



# 2012 Minerals Yearbook

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## BHUTAN AND NEPAL

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# THE MINERAL INDUSTRIES OF BHUTAN AND NEPAL

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## BHUTAN

Bhutan's economy was significantly influenced by its monetary and trade links mainly with India. Bhutan's economy continued to grow steadily in 2012, although the real growth rate of the gross domestic product (GDP) slowed to about 8% from about 10% (revised) in 2011. The GDP based on purchasing power parity was about \$5 billion, and the average inflation rate was about 11%. In addition to receiving financial assistance from India, Bhutan generated income by selling hydroelectric power to India (Asian Development Bank, 2013a; U.S. Central Intelligence Agency, 2013).

The mineral industry of Bhutan was small in scale relative to other sectors and not a significant contributor to the country's economy. The country produced and exported cement, copper wire, ferrosilicon, and manganese. Other mineral production included coal, dolomite, and limestone. Detailed or updated mining and mineral production data have not been available in recent years in the country's official reports, and the production estimates in table 1 are based on historic production data and information contained in public media reports. Bhutan and Nepal were mineral trade partners (table 1; Republica, 2013; U.S. Central Intelligence Agency, 2013).

Bhutan has the potential for 26,760 megawatts (MW) of hydroelectric generating capacity. In 2012, only about 6% (1,500 MW) of that potential capacity was actually installed. About 80% of the electricity generated by hydropower was exported to India. The 126-MW-capacity Dagachhu hydropower development project was started in 2008, and the Government aimed to export power from Bhutan to India through the existing river grid beginning at yearend 2012. As a low-carbon energy source, the exported hydropower was prompting regional economic cooperation among the neighboring countries and would provide clean energy to the coal-dominated India power market. The project was operated by a joint venture of Druk Green Power Corp. in Bhutan and Tata Power Co. in India through a public-private partnership. Financially supported by the Asian Development Bank, the Dagachhu project was nominated for a U.S. Department of Treasury Impact Honor for international clean and renewable energy development projects in 2012. Bhutan's economic growth for 2013 was expected to be about 9% because of the country's strategic economic investments in, mainly, hydropower and tourism development projects (Asian Development Bank, 2013b).

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## NEPAL

Nepal mined mostly for industrial minerals, which were used for domestic construction. Cement and brick production were Nepal's main mineral-related industries. The country also produced red clay, coal, limestone, marble, and rolled steel. Nepal's mineral resources were mostly unexploited, and its mineral industry was not significant to the country's economy. Nepal has significant economically feasible hydropower potential.

Nepal's real GDP growth rate in 2012 was 4.6%. This increase was attributed to a favorable monsoon season, growth in the service sector, moderated inflation, a surplus in remittances, and reduced imports. In 2012, Nepal's exports accounted for 10% of the GDP, and 55.7% of the exports went to India; 10.1%, to the United States; and 4.4%, to Germany. Nepal's imports came mainly from India (51%) and China (34.5%). The major imports included gold, electrical goods, machinery and equipment, and petroleum products (table 1; Asian Development Bank, 2013; U.S. Central Intelligence Agency, 2013).

Nepal's cement industry has about 5.6 million metric tons (Mt) of annual production capacity. The country imported cement from Bhutan and India. There were about 45 cement factories in Nepal, of which only a few produced clinker. The country previously depended on India for 90% of its clinker needs. During fiscal year 2012, Nepal's cement imports decreased by 25% compared with those of fiscal year 2011 owing to the increase in domestic cement production. More grinding factories set up clinker production units, which began to reduce the country's dependency on clinker imports. Also, Nepal's limestone quarries were being acquired by cement producers, as limestone is a key raw material in the production of cement (Bell, 2012, p. 109; Republica, 2013).

The Nepal Bureau of Standards & Metrology (NBSM) closed two cement plants—the Butwal Cement Mills and the Shubha Shree Jagadamba—because the cement products produced at the plants failed to meet the NBSM's standard. An additional 16 cement plants were facing bans from the market because they had not acquired the NBSM's standard mark (Global Cement, 2013).

The Asian Development Bank projected that Nepal's 2013 GDP growth rate would slow to 3.5% because of the negative effects of the upcoming monsoon season, low investor and business confidence, the continuing domestic political uncertainties, and the slowdown in economic growth in India (Asian Development Bank, 2013).

