



2015 Minerals Yearbook

TANZANIA [ADVANCE RELEASE]

THE MINERAL INDUSTRY OF TANZANIA

By Thomas R. Yager

In 2015, Tanzania played a significant role in the global production of gold, accounting for about 1.5% of the world's gold mine output. The country was also the world's only producer of tanzanite. Other domestically significant mining and mineral-processing operations included cement and natural gas. Tanzania was not a globally significant consumer of minerals or mineral fuels in 2015 (Bank of Tanzania, 2016a, p. 39; George, 2017).

Minerals in the National Economy

In 2015, the manufacturing sector accounted for 7.3% of the gross domestic product, and mining and quarrying, 3.4%. The value of output in the mining sector increased by 9.1% in 2015 compared with 9.4% in 2014. Employment in large-scale mines was 24,519 workers in 2014 compared with 17,351 workers in 2013. At least 700,000 artisanal miners were estimated to produce bauxite, building materials, colored gemstones, copper, diamond, gold, tin, and other mineral commodities. Artisanal miners accounted for 90% of employment in the gold mining subsector (National Bureau of Statistics, 2015, p. 66; World Bank Group, 2015, p. 4; Bank of Tanzania, 2016a, p. 25, 31).

Government Policies and Programs

Tanzania is a signatory to the Kimberley Process Certification Scheme, which is a certification system established to reduce the trade in conflict diamond. The mining sector was governed by the Mining Act of 2010. In 2015, some of the provisions of the Mining Act of 2010 were modified or repealed by the Tanzania Extractive Industries (Transparency and Accountability) Act of 2015. The new legislation mandates that companies that hold mining and special mining licenses start mining activities within 18 months of receiving the licenses. The legislation also subjects the decisions of the Ministry of Energy and Minerals to judicial review and sets the maximum duration of a Mining Development Agreement at 10 years (Clyde & Co. Tanzania, 2015).

Upstream natural gas and petroleum exploration and production were governed by the Petroleum Exploration and Production Act 1980 until 2015. In mid-2015, the Government passed the Petroleum Act of 2015. The new legislation establishes a national oil company and a new regulatory agency for upstream natural gas and petroleum operations. Private companies in the upstream natural gas and petroleum sector are required to form joint ventures with the national oil company, which would hold a share of 25% in joint ventures.

The Minerals Division, which is part of the Ministry of Energy and Minerals, is responsible for mine inspections, licensing and mineral rights, and the regulation and promotion of artisanal and small-scale mining. The Energy Division, which also is part of the Ministry of Energy and Minerals, is responsible for regulating natural gas and petroleum exploration and production.

Production

In 2015, pozzolanic materials production increased by 352%; limestone, by 184%; salt, by 68%; gypsum, by 18%; gold, by 14%; cement, by 12%; coal, by 11%; and natural gas, by 10%. The production of kaolin decreased by 49% in 2015; tanzanite, by 41%; and diamond, by 14%. Gold production increased because of higher output at the Bulyanhulu and the Geita Mines, and cement production increased because of the opening of a new plant at Mtwara. Data on mineral production are in table 1.

Structure of the Mineral Industry

Most of Tanzania's gold mines were privately owned; the cement plants, natural gas operations, and the Minjingu phosphate mine and the Nyanza salt mine were also owned by private investors. The Government-owned State Mining Corp. (STAMICO) operated the Biharamulo gold mine and held a 50% share in the large-scale tanzanite mining operations at Block C at Merelani. The Government also held minority interests in the privately owned Buckreef gold mine, the Ngaka coal mine, and the Williamson diamond mine. Artisanal miners accounted for most of the country's colored gemstone production; crushed stone, diamond, and gold were also produced by artisanal miners. Capacity, location, ownership, and production information were not readily available for many of these operations. Table 2 is a list of major mineral industry facilities.

Mineral Trade

In 2015, minerals accounted for 23.7% of Tanzania's exports and 29.8% of its imports. Gold exports decreased in value to \$1.28 billion in 2015 from a revised \$1.32 billion in 2014. The share of gold in total recorded exports was 22.3% in 2015; diamond, 0.5%; and colored gemstones, copper, silver, and other minerals combined, 0.9%. Imports of petroleum products decreased in value to \$2.76 billion in 2015 from \$3.66 billion in 2014. Petroleum products accounted for 28.3% of the value of total imports, and fertilizers, 1.5% (Bank of Tanzania, 2016b, p. 16–17).

