

Barytes:

Cuddapah basin amongst all the proterozoic basins in the peninsular India is the largest producer of baryte in the
country. The rear Mangampet in Cuddapah district barytes has attained international prominence. A reserve of about 70 million tonnes of barytes has been proved by Geological Survey of India in the villages of Mangampet and Anantharajpet in Cuddapah district. Total production of barytes recorded 792 thousand tonnes in 1991. Its production stands at nearly 6.0 to 7.0 lakh tonnes per annum and is mostly exported after meeting the requirements of oil and natural gas commission.

**Bauxite:**

The east coast bauxite deposits, occur as capping and blankets on the khondalite suite of rocks, which are estimated to contain a reserve of 700 million tonnes at Arak, Chintapalli and Dumkonda in the districts of Visakhapatnam and East Godavari districts.

**Coal:**

The Godavari Valley Coal Field holds a unique status and importance in the peninsular India, being the major source of coal in the entire South India. The reserves of coal are estimated at 10,435 million tonnes.
Clays:

Workable deposits of fine clay, ball clay, china clay and ordinary clay occur in the districts of Adilabad, Anantapur, Cuddapah, East Godavari, Mahaboobnagar, Kurnool, Nalgonda, Guntur, Nellore, Prakasam, Srikakulam, Visakhapatnam, Vizianagaram and West Godavari districts of Andhra Pradesh. The estimated reserves of all clays are around 21 million tonnes.

Chromite:

Occurances of Chromite are known from Dendukuru, Lingampet, Imamnagar and around Kondapalli from Krishna and Khammam districts of the state, where the mineral occurs as veins pockets and as flat ore.

Calcite:

Calcite deposits are found in various places in Cuddapah, Kurnool, Anantapur, Visakhapatnam and Mahaboobnagar districts. The total reserves of these deposits are not yet estimated.

Corundum:

Both abrasive and precious corundum are found in Gobbagurthi and Konijerla in Khammam district and frequently
'star rubies' are being won from gravels from Rekulakunta, Narasapuram, Cherlakedigopalli and Nallayapalli are as of Anantapur district.

**Copper, Lead, Zinc:**

Copper, lead and zinc occurrences are found at a number of places in Cuddapah, Kurnool, Nellore and Prakasam districts. The average production of lead are about 4,000 to 5,000 tonnes per annum from Guntur.

**Diamonds:**

World famous precious diamonds like Kohinoor, Nijam type diamonds are found at the grave beds of Krishna and Godavari rivers, Vajrakarur and Lattavaram in Anantapur district, Banaganapalli conglomerates in Kurnool district. Chennur, Kondapet in Cuddapah district are famous for diamond occurrence.

**Dolomite:**

Extensive beds of dolomite are associated with Cuddapah and Pakhal super groups occur in vast areas falling in Anantapur and Khammam districts. The total estimated reserves are around 170 millions of different grades.
**Feldspar:**

Both sodic and potash feldspar occur in the districts of Ranga Reddy, Mahaboobnagar, Nalgonda, Khammam, Nellore, West Godavari, Visakhapatnam and Warangal. In Nellore mica mines feldspar lumps are obtained and are also recovered from dumps nearby. A small portion of the produced ore is being used in the ceramic industry in the state and remaining is sold outside.

**Garnet:**

Garnets associated with mica, kyanite, quartz, schists and pegmatites are observed in the fields and nalas in Khammam, Krishna, Visakhapatnam, Vizianagaram, Srikakulam, East Godavari and Nellore districts. At present the collected garnets are sent to Bombay and Jaipur for cutting and faceting and locally used in the abrasive industry.

**Gold:**

Gold mineralization is found in Mallappakonda and Chigarakunta areas of Chittoor district, Ramgiri and Venkatampalli of Anantapur district and Veigallu belt in parts of Anantapur, Cuddapah and Chittoor districts. The estimated gold mineral extracted from Ramagiri mines is 300 kg. every
year. It is estimated that gold mineralization is found at Kinnerasani river beds, Shabhari in Warangal district.

**Graphite:**

A large number of small deposits of graphite are known from Eastern ghats in Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari and Khammam districts. The production of graphite is showing downward trend in the last few years due to lack of geological information.

**Iron Ore:**

Most of the iron ore deposits in the state are found in Dharwar meta sediments of the purana formation. The iron ore is found in Chittoor, Anantapur, Kurnool, Prakasam, Khammam, Krishna, Adilabad, Karimnagar and Warangal districts.