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TABLE 1  
BHUTAN AND NEPAL: PRODUCTION OF MINERAL COMMODITIES<sup>1</sup>

(Metric tons unless otherwise specified)

Country and commodity <sup>2</sup>	2008	2009	2010	2011	2012
BHUTAN					
Cement <sup>c</sup> thousand metric tons	180	180	200	544 <sup>r</sup>	521
Coal, bituminous	123,704	48,545	87,814	108,904 <sup>r</sup>	98,731
Dolomite	1,247,568	1,028,993	1,192,374	1,082,300 <sup>r</sup>	1,499,534
Ferrosilicon, exports	30,824 <sup>r</sup>	90,798 <sup>r</sup>	97,528 <sup>r</sup>	79,181 <sup>r</sup>	67,900
Granite square meters	199	217	18,731	462 <sup>r</sup>	1,806
Gypsum	248,445	299,735	344,034	352,233 <sup>r</sup>	313,172
Limestone	583,707	591,027	715,956	649,291 <sup>r</sup>	677,128
Marble square meters	1,143	31	--	71,582 <sup>r</sup>	59,541
Quartzite	94,688	82,578	104,580	95,015 <sup>r</sup>	88,630
Slate square meters	764	1,765	--	--	--
Stone	408,945	475,614	716,760	1,842,678 <sup>r</sup>	1,494,467
Talc	56,077	64,381	26,302	8,562 <sup>r</sup>	16,062
NEPAL					
Cement <sup>c</sup> thousand metric tons	295	295	295	3,900 <sup>r</sup>	3,900
Clay, red cubic meters	14,135	8,950	9,000	6,705 <sup>r,3</sup>	9,066
Coal:					
Bituminous	13,845	14,819	16,000	3,391 <sup>r,3</sup>	10,904
Lignite	60	NA	--	--	--
Total	13,905	14,819	16,000	3,391 <sup>r,3</sup>	10,904
Gemstones, quartz kilograms	930	826	1,000	560 <sup>r,3</sup>	839
Quartzite <sup>c</sup>	--	--	3,000	3,000	3,000
Steel, rolled <sup>c</sup> thousand metric tons	85	85	85	80	80
Stone:					
Limestone	701,950	582,999	580,000	580,000	1,276,452
Marble:					
Chips	441	1,047	900	1,330 <sup>r,3</sup>	1,969
Slab, cut cubic meters	1,781	426	500	NA	NA
Craggy do.	--	8,062	--	--	--
Talc	7,996	6,601	9,000	1,655 <sup>r,3</sup>	6,935

<sup>c</sup>Estimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. <sup>r</sup>Revised. do. Ditto. NA Not available. -- Zero.

<sup>1</sup>Table includes data available through September 24, 2013.

<sup>2</sup>In addition to the commodities listed, metallic commodities, such as copper wire, ferrosilicon, and manganese; and crude construction materials, such as sand and gravel and a variety of stone, presumably are produced in Bhutan and Nepal, but information is inadequate to make reliable estimates of output.

<sup>3</sup>Reported figure.

TABLE 2  
BHUTAN AND NEPAL: STRUCTURE OF THE MINERAL INDUSTRIES IN 2012

(Thousand metric tons unless otherwise specified)

Country and commodity	Major operating companies and major equity owners	Location of main facilities	Annual capacity <sup>c</sup>
<b>BHUTAN</b>			
Cement	Dungsam Cement Construction Ltd. (DCCL)	Nganglam, Pemagatshel District	1,300
Do.	Penden Cement Authority Ltd.	Gomtu, Samtse District	348
Dolomite	Jigme Mining Corp. Ltd.	do.	2,000
Ferrosilicon	Bhutan Ferro Alloys Ltd. (Government of Bhutan, Marubeni Co., and Tashi Commercial Co.)	Phuentsholing	34
<b>NEPAL</b>			
Cement	Dang Cement Industries (a subsidiary of Ambuja Cements of India)	NA	NA
Do.	Lhaki Cement Pvt. Ltd.	Bhawani Khola	660
Do.	Hetauda Cement Industries Ltd.	Hetauda	260
Do.	Himal Cement Co. Ltd.	Chobhar	130
Do.	Manasa Cement Industry	Chandragadhi, Jhapa	37
Do.	More than 40 cement manufacturers under the Cement Manufacturers Association of Nepal (CMAN)	NA	4,500
Lead and zinc	Nepal Metal Co. Ltd.	Lari	NA
Magnesite	metric tons Nepal Orind Magnesite Ltd.	Dolkha	50
Marble	Godavari Marble Industries Ltd.	Latitpur	1

<sup>c</sup>Estimated. Do., do. Ditto. NA Not available.