

2017–2018 Minerals Yearbook

SRI LANKA

THE MINERAL INDUSTRY OF SRI LANKA

By Ji Won Moon

Note: In this chapter, information for 2017 is followed by information for 2018.

Minerals mined in Sri Lanka included clay, feldspar, gemstones, graphite, mica, phosphate rock, salt, sand and gravel (industrial), stone (limestone and quartzite), titanium minerals, and zircon. Sri Lanka ranked 13th in global production of graphite, with 0.4% of world production in 2017. The mineral-processing industry produced cement, lead (refined, secondary), iron and steel semimanufactured products, and petroleum products (table 1; Olson, 2019).

Minerals in the National Economy

In 2017, the real gross domestic product (GDP) increased by 3.4% compared with 4.5% in 2016. The nominal GDP in 2017 was \$88 billion (13.4 trillion Sri Lanka rupee [LKR]).¹ The growth rate of the mining and quarrying sector was 9.1% compared with 13.8% in 2016. The mining and quarrying sector accounted for 2.6% of the GDP. The export value of petroleum products was \$435 million and accounted for 3.8% of total exports in 2017. The export value of minerals, including graphite, sand, and quartz, was \$226 million and accounted for 2.0% of total exports. The export value of precious and semiprecious stones was \$145 million and accounted for 1.3% of the total exports. The quantity of exported minerals and gemstones decreased by 1.3% to 3,123 metric tons (t) and by 23% to 9.4 million carats, respectively. The quantity of imported cement increased by 7.1% to 5.7 million metric tons (Mt). Employment in the mining and quarrying sector was steady at 0.8% of the population (Central Bank of Sri Lanka, 2019a, p. 1, 2, 20, 27, 29, 30, 59, 60, 83, and 84; 2019b, p. 37).

Production

In 2017, the production of ilmenite and leucoxene increased by 99%; pathmaraga (an unusual color of sapphire), by 71%; jet fuel, by 61%; sapphire (including blue, pink, yellow, and star), by 49%; alexandrite, by 27%; and refined lead (secondary), by 17%. Zirconium (zircon) production decreased by 81%; kerosene, by 43%; gemstones (other, unspecified), by 39%; salt, by 30%; distillate fuel oil, by 13%; and residual fuel oil, by 10%. Data on mineral production are in table 1.

Structure of the Mineral Industry

Table 2 is a list of major mineral industry facilities.

Commodity Review

Metals

Iron and Steel.—Melwire Rolling (Pvt.) Ltd., a leading manufacturer of steel products (bars and pipes) in Sri Lanka, invested \$34 million to increase its annual production capacity to 500,000 metric tons per year (t/yr) to take advantage of a construction boom in the country. The expansion was expected to be completed by February 2020 (Daniel, 2017; Melwire Rolling (Pvt.) Ltd., 2020).

Titanium and Zirconium (Heavy-Mineral Sands).—In February 2017, the Government of Sri Lanka announced plans to restructure fully Government-owned Lanka Mineral Sands Ltd. (LMSL), which was running at a loss. Following guidelines established by the previous regime, the present Government was to implement a private-public partnership program with LMSL to export value-added products by 2020. LMSL had already mined a massive stock of heavy-mineral sands over 50 years from Pulmoddai beach. The mineral-sand resources were close to depletion (Sirimanna, 2017; Lanka News Web, 2020).

In April 2017, Iluka Resources Ltd. of Perth, Western Australia, Australia, announced that the company was in the process of securing an agreement with the Government to develop the ilmenite deposit in Puttalam that was estimated to have 56.3 Mt of resources containing 8.2% heavy minerals. A prefeasibility study on the development of the deposit was underway (East, 2017; Iluka Resources Ltd., 2019, p. 39).

