

## CHAPTER XVIII

# Mining

### I. INTRODUCTION

1076. The mining sector which includes quarrying will assume a new and strategic role in the national economy. This is due to developments in the exploitation of the oil and natural gas resources of the country. This Chapter reviews progress in the sector during 1971-75 and outlines its prospects for development.

### II. PROGRESS, 1971-75

1077. The mining sector accounted for 4.0% of Gross Domestic Product (GDP) in 1975 compared to 5.7% in 1970. Value added in the sector declined marginally during 1971-75 from \$613 million in 1970 to \$612 million in 1975. Production of tin-in-concentrates declined to 63,300 tons in 1975 from 72,600 tons in 1970. Gravel pump mining accounted for more than 53% of total production, a slight decline of about 2% from production in the first half of the Second Malaysia Plan (SMP) period. Similarly, production of iron ore dropped substantially from 4.4 million tons in 1970 to 348,000 tons in 1975. Production of bauxite also declined from 1.1 million tons in 1970 to 692,000 tons in 1975. Production of petroleum, however, registered an average of 86,500 barrels per day over the SMP period, fluctuating between 68,700 and 99,000 barrels per day. The Mamut copper mine in Sabah which commenced production in May, 1975 produced about 20,900 tons of copper.

1078. The export value of tin increased by \$200 million from \$1.0 billion in 1970 to \$1.2 billion in 1975, accounting for 13.4% of total export receipts. Except for 1970, 1974 and 1975, export values were below \$1.0 billion per year due to lower export prices and volumes. The export value of crude and partly refined petroleum increased steadily during the SMP period to reach \$853 million in 1975 despite a decline in the export volume. Export earnings from bauxite fell by 42.5% to \$10.4 million in 1975 while iron ore exports declined substantially from \$107.2 million in 1970 to \$2.4 million in 1975 due to lower prices and volumes.

1079. The average tin price was in the region of \$810 per *pikul* for the SMP period: the lowest monthly average of \$610 per *pikul* being recorded in November, 1972 and the highest of \$1,303 per *pikul* in March, 1974. The fluctuations in tin prices and the imposition of export control seriously affected the marginal mines. Recognizing these problems, the Government introduced "a hardship quota pool" in October, 1975 whereby miners with insufficient quota to meet operating costs could apply for additional quotas from the pool. The system enabled marginal mines to continue production and averted retrenchment of workers. As a result of increases in oil prices in 1974, the selling price of Malaysian crude and partly refined petroleum rose to \$214 per ton in that year and remained above \$200 per ton in 1975, compared to \$42.8 per ton in 1970. The prices of bauxite and iron ore stagnated at \$16-\$17 per ton and \$20-\$22 per ton respectively during 1971-75.

1080. Major activities under quarrying are related to the exploitation of limestone and other rocks, gravel, sand and clay. The output of these materials is modest compared to the total output of the mining sector. Total output value of this sector in 1970 amounted to more than \$30 million with the bulk consisting of sand, gravel and limestone and other rocks. Two-thirds of the limestone output is channelled for construction purposes whilst the remainder goes into the production of cement and non-metallic materials. Clay is mainly used in the production of structural clay products. A sustained high level of construction activity during 1971-75 has induced rapid growth of quarrying resulting in a doubling of output.

1081. Total mining employment declined marginally during 1971-75 with 86,600 employees at the end of 1975 compared to 87,300 in 1970. The mining sector does not provide substantial job outlets because of its relatively capital intensive operations. Likewise, oil exploration and extraction are highly capital intensive operations.

1082. Geological surveys were undertaken to obtain a more complete picture of the mining potential for other minerals. A copper mine at Mamut, in Sabah, is now in production. Another copper prospect, also in Sabah, is being investigated whilst in Peninsular Malaysia negotiations are in the final stages for the prospecting of copper, lead and zinc in the Pahang Tenggara area. A study is being undertaken on the feasibility of using local bauxite to manufacture alumina and/or aluminium in the country. Deposits of quality coking coal have been found in Balingan, Silantik and Bintulu in Sarawak.