Commodity Review

Metals

Copper and Nickel.—Acacia Mining plc of the United Kingdom (Barrick Gold Corp. of Canada, 63.9%) produced 6,795 metric tons (t) of copper as a coproduct at the Bulyanhulu and the Buzwagi gold mines in 2015 compared with 6,382 t in 2014. Artisanal miners produced high-grade azurite and malachite ores at Mbesa (Acacia Mining plc, 2016, p. 25, 27).

In December 2014, IMX Resources Ltd. of Australia and Fig Tree Resources Fund II of Mauritius formed a joint venture to explore at the Nachingwea project in southeastern Tanzania.

The companies were considering the development of a mine that would produce between 9,000 and 10,500 metric tons per year (t/yr) of nickel in concentrate. In September 2015, Fig Tree was unable to make a payment necessary to start exploration at Nachingwea (Piper, 2015a; Washbourne, 2016).

Gold and Silver.—In 2015, Acacia produced 8,933 kilograms (kg) of gold at the North Mara Mine compared with 8,516 kg in 2014 because of increased recovery rates and ore grades. At the Bulyanhulu Mine, output increased to 8,508 kg in 2015 from 7,303 kg in 2014 because of a new plant to process tailings. Production decreased at the Buzwagi Mine to 5,324 kg in 2015 from 6,534 kg in 2014 because of decreased ore grades. Sales of silver from Bulyanhulu were 4,661 kg in 2015; from Buzwagi, 3,713 kg; and from North Mara, 1,110 kg (Acacia Mining plc, 2016, p. 24–29; Tanzania Minerals Audit Agency, 2016, p. 7).

Acacia planned to produce between about 23,000 and 24,000 kg of gold at Bulyanhulu, Buzwagi, and North Mara combined in 2016. Production was likely to increase by about 5% at North Mara because of higher ore grades, by 10% at Buzwagi, and remain unchanged at Bulyanhulu. Output at Bulyanhulu was expected to reach nearly 11,000 kilograms per year (kg/yr) eventually. Acacia received Government approval to start production at its Gokona underground project at North Mara in May 2015; the project would sustain mining at more than 7,800 kg/yr. The remaining life of the Bulyanhulu Mine was estimated to be more than 20 years, and Buzwagi, 3 years (Engineering & Mining Journal, 2015; Acacia Mining plc, 2016, p. 12, 15, 25, 27, 29, 39).

Geita Gold Mining Ltd. (a subsidiary of AngloGold Ashanti Ltd. of South Africa) produced about 16,400 kg of gold at the Geita Mine in 2015 compared with 14,800 kg in 2014. Increased ore grades more than offset problems resulting from heavy rains. In 2015, silver sales from Geita were 2,197 kg. The company started underground mining operations in 2015 (AngloGold Ashanti Ltd., 2016, p. 75, 78, 98; Tanzania Minerals Audit Agency, 2016, p. 7).

In October 2014, Shanta Gold Ltd. of the United Kingdom estimated that reserves at the New Luika Mine in Mbeya Region were 4.95 million metric tons (Mt) at a grade of 4.33 grams per metric ton (g/t) gold. The company produced 2,547 kg of gold and 3,785 kg of silver at New Luika in 2015; production was 2,614 kg of gold and 3,152 kg of silver in 2014. Planned production at New Luika was between 2,200 and 2,400 kg of gold in 2015; Shanta planned to maintain gold production at an average of 2,600 kg/yr between 2016 and 2020. Implementation of Shanta's Singida project in Singida Region was postponed because of the relocation of local residents (Shanta Gold Ltd., 2016, p. 1, 3–5).

Stamigold Co. Ltd. (a subsidiary of STAMICO) restarted mining at the Biharamulo Mine in August 2014. In 2015, Stamigold produced 620 kg of gold at Biharamulo. The company planned to increase production to about 1,100 kg in 2016 by acquiring new machinery (Rugonzibwa, 2016).

Gold was also produced by artisanal and small-scale miners. In 2015, at least 1,393 kg of gold was recovered from tailings by 56 plants in Geita Region, Mbeya Region, and Mwanza Region (Tanzania Minerals Audit Agency, 2016, p. 14).

