

BENIN, CAPE VERDE, THE CENTRAL AFRICAN REPUBLIC, CÔTE D'IVOIRE, AND TOGO¹

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BENIN

The mineral sector of Benin (primarily production of cement and gold) was a minor component of the national economy. Other reported mineral occurrences included clay, iron ore, limestone, marble, phosphate rock, rutile, silica sand, and stone (Ministère des Mines, de l'Énergie, et de l'Hydraulique, 1992, p. 3, 9-10, 15, 18-19, 21). The Ministère des Mines, de l'Énergie, et de l'Hydraulique was responsible for the administration of the mining sector. The Office Béninois de Recherches Géologiques et Minières was responsible for mineral development administration. In 2002, the gross domestic product (GDP) was estimated on the basis of purchasing power parity to be about \$11.5 billion (International Monetary Fund, 2003²). Benin's population in 2002 was estimated to be about 6.6 million (United Nations, 2003, p. 1).

The most recent deadline for the decision to proceed with investment in the construction of the West African Gas Pipeline (originally proposed for completion in 2002) was expected in 2003. The 1,000-kilometer pipeline could begin to deliver natural gas from Nigeria to existing and planned powerplants in Benin, Ghana, and Togo by 2005 or 2006 (Chevron Nigeria Ltd., 2003, 1999\$).

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Major Source of Information

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CAPE VERDE

Mining's contribution to the economy of Cape Verde, which is an archipelago of 10 islands and 8 islets about 600 kilometers (km) off the west coast of Africa, was minimal. In 2002, the nation's GDP, which was calculated on the basis of purchasing power parity, was estimated to be \$1.84 billion (International Monetary Fund, 2003\$). Cape Verde's population in 2002 was estimated to be about 450,000 (United Nations, 2003, p. 1).

Most of the nation's mineral requirements were imported. Salt was produced on the islands of Mindelo and Sal. Production of clay was intermittent on Boa Vista, Sal, and Sao Vicente; gypsum on Maio; limestone, on Boa Vista, Sal, and Santo Antao; and volcanic

¹Revised February 11, 2004.

²References that include a section mark (§) are found in the Internet References Cited sections.

rock, on Santo Antao. The Direcao Geral da Energia regulated the importation and distribution of mineral fuels. No domestic oil or natural gas production was reported.

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CENTRAL AFRICAN REPUBLIC

In 2002, the mining industry of the Central African Republic was dominated by the production of diamond and gold. Other mineral occurrences in the Central African Republic that have been identified include clay, copper, graphite, iron ore, lignite, limestone, rutile, tin, and uranium. In 2002, the GDP, which was based on purchasing power parity, was estimated to be about \$5.98 billion (International Monetary Fund, 2003§). The Central African Republic's population in 2002 was estimated to be 3.8 million (United Nations, 2003, p. 1).

The Ministère des Ressources Energetiques et Minerales was responsible for the administration of the mining sector in the Central African Republic. Official diamond exports were handled by the Government's Bureau d'Evaluation et du Contrôle du Diamant et Or, which signed a 4-year contract with Independent Diamond Valuers of Belgium in 2002 to verify its valuation of diamond exports.

International interest in investment in the Central African Republic has been severely restricted by the civil unrest that accompanied three military mutinies in 1996 and 1997 and a coup attempt in 2001. The lack of adequate transportation and industrial infrastructure also hindered the development of the nation's mineral industry. Little of the country's 400,000-square kilometer Precambrian terrane has been explored by using modern exploration techniques (Knopf, 1999).

Diamond and gold were recovered by artisanal miners primarily from the regions of Berbérati, Sangha, and Upper Kotto. Most of the diamond deposits were situated along northern rivers flowing from the Democratic Republic of the Congo. In 2002, national diamond production fell to 415,000 carats from 449,300 carats in 2001 (Africa Mining Intelligence, 2003).

Axmin Resources Ltd. of the United Kingdom was exploring for gold on the Bambari permit, and Vaaldiam Resources Ltd. of Canada was exploring for diamond in its kimberlite project. Diamondworks Ltd. of Canada held five diamond concessions. Also in 2002, Ateba Technology & Environmental Inc. of Canada wrote off its interest in its diamond permit in the N'Zako district, but did not abandon the property. RSM Production Corp. (a subsidiary of Grynberg Petroleum Co. of the United States) held a petroleum lease, and United Reef Ltd. of Canada sold the last piece of equipment from the Mbala diamond mine, which it had closed in 1998. In 2001, after filing for bankruptcy, J.A.B. International Inc. of the United States transferred its interest in VOCAR S.A.R.L. of the Central African Republic to J.A.B. Central Africa, Inc.

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CÔTE D'IVOIRE

Côte d'Ivoire's production of minerals represented a minor component of its national economy. In 2002, the nation had a GDP of \$31 billion based on purchasing power parity valuation (International Monetary Fund, 2003§). Agriculture was the leading sector in the economy; the country was one of the world's largest producers of cocoa beans, coffee, and palm oil. In 2002, Côte d'Ivoire's population was estimated to be about 16.4 million (United Nations, 2003, p. 2).