1083. In 1972, about \$58 million was expended for capital purposes in the tin mining industry. New tin mining projects, particularly dredge mining in a number of large areas in Selangor and Perak have resulted in additional investments in the industry. For the sector as a whole, as a result of the development of new tin mining projects, the Mamut copper mine and the preparation by the petroleum companies to commence production, capital investment in this sector increased substantially in the latter part of the SMP period.

1084. The growth of share capital in the sector during 1971-75 was small while ownership continued to be mainly held by foreign interests. Though most of the gravel pump mines are owned by Malaysians, dredging is largely dominated by foreign interests. There were only four dredges owned by Malaysians in 1975 out of a total of 55.

1085. To expand the participation of Malaysians in the mining sector, in particular the Malays and other indigenous people, the Government will continue to accord them preferences in the granting of mining rights, except in cases where foreign capital and expertise are required for new ventures.

1086. The Government is also considering the formulation of a National Mining Code which will consolidate existing State mining laws and incorporate changes conducive to smoother implementation of mining projects and allow for large-scale mining ventures. This code will be similar to the National Land Code.

1087. Over the past few years, the share of equity ownership by Malay individuals and Malay interests in tin mining increased from \$3.4 million or 1% in 1970 to \$6.8 million or 1.7% in 1973 as against the share of Chinese which rose from \$94.7 million or 28.7% in 1970 to \$138.8 million or 35.5% in 1973. In terms of ownership of mines, 50 units were owned and operated by Malay individuals and Malay interests out of 961 in operation as at the end of September, 1975 compared to 26 units in 1970.

1088. Despite the overall decline of employment in the mining sector, total Malay employment in Peninsular Malaysia increased by 5.6% per annum from 21,100 in 1970 to 27,700 in 1975 or 33.1% of total employment of 83,700. Of the total, employment of the Malays and other indigenous people in the petroleum industry remained at about 1,552 or 40% of the total employment in the industry. Concerted efforts by public sector agencies such as the *Perbadanan Nasional* (PERNAS) and the State Economic Development Corporations (SEDCs) not only provided training for the Malays but also enabled them to be employed at the skilled and professional levels.

1089. PERNAS, through its subsidiary, Pemas Mining Sdn. Bhd., prospected large areas for tin and other mineral deposits including the off-shore areas of Perak, Penang and Selangor. Prospecting results indicate that the Mengkudu and Nipah areas in Perak contain some economic tin deposits. Further prospecting is in progress. The SEDCs of Perak and Selangor have undertaken mining ventures involving substantial acreage. The Mineral Investigation Drilling Unit has also prospected a total of 340,000 acres of Malay Reservation land by the end of 1975.

1090. A major development was the establishment of the legal, institutional and policy framework to monitor, control and regulate the petroleum industry. The objectives for the development of the petroleum industry, among others, are to:—

- (i) put to good use the petroleum resources of the country, as a first priority to serve national needs by making available adequate supplies at reasonable prices to meet domestic consumption including the requirements of power, industry and agriculture;
- (ii) enhance the favourable investment climate of the country by opening up new opportunities for the establishment of heavy energy-using and petro-chemical industries both for the domestic and the export market;
- (iii) take advantage of the option of increasing revenue and export earnings by the export of oil and gas to overseas markets;
- (iv) ensure that Malaysians are adequately represented in terms of ownership, management and control in all phases of petroleum operations ranging from exploration at one end to marketing and distribution at both the local and international levels at the other; and
- (v) effect an optimal social and economic pace of exploration of the nation's endowment of exhaustible oil and natural gas resources, taking into account the need for conservation of these depletable assets and the protection of the environment.

Consistent with these objectives, the Government will encourage Malaysians to participate actively in all the above and related activities including shipping and insurance in domestic, regional and foreign markets.

