

THE MINERAL INDUSTRY OF

LAOS

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Laos' gross domestic product was estimated at \$1.5 billion with a per capita income of \$350 in 1996. Agriculture was still the dominant sector. The country has three natural resources that are capable of fostering development: forests, water for hydroelectricity, and mineral resources. The Government gave the highest priority to the development of hydroelectric power as foreign exchange earner. The mining sector was considered a potential engine for economic growth.

Laos is rich in mineral resources, which include coal, gypsum, iron ore, limestone, potash, precious and semiprecious stones, and tin. The country's mining activities of commercial scale were restricted to tin and gypsum with coal and barite in less important roles. Other activities of smaller scale were the recovery of sapphire and gold from alluvium, extraction of salt, and quarrying of limestone, sand and gravel, kaolin, and brick clay. At present, three autonomous state mining enterprises for tin, gypsum, and coal, respectively, were in operation.

The Government planned to attract international mining companies to the country to carry out large-scale, long-term exploration programs. The new, revised mining law was drafted with assistance from the World Bank and expected to be in effect before the end of 1996. Foreign capital and technology were identified as the main determinant of mineral resources development. However, the lack of infrastructure, poor management, tax policies, legal tangles, and red tape were issues of concern to the foreign investors. Currently, more than 20 foreign mining companies were active in exploration in the country. The Government had authorized the issuance of a limited number of mineral concessions to foreign mining companies for exploration in gold and base metals such as copper, lead, and zinc. Geologic and geochemical surveys were carried out in the mineral concession areas.

Malaysia Mining Corp. Bhd and Bunduon Sdn Bhd of Malaysia signed an agreement with the Government to explore, evaluate, and mine any economic minerals in a prospective area in Xieng Khouang Province in northeastern Laos (Mining Magazine, 1996). It was intended to target epithermal gold and base-metal mineralization of commercial sizes. A feasibility study would be conducted to determine the viability of developing and mining any mineral deposits found. Newmont Viengkham Ltd., a subsidiary of Newmont Mining Corp. of the United States, was to explore for gold in an area covering 6,500 square kilometers in the Provinces of Vientiane and Sayabouri. The country also has widespread occurrences of placer gold.

Most of the iron ore deposits were found in Xien Khouang Province. An iron ore mine in this province was developed with the financial assistance from the Vietnamese. Tin

mineralization was found in Khammouane Province. An output level of 2,000 to 3,000 metric tons per year of tin was estimated from two mines and the concentrate of 50% tin was sent to Malaysia for refining.

A gypsum mine in Savannakhet Province was in operation. The Vientiane Plain has large potash deposits of sylvite. Potash deposits also occur near the Thai border.

The first lignite coal mine could be developed before the year 2000 from the low-sulfur deposit at Hong Sa, in northwest Laos near the Thai border. A 600-megawatt (MW) powerplant was under consideration. Electricity generated by the plant would be exported to Thailand. Currently, the country exported 75% of its power, some 200 MW of hydroelectric capacity, to its neighbors as the biggest source of foreign exchange. Meanwhile, the Government decided to set up a new agency, Laos National Grid Co., to develop high-voltage power transmission lines and to coordinate exports of electricity to Cambodia, Thailand, and Vietnam. The Asian Development Bank and possibly other donors would finance the setup and offer technical assistance.

Construction of a \$1.3-billion hydroelectric project in southern Laos, the largest in the country, was in doubt. The World Bank would not help finance the project if the results of an environmental study were not satisfactory. The World Bank had planned to guarantee the commercial loans as well as providing \$50 to \$100 million. Commercial lenders were Deutsche Bank of Germany, Societe Generale of France, and Barclays of the United Kingdom. In addition, Thailand's Electricity Generating Authority canceled an agreement to buy the output (Far Eastern Economic Review, 1996). Transfield Holdings Pty. Ltd. of Australia initiated the 681-MW Nam Thuen 2 project. Delays over environmental assessments could push completion from the original 1999 back to 2002.

Two other hydroelectric projects were under construction: Houay Ho by Daewoo Corp. of the Republic of Korea and Nam Theun-Hinboun by a consortium of Scandinavian interests, MDX Public Co. of Thailand, and Electricite du Laos. The Asian Development Bank provided a \$60 million loan to the Government to cover its 60% share of the projects. Houay Ho was expected to generate 150 MW when completed in 1998. Nam Theun-Hinboun's output would be 210 MW. The country's total hydroelectric power potential was estimated to be 18,000 MW (Far Eastern Economic Review, 1997).

References Cited

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Major Sources of Information

Lao Minerals Exploration Co.

TABLE 1
LAOS: ESTIMATED PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1992	1993	1994	1995	1996
Coal, all grades	7,500	10,000	10,000	11,000	11,000
Cement (from imported clinker)	7,000	7,000	10,000	10,000	9,000
Gemstones (sapphires) carats	35,000	35,000	40,000	40,000	38,000
Gypsum	79,863 3/	80,000	85,000	85,000	85,000
Salt, rock	8,000	8,000	8,000	8,000	8,000
Tin, mine output, Sn content	300	300	200	200	200

1/ Table includes data available through Aug. 12, 1997.

2/ In addition to the commodities listed, crude construction materials such as sand and gravel and varieties of stone presumably are produced, but available information is inadequate to make reliable estimates of output levels.

3/ Reported figure.