Tanzanian Royalty Exploration Corp. of Canada and its joint-venture partner STAMICO started pilot heap-leaching operations at its new mine at the Buckreef project in 2015. By August, the companies had completed 85% of the construction of their new processing plant at Buckreef. Production was expected to start at the rate of more than 1,200 kg/yr of gold and subsequently to increase to 4,700 kg/yr. By 2020, Tanzanian Royalty and STAMICO were likely to produce 6,200 kg/yr (Tanzanian Royalty Exploration Corp., 2015a; 2015b, p. 21–22).

Tanzanian Royalty held a mining license for the Kigosi project. As of the end of August 2015, the development of the Kigosi, Luhala, and Lunguya projects was on hold because of Tanzanian Royalty's plans to focus on the Buckreef project. Kigosi also was on hold because of environmental concerns. Tanzanian Royalty relinquished 39 prospecting and other licenses between September 2014 and August 2015 (Tanzanian Royalty Exploration Corp., 2015b, p. 25–27).

In early 2015, Kibo Mining plc of Ireland completed a preliminary economic assessment on a new mine at its Imweru gold project. Resources at Imweru were estimated to be 15 Mt at a grade of 1.14 g/t gold, which reportedly were sufficient to maintain a mine life of between 7 and 10 years. Completion of a prefeasibility study on the mine was delayed because of low gold prices on world markets (Kibo Mining plc, 2016, p. XI).

In early 2015, Helio Resource Corp. of Canada was considering the development of a new mine at its SMP property in southwestern Tanzania. Depending on the results of prefeasibility and feasibility studies, the mine could produce between 1,600 and 1,900 kg/yr during an estimated 7-year life (Helio Resource Corp., 2015, p. 10, 20).

Rift Valley Resources Ltd. of Australia explored at the Kitongo project; resources at Kitongo were estimated to be 7.8 Mt at a grade of 1.5 g/t gold. The company also explored at the Miyabi project, which had estimated resources of 7.1 Mt at a grade of 1.7 g/t gold. IMX engaged in exploration at the Kishugu and the Naujombo projects in 2015. In the fourth quarter of 2015, Resolute Mining Ltd. of Australia divested its Tanzanian assets, which included the Nyakafuru project (Resolute Mining Ltd., 2016, p. 15; Tanzania Minerals Audit Agency, 2016, p. 18).

Iron and Steel, Iron Ore, Titanium, and Vanadium.—State-owned National Development Corp. (NDC) and Sichuan Hongda Company Ltd. of China were engaged in a joint venture to develop the Liganga iron ore deposits, which also contained titanium and vanadium. Inferred resources at Liganga were estimated to be more than 1.5 billion metric tons at grades of 50% iron, 13% titanium dioxide, and 0.4% vanadium pentoxide. NDC and Sichuan Hongda planned to produce 2.9 million metric tons per year (Mt/yr) of iron ore for consumption in a new steel plant; crude steel output was likely to be 1.1 Mt/yr. In September 2014, the Government announced plans to start construction in 2015. The mine and plant were expected to start production in 2018 or 2019. The estimated capital cost of the mine and plant was \$1.7 billion. At the end of 2015, construction had not started (Ministry of Energy and Minerals, 2005, p. 87; Magomba, 2014; Stone, 2015; Ihucha, 2016).

Niobium.—In March 2015, Cradle Resources Ltd. of Australia completed a prefeasibility study with favorable

results on a new mine at the Panda Hill carbonatite deposit, which is located 35 kilometers southwest of Mbeya. The company was considering the production of about 7,900 t/yr of niobium pentoxide (Nb₂O₅) in the first 10 years of mining that would be processed into ferroniobium, which had a niobium content of about 68%. Cradle planned to complete a feasibility study at Panda Hill by the first quarter of 2016. Depending on the results of the study, mining could start in 2018. Resources at Panda Hill were estimated to be 178 Mt at a grade of 0.5% Nb₂O₅. The estimated life of the mine was 30 years (Cradle Resources Ltd., 2015, p. 11, 14, 16, 19).

