

THE MINERAL INDUSTRY OF RWANDA

By Thomas R. Yager

Rwanda's mineral industry produced gold ores and concentrates of columbite and tantalite, tin, and tungsten, most of which was designated for export. This small country in central Africa also produced cement, sapphire, and small quantities of natural gas (table 1). Rwanda was also known to have deposits of beryllium, kaolin, and peat. In addition to its own production, Rwanda re-exported concentrates of columbite and tantalite, and tin produced in Congo (Kinshasa).

In 2004, Rwanda's gross domestic product (GDP) amounted to about \$11.6 billion based on purchasing power parity. The GDP grew by 4% in 2004 after rising by 0.9% in 2003. In 2003, construction and public works accounted for 11% of the GDP; manufacturing, 9%; and mining and quarrying, less than 1% (International Monetary Fund, 2004, p. 80; 2005, p. 208; 2005¹).

In 2004, the value of production in the mining and quarrying sector rose by about 55%. From 1999 to 2004, mineral exports accounted for nearly 45% of the increase in Rwanda's total exports. The construction sector grew by 7.5% in 2004, and the manufacturing sector, by about 6%. Output in the electricity, gas, and water sector fell by 22% (Banque Nationale du Rwanda, 2005; Ministère des Finances et de la Planification Economique, 2005, p. 16).

Commodity Review

Metals

Columbium (Niobium) and Tantalum.—Coopérative de Promotion de l'Industrie Minière Artisanale (COPIMAR), Régie d'Exploitation et de Développement des Mines (REDEMI), and other companies produced ores of columbium (niobium) and tantalum. REDEMI operated processing facilities at Gatumba. In 2003, COPIMAR produced 89 metric tons (t) of columbite-tantalite concentrates; REDEMI, 9 t; and other companies, 20 t. In 2004, REDEMI planned to produce 30 t of columbite-tantalite; the state-owned company planned to put its first concessions up for sale in 2007 (Africa Mining Intelligence, 2004; Pourtier, 2004, p. 9).

In 2004, exports of columbite-tantalite concentrates were 861 t at a value of \$13 million. Columbite-tantalite accounted for 13% of total exports in 2004 compared with 10% in 2003 and 21% in 2002 (Banque Nationale du Rwanda, 2005; Ministère des Finances et de la Planification Economique, 2005, p. 28).

Gold.—Artisanal miners produced small amounts of gold. Production fell after the Government outlawed mining in the Nyungwe Forest; mining reportedly contributed to environmental damage to the forest (Pourtier, 2004, p. 33).

Tin.—REDEMI operated a cassiterite-processing facility at Rutongo; the company planned to produce 547 t of cassiterite

(tin ore) in 2004. In 2003, REDEMI produced 168 t of cassiterite; COPIMAR, 106 t; and other companies, 9 t. Rwanda's exports of cassiterite were 3,553 t at a value of about \$15.9 million in 2004. Cassiterite accounted for 16% of total exports in 2004 compared with 7% in 2003 and 2% in 2002. Exports increased because of higher tin prices, which were attributable to rising Chinese consumption, an expansion of the consumer electronics sector, and the European Union's ban on lead solders in electronic devices (Africa Mining Intelligence, 2004; Pourtier, 2004, p. 9; Banque Nationale du Rwanda, 2005; Ministère des Finances et de la Planification Economique, 2005, p. 28).

The Metal Processing Association operated a cassiterite-processing facility and a tin smelter at Gisenyi. The smelter's outdated technology led to pollution and excessive consumption of electricity. In 2004, exports of refined tin were 71 t at a value of about \$470,000, which was less than 1% of total exports (Pourtier, 2004, p. 18; Banque Nationale du Rwanda, 2005).

Tungsten.—REDEMI operated a wolframite-processing facility at Nyakabingo; the company planned to produce 234 t of wolframite (tungsten ore) in 2004. In 2003, REDEMI produced 66 t of wolframite; COPIMAR, 25 t; and other companies, 18 t. Exports of wolframite amounted to 156 t at a value of about \$410,000 in 2004, or less than 1% of total exports (Africa Mining Intelligence, 2004; Pourtier, 2004, p. 9; Banque Nationale du Rwanda, 2005).

Industrial Minerals

Cement.—Cimenterie du Rwanda (Cimerwa) was Rwanda's only producer of cement; production was 104,205 t in 2004 compared with 104,613 t in 2003. In 2004, production was inhibited by power shortages. The growth in the construction sector and stagnation in Cimerwa's output contributed to higher imports of construction materials. The volume of cement imports rose by 7% in 2004, and of all construction materials, by 15%. Imports of construction materials amounted to \$10.2 million, or 3% of total imports (Ministère des Finances et de la Planification Economique, 2005, p. 21, 31).

Mineral Fuels

Natural Gas.—Rwanda had resources of natural gas under Lake Kivu. Natural gas production was 314,000 cubic meters in 2003 compared with 103,000 cubic meters in 2002 and 1.35 million cubic meters in 1999 (table 1). In 2004, Dane Associates Ltd. was negotiating with the Government over the construction of a new power station that would use natural gas extracted from Lake Kivu. The plant was expected to have a capacity of 20 to 30 megawatts (MW) (Africa Energy Intelligence, 2004; International Monetary Fund, 2004, p. 87).

Petroleum.—Rwanda did not have production facilities for petroleum products; all petroleum demand was met through

¹A reference that includes a section mark (§) is found in the Internet Reference Cited section.

imports. In 2004, imports of energy products and lubricants amounted to 120,140 t at a value of \$68.6 million; energy imports accounted for 20% of Rwanda's total imports (Ministere des Finances et de la Planification Economique, 2005, p. 31).