Industrial Minerals

Cement.—Siam City Cement (Lanka) Ltd., which was wholly owned by Siam City Cement Public Co. Ltd. (SCC) of Thailand, acquired a 100% interest in a cement plant at Puttalam previously owned by LafargeHolcim Ltd. of Switzerland. SCC announced the completion of the transaction on December 1, 2016. In 2017, the 1-million-metric-ton-per-year (Mt/yr)-capacity expansion project of Tokyo Cement Co. (Lanka) Plc came online and started commercial operations. This expansion increased Sri Lanka's domestic cement production capacity to 5.1 Mt/yr. Domestic capacity increased again to 5.5 Mt/yr in 2018 owing to the 0.4-Mt/yr-capacity expansion at the Galle grinding plant operated by SCC. Low limestone availability in Sri Lanka and limited domestic clinker production to supply the cement plants resulted in the need for regular imports of clinker and cement (Daily FT, 2016a; Global Cement, 2017; Rowland, 2017; Tokyo Cement Co. (Lanka) PLC, 2018, p. 24; Siam City Cement Public Co. Ltd., 2019, p. 43; Economynext, 2020).

Graphite.—On April 27, 2017, Ceylon Graphite Corp. of Canada, which had exploration rights for an area of 100 square kilometers, commenced drilling at the K1 site (Karasnagala Mine)

SRI LANKA—2017–2018 27.1

¹Where necessary, values have been converted from Sri Lanka rupee (LKR) to U.S. dollars (US\$) at an annual average exchange rate of LKR152.39=US\$1.00 for 2017 and LKR145.56=US\$1.00 for 2016.

in a historic vein graphite deposit area in Central Province and obtained a sample of 86.63% carbon. The K1 site, which is a past-producing graphite mine, contained a number of abandoned mine shafts and adits with a large amounts of dumped materials. Refurbishment of the shafts and adits at the K1 site was accomplished in November 2017. Ceylon Graphite continued its exploration, and graphite samples from the Malsiripura project in Northwestern Province and its Katuwana project in Southern Province had carbon content ranging from 78.43% to 98.89% carbon (Ceylon Graphite Corp., 2017a, b, c).

Lanka Graphite Ltd. (LGL) of Australia completed a feasibility study for the Mathugama and Beruwala areas in 2016 and acquired Miniran Pty. Ltd. of Australia, which held the last remaining large graphite ground tenement package available in Sri Lanka in April 2017. LGL had applied for an artisanal mining license and was anticipating its initial production of at least 20 metric tons per month within 6 months after commencement of mining. Margosa Graphite Ltd. of Australia and Lanka Resources and Mining (Pvt) Ltd. commenced a joint electromagnetic survey to search for new graphite deposits using data acquired through airborne geophysical surveys. The airborne survey was completed by New Resolution Geophysics Pty. Ltd. of South Africa in October, and delivery of the dataset was completed in December 2017 (Lanka Graphite Ltd., 2017, p. 7; Roy, 2017; Margosa Graphite Ltd., 2018; News.lk, 2018).

Sand (Construction).—In 2017, the Geological Survey and Mines Bureau (GSMB) suspended sand mining from the rivers of Deduru Oya, Gin, Kalu, and Kelani. The previously issued permits, which expired on December 31, 2017, were not renewed. This action was taken owing to the increased depth of the rivers, which affected the quality of the river water. Illegal sand mining operations, specifically in paddy lands in Divulapitiya, had resulted in deterioration of the water used for cultivation. Water sources also were drying up as a result of water use for the illegal sand mining (Dias, 2017; Fernando, 2017).

MINERAL INDUSTRY HIGHLIGHTS IN 2018

In 2018, the real GDP increased by 3.2% compared with an increase of 3.4% in 2017. The nominal GDP in 2018 was \$89.2 billion (14.5 trillion rupee).² The growth rate of the mining and quarrying sector was -5.1% in 2018 compared with 10% (revised) in 2017. The nominal GDP of the mining and quarrying sector accounted for 2.5% of the GDP in 2018. The value of petroleum product exports increased by 53% to \$624 million and accounted for 5.2% of total exports. The value of exported minerals, including graphite, sand, and quartz, decreased by 0.4% to \$211 million and accounted for 1.8% of total exports. The value of exported precious and semiprecious stones increased by 3.6% to \$141 million and accounted for 1.2% of the total export value. The quantity of exported minerals increased by 5.6% to 3,298 t, and that of gems decreased by 13% to 8.2 million carats. The quantity of imported crude petroleum increased by 5.2% to 12.3 million barrels, and the quantity of imported cement decreased by 9.9% to 5.1 Mt (Central Bank of Sri Lanka, 2019a, p. 1, 2, 27, 29, 59, 60, 83, and 84; 2019b, p. 37).