The Ministère des Ressources Minières et Pétrolières was responsible for the administration of the mining sector. All mineral rights were vested in the State. Residual civil unrest from coup d'États in 1999, 2000, 2001, and 2002 inhibited international investor interest. Because of the political/security situation, exploration activity for a number of mineral-exploration companies in Côte d'Ivoire was limited to out-of-the-country reevaluation of previous work, although there was some in-country activity, which included drilling and sediment sampling. Offshore oil companies tended to not be affected.

Côte d'Ivoire had proven deposits of bauxite, clay, cobalt, copper, diamond, gold, iron, manganese, nickel, silica sand, stone, and tantalite (Mining Journal, 2001). The Cie. Générale Des Matières Nucleaires (COGEMA) Group of France held 51% equity interest in the Ity gold mine; the state-owned Société pour le Développement Minier en Côte d'Ivoire (SODEMI) held the remainder. Personnel from the Ity Mine were evacuated in November as a precaution when armed bands from Liberia threatened the operation. Despite the evacuation, the mine produced about 1,700 kilograms of gold in 2002 (Cie. Générale Des Matières Nucleaires, 2002§).

Cie. Minière d'Afrique [a subsidiary of Compagnie Minière Or (a subsidiary of COGEMA)] operated the Angovia gold mine. Other companies with gold projects in Côte d'Ivoire included Afminex Ltd. of Australia (formerly Shield Telecommunications Ltd.), Ashanti Goldfields Co. Ltd. of Ghana, Carnegie Minerals Ivory Coast S.A.R.L., which was a joint venture of African Mining and Petroleum Resources plc and SODEMI; Eden Roc Mineral Corp. of Canada; Equigold NL of Australia; Etruscan Resources, Inc. of Canada; and Randgold Resources Ltd. of the United Kingdom. The security situation also adversely affected Falconbridge Ltd. of Canada's continued evaluation of the Touba-Biankouma nickel prospect.

Kimberlites were known to occur at Kanangone, Seguela, and Tortiya; diamond was produced only from alluvial deposits at Seguela and Tortiya. In 2002, national diamond production amounted to 306,500 carats, which was a decrease of 0.8% from 2001 (Africa Mining Intelligence, 2003).

After being shut down in 1998 because of high operating costs, the offshore Espoir oil field was redeveloped by the partnership of Canadian National Resources Ltd. of Canada, Société Nationale d'Opérations Pétrolières de la Côte d'Ivoire, which was the former state oil company that the Government had been decreed to be transformed into a limited holding company, and Tullow Oil plc of the United Kingdom. Production was restarted in February 2002. Other offshore production includes the Foxtrot gasfield operated by the Bouygues Group of France, and the Lion and Panthere gasfields operated by Ocean Energy, Inc. of the United States.

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TOGO

In 2002, mining played a minor role in Togo's GDP, which when calculated on the basis of purchasing power parity was estimated at \$7.5 billion (International Monetary Fund, 2003§). Togo had an estimated population of 4.8 million people (United Nations, 2003, p. 6).

The Ministère de l'Équipement, des Mines, de l'Énergie et des Postes et Télécommunications was responsible for the administration of the mining sector. Minerals and mineral-based commodities produced included cement, diamond, gold, limestone, and phosphate rock. The country's other mineral resources include bauxite, gypsum, manganese, marble, iron ore, rutile, and zinc.

From 1998 to 2002, Togo's cement production increased to about 800,000 metric tons (t) from 500,000 t. Togo exported clinker to Burkina Faso and Ghana and cement to Benin. Cement exports were estimated to be nearly \$73 million in 2002; the share of cement in national exports increased to 19% from 2% in 1999. By 2007, the value of cement exports was expected to rise by about 25%. The share of cement in total exports, however, was expected to fall to 15% (International Monetary Fund, 2003, p. 27).

Togo's production of phosphate rock rose by nearly 21% in 2002 (table 1). The value of phosphate rock exports was estimated to be about \$64 million in 2002; the share of phosphate rock in national exports amounted to nearly 17%. Exports of phosphate rock were expected to more than double by 2007; the share of phosphate rock in total exports was expected to rise to about 22% (International Monetary Fund, 2003, p. 27).

In 2002, Togo Hunt Oil Co. (a subsidiary of Hunt Oil Co. of the United States) was evaluating its offshore petroleum lease. Togo's imports of petroleum products were estimated to be \$82 million in 2002; petroleum products accounted for 15% of total imports. The value of re-exported petroleum products was nearly \$27 million, or 7% of national exports (International Monetary Fund, 2003, p. 27).