Infrastructure

The state-owned utility Electrogaz was the only domestic producer of electricity. In 2004, Electrogaz produced 90.5 gigawatt-hours (GWh) compared with 116.1 GWh in 2003 and 127.3 GWh in 1999. Hydroelectric sources provided most of Rwanda's electricity. From 1999 to 2003, imports of electricity increased to 126.7 GWh from 69.9 GWh. In 2004, the value of electricity imports amounted to \$10 million, or 3% of total imports (International Monetary Fund, 2004, p. 87; Ministère des Finances et de la Planification Economique, 2005, p. 21, 31).

In 2004, the Governments of Burundi, Congo (Kinshasa), and Rwanda discussed the rehabilitation of the Ruzizi I hydropower station in Burundi. Repairs to Ruzizi I would increase capacity to 39.6 MW from 28.2 MW and allow the plant to export power to Rwanda. The Governments also discussed the rehabilitation of Ruzizi II and the possible construction of Ruzizi III (Misser, 2004).

Rwanda's transportation network comprised about 12,000 kilometers (km) of roads, of which 1,000 km was paved. Lake Kivu was navigable by shallow-draft barges and native craft. Transportation costs in this land-locked country were among the highest in Africa.

Outlook

The International Monetary Fund (2005, p. 208) predicted that Rwanda's GDP would grow by 4% in 2005 and 4.3% in 2006. In

2005, strong growth is expected to continue in the construction sector because of public building projects and road development (Ministère des Finances et de la Planification Economique, 2005, p. 61-62). The outlook for the mineral industry depends on favorable world market conditions for columbium (niobium) and tantalum, gold, tin, and tungsten, and reduced civil strife and political risks in the Great Lakes region.

References Cited

- Africa Energy Intelligence, 2004, Rwanda—Lahmeyer weighs methane option: Africa Energy Intelligence, no. 363, February 11-24, p. 6.
 Africa Mining Intelligence, 2004, Rwanda—Rise in Redemi's production: Africa Mining Intelligence, no. 79, February 18-March 2, p. 2.
 Banque Nationale du Rwanda, 2005, Structure des exportations annuelles de 1989-2000 (Structure of annual exports from 1989 to 2000): Kigali, Rwanda, Banque Nationale du Rwanda, 1 p.
 International Monetary Fund, 2004, Rwanda—Selected issues and statistical appendix: Washington, DC, International Monetary Fund, December 3, 108 p.
 International Monetary Fund, 2005, World economic outlook—Globalization and external imbalances: Washington, DC, International Monetary Fund, April, 289 p.
 Ministère des Finances et de la Planification Economique, 2005, Annual economic report 2004: Kigali, Rwanda, Ministère des Finances et de la Planification Economique, 71 p.
 Misser, François, 2004, Energy projects may yet power a revival of Great Lakes co-operation: African Energy, no. 77, August, p. 7-8.
 Pourtier, Roland, 2004, The mining economy in the Kivu and its regional implications: Paris, France, Initiative for Central Africa, 54 p.

Internet Reference Cited

- International Monetary Fund, 2005 (April), Rwanda, World Economic Outlook Database, accessed May 2, 2005, via URL <http://www.imf.org/external/pubs/ft/weo/2005/01/data/index.htm>.

TABLE 1
RWANDA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2000	2001	2002	2003	2004 ^e	
Cement	70,716	91,204	100,568	104,613 ^r	104,205 ³	
Columbium (niobium) and tantalum:						
Gross weight, ore and concentrate	kilograms	561,000	241,000	96,000	128,000 ^r	200,000
Nb content	do.	176,000	76,000 ^r	30,000 ^r	40,000 ^r	63,000
Ta content	do.	124,000 ^r	53,000 ^r	20,000 ^r	26,000 ^r	40,000
Gold, mine output, Au content	do.	10	10 ^e	10 ^e	2 ^r	--
Natural gas, gross	thousand cubic meters	1,373 ^r	828 ^r	103 ^r	314 ^r	320
Tin:						
Mine output, Sn content		276	169	197	192 ^r	300
Refined		--	--	25 ^e	70 ^e	71 ⁴
Tungsten, mine output, W content		108	142	153	78 ^r	120

^eEstimated; estimated data are rounded to no more than three significant digits. ^rRevised. -- Zero.

¹Includes data available through May 16, 2005.

²In addition to the commodities listed, sapphire and pozzolanic materials are also known to be produced, but information is inadequate to make reliable estimates of output levels.

³Reported figure.

⁴Exports.

TABLE 2
RWANDA: STRUCTURE OF THE MINERAL INDUSTRY IN 2004¹

(Metric tons unless otherwise specified)

Commodity	Major operating companies	Location of main facilities	Annual capacity
Cement	Cimenterie du Rwanda	Plant at Cyangugu	115,000.
Columbium (niobium) and tantalum	Régie d'Exploitation et de Développement des Mines	Concentrator at Gatumba	20 Nb ₂ O ₅ and Ta ₂ O ₅ in concentrate. ^c
Gold	Artisanal miners	Mines in Nyungwe Forest	NA.
Sapphire	do.	Mines at Cyangugu	NA.
Tin	Régie d'Exploitation et de Développement des Mines	Concentrator at Rutongo	370 in concentrate. ^c
Do.	Metal Processing Association	Concentrator at Gisenyi	NA.
Do.	do.	Smelter at Gisnyi	200.
Tungsten	Régie d'Exploitation et de Développement des Mines	Concentrator at Nyakabingo	170 in concentrate. ^c

^cEstimated. NA Not available.

¹Abbreviations used for commodities in this table include the following: Nb₂O₅, columbium (niobium) oxide, and Ta₂O₅, tantalum oxide.