Industrial Minerals

Cement.—Tanzania's cement production increased to nearly 3.14 Mt in 2015 from 2.81 Mt in 2014 and 2.31 Mt in 2010 because of the opening of new plants and the expansion of existing plants. National cement production capacity increased to 9.5 Mt/yr in 2015 from 6.7 Mt/yr in 2013. In October 2015, Dangote Cement plc of Nigeria started production at its new plant, which had a capacity of 3 Mt/yr, at Mtwara in southern Tanzania. The company planned to export its production to other countries in the East African Community, Democratic Republic of the Congo [Congo (Kinshasa)], and Malawi. In early October, Mbeya Cement Company Ltd. (LafargeHolcim of Switzerland, 61.5%) announced plans to complete an expansion of its capacity to 1.1 Mt/yr from 350,000 t/yr by the end of the month. At yearend, the expansion was not completed. Tanga Cement Company Ltd. increased its capacity by 600,000 t/yr in the first quarter of 2015 (Global Cement, 2015; International Cement Review, 2015, 2016).

Diamond.—Petra Diamonds Ltd. of the United Kingdom operated the Williamson open pit mine, which accounted for most of the diamond produced in Tanzania. The company mined 199,157 carats from open pit and alluvial operations in 2015 compared with 201,105 carats in 2014. Production was limited by downtime needed to upgrade the processing plant. Petra planned to increase production to 350,000 carats per year by mid-2017. Resources at Williamson were estimated to be 38.1 million carats (Petra Diamonds Ltd., 2015a, p. 14–15; 2015b; 2016, p. 16–17).

Gemstones.—Tanzania produced a variety of gemstones that included amethyst, aquamarine, garnet, ruby, sapphire, spinel, tanzanite, and tourmaline. In recent years, tanzanite accounted for a majority of the value of domestic gemstone mining.

Merelani, which is located near Arusha, was the world's only source of tanzanite. Artisanal and small-scale miners operated in Blocks B and D of the Merelani deposit. TanzaniteOne Mining Ltd. (Sky Associates Group Ltd., 50%, and STAMICO, 50%) mined tanzanite in Block C. In 2015, TanzaniteOne sold 479 kg of rough tanzanite from its mining operations compared with 813 kg in 2014 (Tanzania Minerals Audit Agency, 2016, p. 11).

Tsavorite, which is a green grossular garnet that obtains its color from trace amounts of chromium and vanadium, was mined near Merelani. Ruby and sapphire were produced by artisanal miners in the Songea and Tunduru Districts.

Graphite.—In July 2015, Kibaran Resources Ltd. of Australia completed a feasibility study on a new mine at the Epanko project, with favorable results. Kibaran planned to produce 40,000 t/yr of concentrate at a grade of about 96% graphite; mining was expected to start in 2016 or 2017. About 20% of Epanko's production was expected to be jumbo-flake graphite, and 35% was large-flake graphite. Estimated capital costs for a 15-year project life were nearly \$78 million; the company estimated that Epanko's capacity could be doubled for a cost of between \$20 million and \$30 million. Epanko could be expanded in 2020 or 2021. Kibaran had offtake agreements for 30,000 t/yr of Epanko's production (Kibaran Resources Ltd., 2015, p. 11, 13; Piper, 2015b, c, 2016a).

Kibaran also planned to start a prefeasibility study on a new mine at its Merelani-Arusha project in northeastern Tanzania. Resources at Merelani-Arusha were estimated to be 17.2 Mt at a grade of 6.5% graphite, of which more than 32% was jumbo-flake graphite. Depending on the results of prefeasibility and feasibility studies, initial production could be 40,000 t/yr. Mining could start in 2018 or 2019 (Kibaran Resources Ltd., 2015, p. 11; Piper, 2015c, 2016a).

In late December 2014, Magnis Resources Ltd. of Australia completed a prefeasibility study on a new mine at the Nachu graphite project with favorable results. Magnis planned to complete a feasibility study on Nachu by the end of the first quarter of 2016. Depending on the results of the study, mining could start after a 12-month construction period. Production was likely to be 260,000 t/yr of concentrate; Magnis had offtake agreements with Chinese companies for 180,000 t/yr of Nachu's output. Resources at Nachu were estimated to be 156 Mt at a grade of 5.2% graphite, of which 60% was jumbo-flake graphite and 24% was large-flake graphite (Conn, 2015; Piper, 2016b).