In October 2018, Ceylon Graphite announced a new resource estimate for the Malsiripura project of 76,574 t of graphite with no specific carbon grade. The Malsiripura project was owned by JADS Enterprises (Private) Ltd. (JADS)—a subsidiary company acquired by Ceylon Graphite in October 2017; JADS had five graphite exploration grid units and an exploration license in the Malsiripura-Kurunegella region. Ceylon Graphite also announced the discovery of a graphite vein of more than 15 centimeters in width from the H1 project at the Hakbewa site as well as a surface vein of more than 6 meters in width from the P1 project in Pasyala District (Parashar, 2017; Ceylon Graphite Corp., 2018, p. 3; Globe Newswire, 2018a, b).

LGL focused on the exploration and development of graphite tenements in the Kalutara District of Western Province. The company applied for an artisanal mining license from the GSMB in the first quarter of 2018 and was pursuing opportunities to form a joint venture for commercial production of a range of value-added graphene products. At yearend 2018, LGL announced plans to spin off or divest its existing graphite assets in Sri Lanka as soon as practicable (Lanka Graphite Ltd., 2018a, p. 6; 2018b, p. 5–6).

The GSMB, with donated equipment from the International Atomic Agency, launched a systematic field investigation using a vehicle-installed gamma ray spectrometer in 2018 to identify radioactive anomalous areas to locate rare-earth minerals, including lanthanum- and cerium-containing monazite, thorite, and thorianite. Lanka Mineral Sands Ltd. could produce up to 300 t/yr of monazite from heavy-mineral sands containing 70% ilmenite, 8% zircon, 8% rutile, 1% sillimanite, and 0.3% monazite (Daily FT, 2016b; News.lk, 2018).

Outlook

Sri Lanka's GDP is projected to increase by 2.7% in 2019 following the 3.2% rate of growth in 2018. Ceylon Graphite is expected to obtain a mining license and to start commercial production based on development of the Karasnagala project at the K1 site and to continue with extensive exploration at the Hakbewa and the Malsiripura sites. These efforts and others are likely to lead to an increase in graphite output from Sri Lanka as well as in the output of rare-earth minerals, especially if the GSMB's field investigation is successful. Government efforts to increase the integration of mining and manufacturing companies may have positive effects on the development of the mineral industry in coming years (Asian Development Bank, 2019, p. 255–261; International Monetary Fund, 2019).

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SRI LANKA—2017–2018 27.3

 $\label{eq:table 1} \textbf{TABLE 1} \\ \textbf{SRI LANKA: PRODUCTION OF MINERAL COMMODITIES}^1 \\$

(Metric tons, gross weight, unless otherwise specified)