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TABLE 1
 BENIN, CAPE VERDE, CENTRAL AFRICAN REPUBLIC, COTE D'IVOIRE, AND TOGO: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity	1998	1999	2000	2001	2002 ^e
BENIN					
Cement, hydraulic	200,000	200,000	250,000	250,000	250,000
Clay	NA	NA	--	17,716	18,000
Gold kilograms	15 ^{r,e}	15 ^{r,e}	-- ^r	16 ^r	20
Gravel cubic meters	NA	NA	33,027	24,675	25,000
Petroleum, crude thousand 42-gallon barrels	200	--	365	365	-- ²
CAPE VERDE³					
Salt ^e	1,600	1,600	1,600	1,600	1,600
CENTRAL AFRICAN REPUBLIC					
Diamond carats	400,000 ^e	431,138	461,004	449,300	415,000 ²
Gold kilograms	50 ^e	41	12	20 ^e	20
COTE D'IVOIRE⁴					
Cement ^e thousand metric tons ⁵	650	650	650	650	650
Columbite kilograms	NA	273	137	130 ^e	130
Diamond carats	310,000 ^e	398,282	320,207	309,000 ^r	306,500 ²
Gold kilograms	3,400 ^e	2,717	3,154	3,100 ^e	2,000
Gravel and crushed rock thousand metric tons ⁵	NA	570	540	550 ^e	550
Natural gas million cubic meters	1,000 ^e	1,395	1,323	1,230 ^e	1,350
Petroleum:					
Crude ^e thousand 42-gallon barrels	7,300	10,000	11,700	18,914 ^{r,2}	18,000
Refinery products do.	19,600 ^r	19,000 ^r	20,100 ^r	19,500	19,000
Sand ^e thousand metric tons ⁵	NA	230	740	750	750
Tantalite kilograms	1,400 ^e	686	408	400 ^e	400
TOGO⁶					
Cement: ^e					
Clinker	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
Cement, hydraulic ⁷	500,000	600,000	700,000	800,000	800,000
Limestone	2,400,000 ^e	2,400,000	2,400,000	2,400,000 ^e	2,400,000
Phosphate rock, beneficiated product:					
Gross weight thousand metric tons	2,250 ^e	1,600	1,400	1,060	1,281 ²
P ₂ O ₅ content ^e do.	810	600	500	380	460

^eEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. NA Not available. -- Zero.

¹Includes data available through October 22, 2003.

²Reported figure.

³Cape Verde also presumably produced clay, gypsum, limestone, and pozzolana, but output is not reported, and available information is inadequate to make estimates of output levels.

⁴In addition to the commodities listed, Côte d'Ivoire produced clay, crushed granite, manganese, and stone; but information is inadequate to make estimate of output levels.

⁵Revised as of October 15, 2004.

⁶Togo also presumably produced diamond and gold, but output is not reported, and available information is inadequate to make reliable estimates of output levels.

⁷Includes cement produced from imported clinker.

TABLE 2
BENIN, CAPE VERDE, CÔTE D'IVOIRE, AND TOGO: STRUCTURE OF THE MINERAL INDUSTRIES IN 2002

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
BENIN				
Cement		Société des Ciments d'Onigbolo (Amida Group, 100%)	Onigbolo plant	450,000 mill; 500,000 kiln.
Do.		Ciments du Benin S.A. (Scancem International of Norway, 48.7%)	Cotonou plant	275,000 mill.
Do.		Société des Ciments du Benin (Government, 50%; private, 50%)	do.	200,000 mill.
Petroleum, crude ¹	thousand 42-gallon barrels	Zetah Oil Company of Côte d'Ivoire (private, 100%)	Sèmè Kpodji	365.
CAPE VERDE				
Salt		Groupe Salins de France (private, 100%)	Mindelo and Sal Islands	2,000.
COTE D'IVOIRE				
Cement		Société des Ciments d'Abidjan (Government, 40%; Ominum Tropical, 24%; SCOA Côte d'Ivoire SA, 12%)	Abidjan plant	750,000 mill.
Do.		Société Ivoirienne de Cimen et Matériaux (Holcim and Origny, 80%)	do.	500,000 mill.
Do.		Société des Ciments du Sud-Ouest (Government and Omnium Tropical)	San Pedro	100,000 mill.
Gold	kilograms	Société des Mines d'Ity (Cie. Generale des Matieres Nucleaires Greoup, 51%; Société pour le Développement Minier en Côte d'Ivoire, 49%)	Ity Mine	450,000 ore; 2,000 gold
Do.	kilograms	Cie. Miniere d'Afrique (Cie. Generale des Matieres Nucleaires Group, 100%)	Angovia Mine	280,000 ore; 1,200 gold.
Petroleum products	thousand 42-gallon barrels	Société Ivoirienne de Raffinage	Abidjan	23,800.
TOGO				
Cement		Ciments du Togo (Scancem International, 99.6%)	Lomé plant	600,000 mill.
Do.		West African Cement (Indian Kenyan Co., 100%)	Tabligbo	400,000 mill; 1,200,000 kiln.
Limestone		Ciments de l'Afrique de l'Ouest (private, 100%)	do.	2,400,000.
Phosphate		Office Togolais des Phosphates (Government, 100%)	Akoumape and Hahotue	2,000,000.

¹Not operating in 2002.