

THE MINERAL INDUSTRY OF NEPAL

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Nepal's mineral resources, identified by its Department of Mines and Geology (DMG), under the Ministry of Industry, included beryl, clay, coal, copper, dolomite, gemstones, gold, iron ore, lead, limestone, magnesite, mica, quartzite, salt, silica sand, dimension stone, talc, tin, and zinc. In 1995, Nepal's minerals production included clay, coal, limestone, marble, quartz, quartzite, salt, and talc. (*See table 1.*)

DMG is the Government agency responsible for implementing Nepal's mineral policy and carrying out geologic prospecting and mineral resources development. The Nepal Mines Act 1966 and the Mineral Concession Rule 1961 are the legal framework for administration of Nepal's mineral resources. The newly enacted Mines and Mineral Act 2050 simplified licensing procedures for large-scale mineral exploration and development and provided specific legal provisions on environmental management for mining and mineral resources development.

Some of the major provisions of the new mining legislation are as follows: 1) the Government can award mineral exploration and development contracts to competent parties and shareholders or joint venture with foreign parties; 2) royalties are fixed on the basis of ore grade and mineral production; 3) the Government reserves the right to explore for specific strategic minerals; 4) the Government is to enforce rules and regulations governing environmental protection, rehabilitation, and conservation of mineral resources.

Nepal's mining sector, comprised of numerous small-scale industrial minerals mining companies, has been the smallest sector of the economy. The output of the mining and quarrying industry contributed about 0.2% to Nepal's gross domestic product. Most of Nepal's mineral production was for domestic consumption. Exports of mineral commodities were estimated to have accounted for less than 10% of the country's export earnings.

Mining of various industrial minerals by privately owned small mining firms was sparsely distributed throughout the country. Limestone was mined for the production of cement and lime and for construction materials. Boulders, clay, marble, quartz, quartzite, and sand were mined for domestic consumption and for export, principally to India. Nepal produced a small amount of coal (lignite) and salt, but most of the coal and salt requirements were met by imports from

India.

Mining of crude magnesite at Kharidhunga in Dolkha District, about 110 kilometers northeast of Kathmandu, the national capital, had stopped in 1990 because of technical problems at a processing plant producing salable dead-burned magnesite. According to DMG, ore reserves at the Kharidhunga deposit were estimated at 180 million metric tons (Mt), of which 66 Mt were refractory-grade magnesite. Of this 66 Mt, 25 Mt were high-grade recoverable reserves. The Kharidhunga deposit is a crystalline, breunnerite type. The magnesium oxide (MgO) content of ore varies from 88% to 96%, with a maximum 4.5% each for silica (SiO₂) and iron oxide (Fe₂O₃), and 1% each for aluminum oxide (Al₂O₃) and calcium oxide (CaO).

Nepal Orind Magnesite Ltd., the owner and operator of the crushing plant at Kharidhunga and a 50,000-metric-tons-per-year (t/yr) dead-burned magnesite processing plant in Mankha Village near Lamosangu in Shindhupalchowk District, undertook a minor modification project with Government funds and technology provided by Refractories Consulting & Engineering GmbH of Austria. Upon completion of this first-stage redevelopment project, the plant was expected to operate at 50% capacity. The company also operated an open pit talc mine and talc grinding plant at Kharidhunga. The 10,000-t/yr talc plant has been operating since April 1983. The proven talc reserves in the Kharidhunga area were estimated at 300,000 metric tons.¹

Nepal's cement industry, consisted of three medium-size and two small-size cement companies with a combined capacity of about 570,000 t/yr. Hetauda Cement Industries Ltd., a state-owned company that has a limestone quarrying operation with 9.6 Mt of proven reserves, operated a 260,000 t/yr cement plant at Bhainse in Makwanpur District. Cement-grade limestone produced from the Okhare deposit in Makwanpur District, with 9 Mt of proven reserves, also supplied Hetauda's cement plant. Himal Cement Co. Ltd., which has a limestone quarrying operation with 15.3 Mt of proven reserves, operated a 50,000-t/yr cement plant at Chobhar in Lalitpur District. Udayapur (Udaipur) Cement Industry Ltd., which has a limestone quarrying operation with 73.5 Mt of proven reserves, operated a 240,000-t/yr cement plant at Jaljale in Udaipur District. These two small privately owned cement plants with 30-metric ton-per-day

capacity operating at Jogimara and at Beldanda, both in Dhading District.

In July 1995, an agreement was signed between the Maruti Cement Ltd. and the Somani Cement Ltd. of India for building a 108,000-t/yr cement plant at Mirchaiya in Siraha District. Construction on the cement plant was scheduled to start in late 1995 or early 1996.²

²Kayastha, N. B., Department of Mines and Geology (Kathmandu). Minerals

and Mineral-Based Industries in Nepal, 1994, p. 2.

³Nepal Press Digest (Kathmandu). "A New Cement Factory." V. 39, No. 30, July 24, 1995, p. 283.

Major Sources of Information

Ministry of Industry
Department of Mines and Geology
Lainchaur, Kathmandu, Nepal.

TABLE 1
NEPAL: PRODUCTION OF MINERAL COMMODITIES 1/

(Metric tons unless otherwise specified)

Commodity 2/	1991	1992	1993	1994 e/	1995 e/
Cement	184,000 r/	237,327 r/	273,532 r/	280,000	300,000
Clay, red	8,850	15,400	8,950	8,000	9,000
Coal:					
Bituminous	200	1,900	1,150	1,200	1,200
Lignite	10,200	14,100	3,810	4,000	4,000
Total	10,400	16,000	4,960	5,200	5,200
Copper ore:					
Gross weight	21	12	23	22	20
Cu content	4	2	2	2	2
Gemstones:e/					
Quartz kilograms	1,060	6,000	5,000	5,000	5,000
Tourmaline do.	4	--	(3/)	--	--
Total do.	1,064	6,000	5,000	5,000	5,000
Lime, agricultural	24,500	24,500 e/	24,000 e/	25,000	25,000
Salt	7,300	6,500	6,600	7,000	7,000
Stone					
Limestone	222,000	368,000	296,000	300,000	350,000
Marble:					
Chips	1,040	567	292	300	500
Slab, cut square meters	24,700	20,400	27,900	28,000	25,000
Craggy do.	6,460	6,430	2,940	3,000	3,000
Quartzite do.	2,980	2,360	2,550	2,500	2,600
Talc	3,170	3,820	1,340	1,500	1,500

e/ Estimated. r/ Revised.

1/ Table includes data available through Aug. 28, 1996.

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

3/ Less than 1/2 unit.

Source: Ministry of Industry, Department of Mines and Geology (Kathmandu). Minerals and Mineral-Based Industries in Nepal, Dec. 1994.