Commodity ²	2014	2015	2016	2017	2018
METALS					
Iron and steel, products, semimanufactured	77,000	78,000	30,000	30,000 ^e	30,000 e
Lead, refinery, secondary ³	4,500	2,500	3,000 ^r	3,500	3,700
Titanium, mineral concentrates:					
Ilmenite and leucoxene	32,972	39,439	26,159 ^r	51,940	60,847
Rutile	2,111	1,808	2,237	2,174	2,319
Zirconium, mineral concentrates, zircon	4,100 ^r	38,000 ^r	25,000 ^r	4,800	4,800 e
INDUSTRIAL MINERALS					
Cement, hydraulic thousand metric tons	1,885	2,287	2,695	2,819	2,841
Clay: ^e					
Common clay, for cement	1,100	1,500	1,500	1,500	1,500
Kaolin	12,000 ^r	12,000 ^r	13,000 ^r	13,000	13,000
Feldspar ^e	95,000 ^r	95,000 ^r	96,000 ^r	96,000	96,000
Gemstones: ⁴					
Alexandrite carats	7,056 ^r	4,587 ^r	3,934 ^r	4,993	4,650
Cat's eye do.	95,354 ^r	102,701 ^r	74,183 ^r	71,724	61,852
Pathmaraga do.	4,403 ^r	5,325 ^r	4,311 ^r	7,390	5,706
Ruby do.	30,072 ^r	24,477 ^r	31,800 ^r	34,488	27,520
Sapphire ⁵ do.	3,681,293 ^r	3,528,248 ^r	2,120,440 ^r	3,168,034	2,935,576
Other, unspecified do.	8,772,364 ^r	8,254,290 ^r	9,838,707 ^r	6,030,051	5,581,319
Graphite, vein, all grades	3,800 ^r	4,200 ^r	3,900 ^r	3,800	3,800 °
Mica, schist ^e	1,500	1,500 ^r	1,500 ^r	1,500	1,400
Phosphate rock:					
Gross weight	62,595	52,518	38,848 ^r	42,435	47,879
P ₂ O ₅ content	22,000 r	18,000 r	14,000 ^r	15,000	17,000
Salt	102,018 ^r	29,243	106,034 ^r	74,108	68,834
Sand and gravel, industrial, unspecified ^e	81,500	82,000	82,000	82,000	82,000
Stone, crushed: ^e					
Limestone thousand metric tons	1,500	1,600	1,600	1,600	1,600
Quartzite ⁶	23,000 r	20,000 r	19,000 ^r	19,000	19,000
MINERAL FUELS AND RELATED MATERIALS		.,	- ,	- ,	.,
Petroleum, refinery:					
Distillate fuel oil thousand 42-gallon barrels	3,700	3,810 ^r	4,350 ^r	3,780	4,230
Gasoline do.	1,300	1,320 ^r	1,410 ^r	1,400	1,410
Jet fuel do.	1,390 ^r	1,280 ^r	1,220 ^r	1,960	1,960
Kerosene do.	500 r	580	810 °	460	270
Naphtha do.	960 ^r	1,110 ^r	1,190 ^r	1,170	1,160
Naphtha do. Residual fuel oil do.	960 ^r 4,270 ^r	1,110 ^r 3,680 ^r	1,190 ^r 3,190 ^r	1,170 2,870	1,160 2,830

^eEstimated. ^rRevised. do. Ditto.

¹Table includes data available through October 25, 2019. All data are reported unless otherwise noted. Totals and estimated data are rounded to no more than three significant digits; may not add to totals shown.

²In addition to the commodities listed, ball clay, calcite, clays for cement manufacture, dolomite, gypsum, sand and gravel for construction, secondary aluminum, and sulfur may have been produced, but available information was inadequate to make reliable estimates of output.

³Production is based on the fiscal year, with a starting date of April 1 of the year shown.

⁴Export data from National Gem & Jewellery Authority.

⁵Sapphire includes blue sapphire, pink sapphire, yellow sapphire, and star sapphire.

⁶Data estimated from United Nations Comtrade database for quartz and quartzite imported from Sri Lanka.

${\it TABLE~2}$ SRI LANKA: STRUCTURE OF THE MINERAL INDUSTRY IN 2018

(Thousand metric tons unless otherwise specified)