In November 2015, IMX completed a prefeasibility study on a new mine at its Chilalo graphite project with favorable results. Depending on the results of a feasibility study, IMX could produce about 69,000 t/yr of concentrate at a grade of 94% graphite. The estimated life of the mine was 10 years. Resources at the Shimba deposit at Chilalo were estimated to be 25.1 Mt at a grade of 6% graphite, of which 24% was jumbo-flake graphite and 23% was large-flake graphite (IMX Resources Ltd., 2015, p. 6, 8, 12).

Walkabout Resources Ltd. of Australia started drilling at its Lindi project, which is located to the west of Mtwara, in October 2015. The company planned to complete an initial resource assessment by early 2016. Walkabout was considering the development of a new mine at Lindi that would produce about 30,000 t/yr of graphite. By March 2017, Walkabout hoped to receive a mining license (Piper, 2016c).

Rare Earths.—In March 2014, Peak Resources Ltd. of Australia estimated that reserves at its Ngualla rare-earth project were 20.7 Mt at a grade of 4.54% rare-earth oxides (REOs). Peak Resources also completed a prefeasibility study on a new mine at Ngualla in 2014 with favorable results; the company planned to complete a feasibility study in 2016. Depending on the results of the study, production could be 10,000 t/yr of REOs, of which 245 t/yr would be heavy rare-earths. Mining could start in the second half of 2018. Peak Resources planned to not recover cerium oxide during the production process

because of low world market prices for cerium. The estimated life of the mine was 58 years (Cornish, 2015; Peak Resources Ltd., 2015).

In the first quarter of 2015, Montero Mining and Exploration Ltd. of Canada was planning the development of small-scale rare-earths mining operations at its Wigu Hill project near Kisaki. Montero planned to start mining in 2016 or 2017. The company hoped to identify resources of at least 10 Mt at grades of between 3% and 5% REO. At yearend, the project was on care-and-maintenance status because of low prices for rare-earths on world markets (Montero Mining and Exploration Ltd., 2015; 2016, p. 2, 9).

Mineral Fuels and Related Materials

Coal.—Intra Energy Corp. Ltd. of Australia and its joint-venture partner National Development Corp. (NDC) (owned by the Government of Tanzania) operated a coal mine at the Ngaka coalfield in Ruvumu District. Production increased in 2015 to 281,565 t from 254,456 t in 2014; the companies had planned to increase output to 500,000 t/yr by the end of 2015. Production may have been limited by competition from imported South African coal. Intra Energy also planned to build a new coal-fired power station with a capacity of 600 megawatts (MW) in the Mbinga District, of which 200 MW would be completed by 2017 (Stone, 2015).

NDC and Sichuan Hongda planned to build a new mine at the Mchuchuma coal deposits in western Tanzania that would produce 3 Mt/yr of coal. Reserves at Mchuchuma were estimated to be 526 Mt. The companies also planned to build a new coal-fired power station with a capacity of 600 MW at Mchuchuma; power from the new plant would be consumed at Liganga. In September 2014, the Government announced plans to start construction in 2015. The mine and plant were expected to start production in 2018 or 2019. The estimated capital cost of the mine and plant was \$1.2 billion. At the end of 2015, construction had not started (Magomba, 2014; Stone, 2015; Ihucha, 2016).

In March 2015, Edenville Energy plc of the United Kingdom completed a feasibility study on a new coal-fired power station with favorable results. The power station would have a capacity of 120 MW; Edenville would consider increasing capacity to 300 MW depending on increases in power consumption. The company planned to supply its power station with coal from the Mkomolo and the Namwele deposits. Resources at Mkomolo and Namwele were estimated to be sufficient to maintain production for 30 years. Edenville planned to complete the power station by 2018 (Edenville Energy plc, 2015).

Kibo was considering the development of a new mine and coal-fired power station at the Mbeya Coal to Power project (formerly the Rukwa Coal to Power project) in southwestern Tanzania. Depending on the results of feasibility studies, the mine would produce an average of 1.48 Mt/yr of coal for use in a new power station with a capacity of 300 MW. Construction could start in the first quarter of 2017, and production, in late 2019. The estimated life of the mine was 28 years. In 2015, Kibo signed a joint-development agreement with SEPCO III

Electric Power Construction Corp. of China for the project (Kibo Mining plc, 2016, p. VI–X).