**Limestone:**

About 30 per cent of Nation's limestone deposits are found in as many as fifteen districts of the state. All the limestone deposits in Andhra Pradesh belong to pre-cambrian group of rocks, confined to Cuddapah, Kurnool, Palnad, Pennanga, Pakhal and Bhima basins. Smaller deposits are found in Visakhapatnam district near Bora caves associated with archan
ANDHRA PRADESH
LIMESTONE OCCURRENCES

Scale 1:4,700,000 (approx.)

REFERENCES

1. Asifabad Taluk
2. Manthang Taluk
3. Tanga Taluk
4. Muskurungar Taluk
5. Nandigama Taluk
6. Palnad Taluk
7. Gadwal Taluk
8. Nandikotkar Taluk
9. Dhonne Taluk
10. Koulkunta Taluk
11. Tadpatri Taluk
12. Kaminapalem Taluk

The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.
crystalline and metamorphics. The estimated reserves of all grades of limestone are around 19,000 million tonnes.

**Manganese:**

Andhra Pradesh is one of the few states in India producing manganese ore. Most of manganese ore is found in Srikakulam and Visakhapatnam districts. The present production is around 50,000 tonnes and expected to increase to 2.0 lakhs tonnes with mechanization in future.

**Mica:**

The State of Andhra Pradesh occupies second place in both production and export of mica in India after Bihar. Though mica occurrences are reported from Khammam, Krishna, East and West Godavari districts, the two important districts for mica production are the Nellore and Visakhapatnam districts.

**Oil and Natural Gas:**

The significant discovery of hydrocarbons in the cretaceous and paleocene stands over 20,000 sq.km. on-shore and 21,000 sq.km. off-shore in East and West Gadavari. Krishna district has put Andhra Pradesh on the Oil and Natural map in the country. The prospects around Lingala, Pasarlapadu,
Mandapeta. Tatipaka, Narsapur, Kaikalur, Gudivada, Amalapuram are encouraging for oil but mostly contain gas.

Quartz:

Granular massive quartz deposits occur extensively in the peninsular gneissic complex in the district of Rangareddy, Medak, Khammam, Nellore, Prakasam, Mahaboobnagar, Vizianagaram, Visakhapatnam, Anantapur, Chittoor, Kurnool, Guntur, Nizamabad and Adilabad. These deposits are exploited under private sector.

Silica Sand/Foundry Sand:

Large reserves of good foundry molding and a glass sand are found along the coastal tracks of Prakasam, Nellore and Guntur districts extending from Chinna Ganjam to Bapatla. Kalahasthi in Chittoor district and Orvakal in Kurnool district have also sizable reserves of silica sands.

Steatite:

Steatite occurs in several districts of the state, of these the deposits occurring north of Anantapur, Tadpatri and Mutchukota are significant and superior in quality (lave grade). Steatite occurs in some measure in number of places in Chittoor, Kurnool, Karimnagar and Cuddapah. The estimated
reserves of steatite are around 5 million tonnes of various grades in the state.

**Slate:**

Andhra Pradesh is the largest producer of slate in the country. Deposits of slate occur in Prakasa, Guntur and Cuddapah districts. The Markapur slate in Prakasam district are of high quality.

**Limestone Slabs/Napa Slabs/Tandur Slabs/Cuddapah Slabs:**

Extensive deposits of flaggy limestone of various shades of colour like black, gray, pink, buff greenish, white and pruple are found in different limestone basins at various places in Cuddapah (Yerraguntla, Niduzuvvi, Sugumanchipally), Kurnool (Bethamcherla), Rangareddy (Tandur), Mahaboobnagar (Kodangal), Nalgonda (Mudimanikyamn), Guntur (Macherla), Adilabad (Nachari) and Krishna districts.

**Marbles:**

The white, gray, steak and mottled yellowish and pinkish varieties of marble is found in Manditog, Pubali, Tekkaligudem and Jastaipally in Khammam district. The marble of these regions have medium to coarse grained texture which are being quarried and sent to Khammam for cutting and polishing.
In addition to these deposits there are some reported marble occurrences from Guntur and Kurnool districts.

**Mineral industry under Five Year Plans in Andhra Pradesh:**

Even though Andhra Pradesh State is rich in mineral wealth our Government has not given more importance to mineral industry in the first two five year plans. During the first and second five year plans the expenditure on mining and industrial activities was Rs.1.15 and Rs.10.15 crores respectively. It is only 1.15 per cent and 5.38 per cent of the total outlay of the plans.

