

## THE MINERAL INDUSTRY OF

# NEPAL

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Nepal, a small Himalayan kingdom, is located between China to the north and India to the south. According to the Department of Mines and Geology (DMG) of the Ministry of Industry, Nepal's mineral resources include beryl, clays, coal, copper, dolomite, gemstones, gold, graphite, iron ore, lead, limestone, magnesite, mica, phosphate, quartzite, salt, silica sand, dimension stone, talc, tin, and zinc. However, only red clay, coal (mostly lignite), construction aggregates, limestone, marble, magnesite, quartz, quartzite, salt, slate, and talc were produced in 1996. (*See table 1.*) Other minerals produced in the past 5 years, in small quantity, were beryl, copper, and gemstones, such as tourmaline, aquamarine, garnet, and ruby.

The mining sector, comprised of numerous small-scale industrial minerals mining companies, was the smallest sector of Nepal's economy. The output of the mining sector contributed about 0.2% to Nepal's gross domestic product, which was estimated at \$4.4 billion in 1996 (Far Eastern Economic Review, 1997). Most of Nepal's mineral production was for domestic consumption. Exports of mineral commodities, mainly cement, were estimated to have accounted for less than 10% of the country's export earnings. Mining of various industrial minerals was mostly by privately owned small mining firms. 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 and salt, but most of the coal and salt requirements were met by imports from India.

According to DMG (N.B. Kayastha, Department of Mines and Geology [Kathmandu], written communication, 1994) production of coal was from the Dang, Rolp, and Sarlahi areas and lignite, from the Lalitpur and Kathmandu areas. Production of salt and brine water was from the Narsing Khola, and Mustang areas. Talc mining was at the Chiwan, Dolkha, Kaski, Syangja, Sindupalchok, and Gorkha areas. Limestone mining at the Jogimara and the Beldanda deposits in the Dhading District of the Bagmati Zone was for production of lime by the Agriculture Lime Industries Ltd. and for the production of cement by two small privately owned cement companies, Tribeni Cement Industry Ltd. and Annapurna Cement Ltd. Limestone mining at the Bhainse, Okhare, and Pandrang-Bhainse deposits in the Makawanpur District of the Narayani Zone was for production of cement by Hetauda Cement Industries Ltd. and for production of lime by Lime Industry Ltd. Limestone mining at the Chobhar deposit in the Lalitpur District of the Bagmati Zone was for production of cement by Himal Cement Company Ltd. Limestone mining at the Sindali deposit

in the Udaipur District of the Sagarmatha Zone was for production of cement by Udaipur Cement Industries Ltd. The Chaukune limestone deposit with 30 million metric tons (Mt) of proven reserves in the Surkhet District and the Nigale limestone deposit with 10 Mt of proven reserves in the Dhankuta District had been proposed for development as raw material sources for construction of two cement plants in the future.

Nepal's cement industry was consisted of three medium-size and three small-size cement companies. Hetauda Cement Industries Ltd., a state-owned company, operated a 260,000-metric ton-per-year (t/yr) cement plant at Hetauda in the Makwanpur District, about 135 kilometers (km) south of Kathmandu. Himal Cement Co. Ltd. operated a 130,000-t/yr cement plant at Chobhar in the Lalitpur District. Udaipur Cement Industry Ltd. operated a 270,000-t/yr cement plant at Jaljale in the Udaipur District. Annapurna Cement Ltd. operated a 11,000-t/yr cement plant at Abu Kahairani in the Parbat District, about 180 km west of Kathmandu. Tribeni Cements Ltd. operated a 15,000-t/yr cement plant at Gaighat in the Jalibire Region. Maruti Cement Ltd. operated a 20,000-t/yr cement plant at Jhakri Khola in the Sindhuli District.

Production of dead-burned magnesite by Nepal Orind Magnesite Ltd. was estimated at 50% of the 50,000-t/yr processing plant in the Mankha Village near Lamosangu of the Shindhupalchowk District in the past 2 years. The feeding raw material (crude magnesite) was from the Karindhunga deposit in the Dolkha District of the Bagmati Zone, where about 32 Mt of high-grade reserves had been proven. In 1994, a minor plant modification had been undertaken by the company with Government funds and technical assistance provided by the Refractories Consulting & Engineering GmbH of Austria.

Following completion of a detailed feasibility study with the technical and financial assistance of United Nations Development Programme (UNDP), development work for an underground mine and concentrator at the Ganesh Himal lead-zinc deposit in the Rasuwa District of the Bagmati Zone reportedly was undertaken by the Nepal Metal Co. Ltd. in 1995 and 1996. The planned capacity of the mine and mill was to mine and process 400 t per day of ore or to produce 25,000 t/yr of lead-zinc concentrate. According to the UNDP's feasibility study, the proven reserves at the Ganesh Himal deposit were estimated at 872,000 metric tons averaging 13.3% zinc, 2.13% lead, and 27 grams of silver per ton of ore. The development project employed a total of 80 people in 1996.

#### References Cited

Far Eastern Economic Review (Hong Kong), 1997, Nepal: Asia 1997 Yearbook, p. 178.

**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/	1992	1993	1994 e/	1995 e/	1996 e/
Cement	237,327	273,532	315,514 r/ 3/	326,839 r/ 3/	343,181 3/
Clay, red	15,400	8,950	8,000	9,000	10,000
Coal:					
Bituminous	1,900	1,150	1,200	1,200	1,200
Lignite	14,100	3,810	4,000	4,000	4,000
Total	16,000	4,960	5,200	5,200	5,200
Copper ore:					
Gross weight	12	23	22	20	20
Cu content	2	2	2	2	2
Gemstones: e/					
Quartz kilograms	6,000	5,000	5,000	5,000	5,000
Tourmaline do.	--	(4/)	--	--	--
Total do.	6,000	5,000	5,000	5,000	5,000
Lime, agricultural e/	24,500	24,000	25,000	25,000	26,000
Magnesia, dead-burned e/	--	--	--	15,000	25,000
Salt e/	6,500	6,600	7,000	7,000	7,000
Stone					
Limestone	368,000	296,000	350,000 r/	370,000 r/	380,000
Marble:					
Chips	567	292	300	500	500
Slab, cut square meters	20,400	27,900	28,000	25,000	25,000
Craggy do.	6,430	2,940	3,000	3,000	3,000
Quartzite do.	2,360	2,550	2,500	2,600	2,600
Talc	3,820	1,340	1,500	1,500	1,500

e/ Estimated. r/ Revised.

1/ Table includes data available through Mar. 28, 1997.

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/ Reported.

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