Natural Gas.—In 2015, Orca Exploration Group Inc. produced 891 million cubic meters of natural gas from Songo Songo Island compared with 928 million cubic meters in 2014. Gas-fired power stations and cement plants were the leading consumers of gas from Songo Songo. The capacity of Orca's gas-processing plant was 1.14 billion cubic meters per year, and the pipeline, 1.05 billion cubic meters per year. At yearend, the capacity of the gasfields was 1.6 billion cubic meters per year; capacity increased because of upgrades to wells SS–5, SS–7, and SS–9 (Orca Exploration Group Inc., 2016, p. 1, 12, 15).

Etablissements Maurel et Prom SA of France and its joint-venture partners operated the Mnazi Bay offshore gas project in the Rovuma Basin. Natural gas from Mnazi Bay was consumed at a power station with a capacity of 18 MW. In 2015, China National Petroleum Corp. completed a new pipeline from Mnazi Bay to gas-fired power stations in Dar es Salaam. The pipeline had a capacity of 8.1 billion cubic meters per year; a new gas-processing plant with a capacity of 2.17 billion cubic meters per year also was completed. Maurel et Prom and its joint-venture partners planned to achieve commercial production at Mnazi Bay in the first half of 2016. The companies planned to supply the power stations in Dar es Salaam at the rate of 830 million cubic meters per year for an initial 8-month period; output could increase subsequently to more than 1.3 billion cubic meters per year (Wentworth Resources Ltd., 2016, p. 2–4).

In March 2015, Statoil ASA of Norway and Exxon Mobil Corp. of the United States estimated that reserves were between 28 billion and 51 billion cubic meters of natural gas at the newly drilled Mdalasini-1 exploration well in the offshore Block 2. Total resources at Block 2 were estimated to be 620 billion cubic meters. BG Group plc and Ophir Energy plc of the United Kingdom and Pavilion Energy Pte Ltd. of Singapore held the offshore Blocks 1 and 4, which were located near Mtwara and Kilindoni, respectively. Total resources in Blocks 1 and 4 were estimated to be 426 billion cubic meters. BG agreed to be purchased by Royal Dutch Shell plc of the Netherlands in April; the sale was not completed at yearend (Ophir Energy plc, 2015; Statoil ASA, 2015).

BG, Statoil, and their joint-venture partners were considering the development of a liquefied natural gas (LNG) plant near Mtwara that would use natural gas from Blocks 1, 2, and 4. The plant would have a capacity of at least 10 Mt/yr of LNG, which was equivalent to 13.8 billion cubic meters per year of natural gas. BG and Statoil planned to make an investment decision by the second half of 2016; production could start by 2021 (Musarra, 2014; Binala, 2016).

Uranium.—Uranium One Inc. of Canada (Rosatom of Russia, 100%) completed a new feasibility study on a mine at the Mkuju River project in December 2013. A previous feasibility study estimated that Mkuju River could support a new uranium mine with average production of 1,900 t/yr of uranium oxide (U₃O₈) over an estimated 12-year mine life. Uranium One completed negotiations with the Government over the terms of a mining agreement in August 2015; the company was awaiting a date to sign the agreement at yearend (Thompson, 2011; Uranium One Inc., 2016, p. 21).

Outlook

Tanzania's production of cement, coal, diamond, and natural gas is expected to increase in the near future. Cement output is likely to increase from 2016 through 2018 because of the recent opening of new plants and the expansion of existing plants. Coal production is expected to increase from 2016 through 2021 to 4.2 Mt/yr. Diamond production is likely to increase from 2016 through 2018 to more than 360,000 carats per year. The outlook for natural gas production is to increase from 2016 through 2018 and from 2021 through 2023 to about 16 billion cubic meters per year. Uranium production also could start in the near future.

New Tanzanian mines are likely to have substantial effects upon world markets for graphite, niobium, and rare earths. Graphite production could restart in 2017 and increase to about 380,000 t/yr. World graphite production was estimated to be nearly 1.2 Mt in 2015. Niobium production could start in 2018 and increase to about 5,200 t/yr. World niobium production was estimated to be more than 64,000 t in 2015. Rare-earth production could start in 2018 and increase to about 10,000 t/yr. World rare-earth production was estimated to be 130,000 t in 2015 (Gambogi, 2017; Olson, 2017; Papp, 2017).