**Third Five Year Plan (1961-66):**

During the third plan period greater emphasis was laid on mineral survey to facilitate prospecting and exploratory work on investigation of ferrous and non-ferrous minerals, and for expansion of the chemical laboratory. An outlay of Rs.15.19 crores allotted to industry and mining sector. With the enunciation of the industrial resolution, 1956, the exploitation of minerals like iron ore, manganese, chromite, mica etc., was brought within the ambit of state control. The Andhra Pradesh mining Corporation was established in 1961 as a Government Company with an authorised capital of Rs.50,00 lakhs.
The expenditure for the state during the Annual Plans 1966-67, 1967-68, 1968-69 was Rs.1.84 lakhs, Rs.1.99 and Rs.3.15 lakhs respectively. In the three annual plans 1966-69 a further sum of Rs.37.00 lakhs was invested by the State Government as the equity share capital of the corporation.

**Fourth Five Year Plan (1969-74):**

The outlay on industrial and mining sector was Rs.14.73 crores. The stress has been shifted to quality control of different raw materials. Andhra Pradesh Mining Corporation invested Rs.51.15 lakhs to the mining sectors. The share of the three regions in this outlay will be Rs.17.85 lakhs for Coastal Andhra, Rs.13.27 lakhs for Rayalaseema, Rs.20.30 lakhs for Telangana. An amount of Rs.7.00 lakhs is praised for release from the special Rayalaseema Development Fund during 1973-74.

**Fifth Five Year Plan (1975-80):**

In the fifth plan total expenditure on industry and mineral development was Rs.35.44 crores which was 3.52 per cent of the total plan outlay. Mining sector's total investment of about 20 crores includes the state outlay of Rs.5.46 crores. Bulk of the amount of the state outlay was
In the Andhra Pradesh Mining Corporation, which is expected to create the necessary conditions for substantial activities both in the public and private sector. The Government Corporation has taken up the development of the high grade limestone areas in Kurnool district in 1978 with an object to have the production of 80,000 tonnes per annum and an expansion programme of 4 lakh tonnes annually to meet the demand of paper mill and other allied industries. Total receipts of mineral revenue during the fifth plan period were of the order of Rs.2,513 lakhs.

**Sixth Five Year Plan (1980-85):**

Sixth plan envisaged an outlay of Rs.3,243.59 crores. Out of that Rs.205.04 crores was spent on industry and mining development. In this plan period the mining and geological department in collaboration with Geological Survey of India in the "National Diamond Project" has taken up excavation of kimberlite rock material from pipe rock No.1 at Vajrakarur in Anantapur district.

**Seventh Five Year Plan (1985-90):**

An outlay of Rs.312.41 crores was allotted to industrial and mineral development. Andhra Pradesh Mining Corporation has drawn up a programme with an estimate outlay of
Rs.1,990 lakhs. Out of this Rs.530 lakhs from the state seventh five year plan provision and balance amount of Rs.1,460 lakhs is proposed to be raised from the institutional finances. In seventh plan an outlay of Rs.7,050 lakhs has been provided to Singarani Collieries.

Table No.2.2.1 summerises the details relating to the expenditure on industries and mineral development during the five year plans in Andhra Pradesh. Mineral industry received scant attention of the government with a meagre expenditure of Rs.1.15 crores during the first five year plan. The expenditure on mineral development varied between the five year plans and reached Rs.14.73 lakhs by the end of the fifth plan and increased by more than double in the next plan. Significant break through is noticed during the sixth plan which incurred on expenditure of Rs.205 crores which is more than sixtimes the expenditure in the earlier plan. The tempo of mineral development has been continued in the next five year plan with an expenditure of Rs.312.41 crores.
TABLE NO. 2.2.1

EXPENDITURE ON INDUSTRIES AND MINERAL DEVELOPMENT

DURING FIVE YEAR PLAN IN ANDHRA PRADESH

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Five Year Plan periods</th>
<th>Expenditure on industry and mining development (₹ in crores)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>First Plan (1951-56)</td>
<td>1.15</td>
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<tr>
<td>2.</td>
<td>Second Plan (1956-61)</td>
<td>10.15</td>
</tr>
<tr>
<td>3.</td>
<td>Third Plan (1961-66)</td>
<td>15.19</td>
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<td>4.</td>
<td>Annual Plans (1966-69)</td>
<td>7.11</td>
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<tr>
<td>5.</td>
<td>Fourth Plan (1969-74)</td>
<td>14.73</td>
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<tr>
<td>6.</td>
<td>Fifth Plan (1975-80)</td>
<td>35.44</td>
</tr>
<tr>
<td>7.</td>
<td>Sixth Plan (1980-85)</td>
<td>205.04</td>
</tr>
<tr>
<td>8.</td>
<td>Seventh Plan (1985-90)</td>
<td>312.41*</td>
</tr>
</tbody>
</table>

Note: * outlay.

Foot Notes


3. Planning Commission, Third Five Year Plan, Government of India, New Delhi, page 59, Table 3.