			Annual
Commodity	Major operating companies and major equity owners	Location of main facilities	capacity
Aluminum, secondary	Alumex Ltd. (Hayleys Plc, 100%)	Sapugaskanda, Makola, Western Province	24
Do.	Castalloy (Pvt.) Ltd.	Colombo District, Western Province	1
Do.	Lanka Aluminium Industries PLC	do.	NA
Do.	Lanka Refractories Ltd.	Meepe, Padukka, Colombo District	8
Do.	Zenith Aluminium Co.	Colombo District, Western Province	NA
Cement	Siam City Cement (Lanka) Ltd.	Cement plant at Puttalam and	2,700
	[Siam City Cement Public Co. Ltd. (SCC), 100%]	Grinding unit in Galle	
Do.	Tokyo Cement Co. (Lanka) Plc	Grinding unit and 2 mills	2,800
		China Bay, Trincomalee District	
Clay	Lanka Ceramic Plc (Royal Ceramic Lanka Plc, 73.56%)	Dediyawala, Western Province	44
Gemstones thousand carats	National Gem and Jewellery Authority	Balagoda, Elahera, Kamburupitiya,	14,500
		Moneragala, Okkampitiya, Ratnapura	
Graphite	Bogala Graphite Lanka Plc [Graphit Kropfmuhl GmbH	Bogala Mine, Kegalle District,	7
_	(AMG Graphite), 79.6%, and Alterna GK LLC, 10.3%]	Sabaragamuwa Province	
Do.	Kahatagaha Graphite Lanka Ltd. (KGLL, Ministry of	Kahatagaha Mine, Kurunegella District,	6
	Industry and Commerce, 100%)	North Western Province	
Do.	Sakura Graphite Pvt. Ltd.	Ragedara Mine, Malsiripura, North	4
	1	Western Province	
Iron and steel, steel, products	Bhuwalka Steel Industries (Sri Lanka) Ltd.	Madampe, Puttalam District,	25
,,	(Bhuwalka Premier Group, 100%)	Northwestern Province	
Do.	Ceylon Steel Corp. Ltd. (Onyx Group U.A.E., 100%)	Oruwala, Athurugiriya, Colombo District	250
Do.	Confab Steel Pvt. Ltd. (Bhuwalka Premier Group, 100%)	Medagampitiya, Western Province	144
Do.	GTB Steel Corp. (Pvt.) Ltd.	Katunayake, Western Province	78
Do.	IWW Steel Industries (Pvt.) Ltd.	Uswetakeiyawa, Western Province	NA
Do.	Lanka Special Steels Ltd. (E.B. Creasey & Co. Plc, 100%)	Makola, Sapugaskanda	15
Do.	Melbourne Metal (Pvt.) Ltd.	Ja-Ela, Gampaha District	120
Do.	Melwire Rolling (Pvt.) Ltd. (Melwa Group, 100%)	Colombo District, Western Province	240
Do.	Nawaloka Steel (Pvt.) Ltd. (Nawaloka Holdings, 100%)	do.	10
Do.	SR Steel (Pvt.) Ltd.	Factories in Hendala, Wattala and	NA
D0.	SK Steet (FVI.) Ltd.	Karabotuwawa, Divulapitiya	INA
Land refined secondary	Navom Lanka Ltd. (Gravita India Ltd. 5204)	* *	7
Lead, refined, secondary	Navam Lanka Ltd. (Gravita India Ltd., 52%)	Marigama Export Processing Zone,	/
W.	I M 1 (D () I (1	Marigama, Gampaha District	NT A
Mica	Imexma Minerals (Pvt.) Ltd.	Kundasale, Kandy City, Central Province	NA
Petroleum, refined thousand	Ceylon Petroleum Corp. (Ministry of Petroleum	Sapugaskanda, Western Province	15,400
42-gallon barrels	Resources Development)		
Phosphate rock, gross weight	Lanka Phosphate Co. Ltd. (Ministry of State Resources and Enterprise Development)	Eppawala, North Central Province	50
Quartz	Ceylon Quartz Industries (Pvt.) Ltd. (Bartleet Group)	Dekatana, Western Province	NA
Do.	J Lanka Quartz (Pvt.) Ltd.	Dombokka, Kurunegala	22
Do.	Lanka Ceramic Plc	Gurubebila, Matale, Central Province	NA
Salt	Lanka Salt Ltd. (State-owned)	Maha Lewaya, Hambantota District	80
Do.	Puttalam Salt Ltd. (Raigam Wayamba Saltern Plc, 30%)	Puttalam saltern, Puttalam District, North Western Province	25
Do.	Southern Salt (Pvt.) Ltd. (Raigam Wayamba Saltern Plc, 100%)	Bata-Atha salterns, Ranna, Southern Province	NA
Stone, limestone	Holcim (Lanka) Ltd. (Siam City Concrete Co. Ltd., 100%)	Arawakalu quarry, Puttalam	750
Titanium, mineral concentrates	Lanka Mineral Sands Ltd. (LMSL) (Ministry of Industry	Pulmoddai, Eastern Province	105
, miletai concentiates	and Commerce, 100%)	- amoudan, Lastem Hovine	103
Do.	Mirama Minerals	Alchemy Heavy Metals factory, Dambulla,	NA
D 0.	minuma minorais	Matale District, Central Province	IVA
Zirconium, zircon metric tons	Lanka Mineral Sands Ltd. (LMSL) (Ministry of Industry	Pulmoddai, Eastern Province	5,500
monto tons	and Commerce, 100%)		2,200

^eEstimated. Do., do. Ditto. NA Not available.

SRI LANKA—2017–2018 27.5