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TABLE 1
TANZANIA: PRODUCTION OF MINERAL COMMODITIES¹

(Metric tons unless otherwise specified)

Commodity ²	2011	2012	2013	2014 ^c	2015 ^e
METALS					
Bauxite	37,700	59,030	33,940	25,641 ³	26,000
Copper, contained in concentrates and dore	6,748	8,800	15,400	18,000	18,000
Gold kilograms	42,300	40,650	42,534	40,481 ³	46,008 ³
Silver, contained in concentrates and dore do.	10,399	11,227	11,721	14,493	15,569 ³
Steel:					
Crude ^e	180,000	200,000	180,000	190,000	200,000
Rolled	118,249	133,239	121,362	129,555 ³	142,970 ³
INDUSTRIAL MINERALS					
Calcite	70 ^c	--	5	5	5
Cement, hydraulic thousand metric tons	2,409	2,581	2,346	2,809 ³	3,135 ³
Diamond ⁴ carats	28,378	127,174	171,391	252,875 ³	216,482 ³
Gemstones, excluding diamond: ^{e,5}					
Alexandrite kilograms	--	--	13 ³	1 ³	1
Amethyst do.	160	160	180 ^r	180 ^r	180
Aquamarine do.	470	470	1,222 ³	1,540 ³	1,500
Garnet do.	10,000	10,000	11,000 ^r	11,000 ^r	11,000
Ruby do.	1,600	1,600	1,700	1,700	1,700
Sapphire do.	800	800	900	900	900
Tanzanite do.	3,000 ^r	3,000 ^r	3,115 ^{r,6}	4,065 ^{r,6}	2,396 ⁶
Tourmaline do.	9,600	9,600	10,000 ^r	10,000 ^r	10,000
Other do.	1,220,000	1,210,000	2,620,000 ^r	3,040,000 ^r	1,850,000
Total ³ do.	1,241,581	1,237,625	2,649,500 ^r	3,069,200 ^r	1,878,400
Gypsum and anhydrite, crude	9,288	91,610	280,476	200,179 ³	235,920 ³
Kaolin	178	2,161	1,816	3,809 ³	1,953 ³
Lime ^e	50,000	85,000	120,000	140,000	140,000
Phosphate rock: ^e					
Gross weight	18,000	19,984 ³	20,000	20,000	20,000
P ₂ O ₅ content	5,400	5,600 ³	5,600	5,600	5,600
Pozzolanic materials	113,489	75,193	52,349	68,925 ³	311,370 ³
Salt, all types	32,297	34,016	34,032	54,757 ^{r,3}	92,152 ³
Stone, sand, and gravel:					
Aggregates	NA ^r	NA ^r	NA ^r	NA ^r	NA
Limestone, crushed	1,972,100	1,224,475	3,899,151	1,116,827 ³	3,174,700 ³
Marble	1,100 ^c	2,153	10,719	11,000	11,000
MINERAL FUELS AND RELATED MATERIALS					
Coal, bituminous	80,710	78,672	128,920	254,456 ³	281,565 ³
Natural gas, marketable million cubic meters	896 ^r	1,045 ^r	1,018 ^r	958 ^{r,3}	1,053 ³

^cEstimated; estimated data are rounded to no more than three significant digits; may not add to totals shown. ^rRevised. do. Ditto. NA Not available. -- Zero.

¹Table includes data available through March 8, 2017.

²In addition to the commodities listed, smelter copper and modest quantities of crude construction materials, including brick clay, were produced, but available information was inadequate to make reliable estimates of output.

³Reported figure.

⁴Estimated to represent 85% gem-quality and 15% industrial-quality stones. Does not include smuggled artisanal production.

⁵Other precious and semiprecious stones produced include chrysoprase, kyanite, moonstone, opal, peridot, quartz, and spinel. Does not include smuggled artisanal production.

⁶Reported sales by TanzaniteOne Mining Ltd.