1091. The entire rights for exploring and exploiting oil and natural gas have been vested in PETRONAS, the national petroleum company established in 1974. To ensure that maximum benefits accrue to the country, the concession system is now in the process of being replaced with production sharing arrangements. Several oil companies have agreed in principle to convert to production sharing while Agreements have been signed between PETRONAS and the State Governments vesting ownership of oil and gas resources in PETRONAS. Although PETRONAS is the only public sector agency participating in petroleum related activities, the Government welcomes the participation of the private sector provided it is consistent with overall national objectives.

1092. A Masterplan study is being undertaken by PETRONAS for the overall development of oil and natural gas resources of the country. The Government, through PETRONAS, will assume an increasingly significant role in the development of these resources particularly through joint-ventures in the extraction as well as downstream activities of the industry. The private sector is expected to play an important role in both upstream and downstream activities.

### **III. PROSPECTS, 1976-80**

1093. The mining sector will assume increasing importance as the several recent oil and gas strikes are brought into production and as several related new projects such as the liquefied natural gas project materializes. Quarrying is expected to increase in line with the growth of construction and infra-structural development. The tin industry, however, is likely to grow only slowly unless new commercial ore deposits are found.

1094. The value added in the mining sector is expected to increase annually at 5.7% to reach an estimated \$806 million by 1980. Production of tin will increase by about 0.5% to 65,000 tons in 1980; copper is estimated to reach 108,000 tons; and crude and refined petroleum output will expand substantially to 180,000 barrels per day by 1978, about double the peak production during 1971-75. Employment, however, will grow less than 1% per annum reflecting the capital intensive nature of mining and refining operations.

1095. The export receipts from tin is expected to increase to \$1.4 billion by 1980 as the world economy regains its growth momentum resulting in increased demand for tin. Crude and partly refined petroleum exports will emerge as one of the important contributors to export earnings. The value of exports from this source is projected to increase by about 15% per annum reaching \$1.7 billion by 1980. Copper will become another major export earner after tin and petroleum. It is estimated that export earnings of copper will increase to \$124 million in 1980, an increase of about 47% per annum.

1096. To further the development of the mining of tin and other minerals, the Government will increase its efforts on mineral exploration. A regional aero-geophysical and a geochemical survey will be conducted to cover the central belt of Peninsular Malaysia stretching from Kelantan to South Pahang where potentials for copper, lead and zinc are known to exist. In addition, the Government is also planning to carry out an investigation of the mineral potential in the Straits of Malacca.

1097. The participation by individual Malays and other indigenous people in the sector will continue to be mainly in gravel pump mining since this is less demanding in terms of technical expertise and capital resources compared to dredging. To promote greater participation on their part, the Mineral Investigation Drilling Unit will extend the acreage of scout prospecting and also undertake close prospecting of certain areas. Scout prospecting will also be extended to the non-Malay Reserve areas. Despite considerable risks, Government agencies like PERNAS and some SEDCs will continue to undertake mining operations in order to encourage the

development of the nation's mineral resources for greater participation of the Malays and other indigenous people. Pemas Mining Sdn. Bhd. will commence mining in Malacca and Perak in the early part of the Third Malaysia Plan (TMP). The Selangor State Development Corporation will undertake extensive mining operations involving heavy capital expenditures in the Kuala Langat area. The Fund for Exploitation of Minerals on Malay Reservation Land, set up in the late sixties to provide financial assistance to Malay miners, will be re-organized.

1098. The TMP will see the end of the Fourth International Tin Agreement and the beginning of the Fifth. The Fifth Agreement, which was successfully negotiated in Geneva in June, 1975 and scheduled to come into operation in July, 1976, will ensure more effective stabilization of prices and growth of the industry. The present stock of 20,000 metric tons maintained compulsorily by producer countries and an additional 20,000 metric tons to be subscribed voluntarily by consumer countries should enable the Buffer Stock to operate as a more effective stabilization mechanism. With the establishment of the Southeast Asia Tin Research and Development Centre in Malaysia, research for extending the uses of tin will be stepped up.