TABLE 2
TANZANIA: STRUCTURE OF THE MINERAL INDUSTRY IN 2015

(Metric tons unless otherwise specified)

Commodity		Major operating companies and major equity owners	Location of main facilities	Annual capacity
Cement		Dangote Cement plc	Plant at Mtwara	3,000,000
Do.		Tanzania Portland Cement Company Ltd. (TPCC) (Scancem International DA, 69.3%)	Plant at Wazo Hill	2,200,000
Do.		Tanga Cement Company Ltd. [Afrisam Consortium (Pty) Ltd., 62.5%]	Plant at Tanga	1,800,000
Do.		ARM Cement Ltd.	Plant at Dar es Salaam	1,600,000
Do.		Lake Cement Ltd.	Plant at Kimbiji	500,000
Do.		Mbeya Cement Company Ltd. (LafargeHolcim, 61.5%)	Plant at Mbeya	350,000
Coal, bituminous		Intra Energy Corp. Ltd., 70%, and National Development Corp. (NDC), 30%	Ngaka Mine	420,000
Copper, mine		Artisanal miners	Mine at Mbesa	12,000 ^c
Do.		Acacia Mining plc (Barrick Gold Corp., 63.9%)	Buzwagi Mine	4,200
Do.		do.	Bulyanhulu Mine near Kahama	3,200
Diamond	carats	Williamson Diamonds Ltd. (Petra Diamonds Ltd., 75%, and Government, 25%)	Williamson Mine near Shinyanga	220,000
Do.	do.	New Alamas	Near Shinyanga	13,000 ^c
Do.	do.	Mwadui Mpya Pit	do.	6,000 ^c
Do.	do.	Artisanal miners	Near Shinyanga	NA
Gold	kilograms	Geita Gold Mining Ltd. (AngloGold Ashanti Ltd., 100%)	Geita Mine near Nyakabale	16,500
Do.	do.	Acacia Mining plc	Bulyanhulu Mine near Kahama	12,600
Do.	do.	do.	North Mara Mine in Tarime District	10,100
Do.	do.	do.	Buzwagi Mine	6,200
Do.	do.	Shanta Gold Ltd.	New Luika Mine	3,600
Do.	do.	Stamigold Co. Ltd. [State Mining Corp. (STAMICO), 100%]	Biharamulo Mine	1,200 ^c
Do.	do.	Tanzanian Royalty Exploration Corp., 55%, and State Mining Corp. (STAMICO), 45%	Buckreef Mine	NA
Do.	do.	Small-scale miners	At least 56 plants in various locations	1,400 ^c
Lime		Neelkanth Lime Ltd.	Plant at Tanga	180,000
Do.		Athi River Mining Ltd. (ARM)	do.	40,000
Natural gas	million cubic meters	Etablissements Maurel et Prom SA, 48.06%, and Wentworth Resources Ltd., 31.94%	Gasfield at Mnazi Bay	2,170
Do.	do.	Orca Exploration Group Inc.	Gasfield on Songo Songo Island	1,140
Phosphate rock		Minjingu Mines and Fertilizers Ltd. (subsidiary of Mac Group of Companies)	Mine at Minjingu	100,000
Salt		Nyanza Mines (Tanganyika) Ltd. (subsidiary of Mac Group of Companies)	Nyanza Mine at Uvinza	60,000
Silver	kilograms	Acacia Mining plc	Bulyanhulu Mine near Kahama	8,900
Do.	do.	Shanta Gold Ltd.	New Luika Mine	4,800
Do.	do.	Acacia Mining plc	Buzwagi Mine	4,300 ^c
Do.	do.	Geita Gold Mining Ltd.	Geita Mine near Nyakabale	2,300 ^c
Do.	do.	Acacia Mining plc	North Mara Mine in Tarime District	1,300 ^c
Steel:				
Rolled		Aluminum Africa Ltd.	Plant at Dar es Salaam	70,000 ^c
Do.		MM Integrated Steel Mills Ltd.	do.	36,000 ^c
Do.		Steel Masters Ltd.	do.	22,000
Galvanized		Aluminum Africa Ltd.	do.	70,000
Do.		MM Integrated Steel Mills Ltd.	do.	36,000
Tanzanite	kilograms	TanzaniteOne Mining Ltd. [Sky Associates Group Ltd., 50%, and State Mining Corp. (STAMICO), 50%]	Mine at Merelani, Block C	1,200
Do.	do.	Tanzanite Africa Ltd. (IPP Media Ltd.)	Mine at Merelani, Block D Extension	NA
Do.	do.	Kilimanjaro Mines Ltd.	Mine at Merelani, Block A	NA
Do.	do.	Small-scale and artisanal miners	Mines at Merelani, Blocks B and D	7,500 ^c

^cEstimated; estimated data are rounded to no more than three significant digits. Do., do. Ditto. NA Not available.