

BETWEEN RESOURCES & POTENTIALS: REVIVING EGYPT'S GOLD MINING SECTOR

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Egypt is quite rich with mineral resources as it has reserves of 48 million tons (mmt) of tantalite, which is the fourth largest reserves in the world, in addition to 35 mmt of coal, according to the Australian Trade and the Investment Commission. Such resources support various industrial activities. Most of the mineral resources are found in the Eastern Desert, Sinai, and the Red Sea, according to the Egyptian Mineral Resources Authority (EMRA).

Egypt's gold mining production reached 15 tons in 2019, according to the International Financial Statistics (IFS). The country is considered a significant gold producer as it ranked the 36th in terms of gold mining production in 2018, according to Gold Hub's website. Moreover, the country acquires reserves of about 3,750 tons of gold ore (120 million ounce), according to EMRA.

The report tackles the development of the mining sector in Egypt over the period between 2010 - 2019, including gold international bid rounds and production as well as main gold sites and major mining companies in Egypt.

HISTORY OF GOLD IN EGYPT

During the pharaonic era, Egypt was known as the richest country with gold in the Middle East and the Near East, as it was considered a major gold production player in the region. Between 1814 and 1820, the earliest geological map in the world with real geographical content was discovered, which was drawn more than 3,000 years ago, marking a gold mine at Bir Umm Fawakhir in the Eastern Desert, National Geographic reported in July 2016.

In the early 20th century, mining started in the previously discovered sites by the Pharaohs, including Al-Barami mines, located between Marsa Alam, in the Red Sea Governorate; Edfu, in Aswan Governorate; and Al-Fawakhir mines between Safaga and Qena, in Qena Governorate. Over the period from 1902 to 1927, 10 mines started gold production, where in 1902, seven tons of pure gold were extracted. Since then, there were several outbreaks that lead to the disruption and the discontinuation of some mines until 2004, according to a study named "Egypt on the global map of gold mining", published in the State Information Service in December 2018. In 2007, the first experimental ingot was produced. Production operations did not take place regularly until 2010, when it started to be in an organized manner.

THE IMPORTANCE OF GOLD FOR THE EGYPTIAN ECONOMY

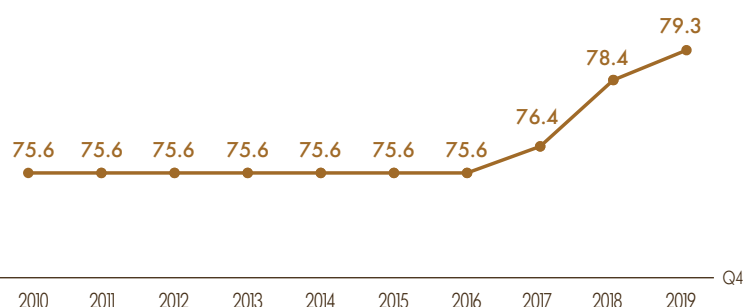
Gold is considered as a tool for foreign reserves in the Central Bank of Egypt (CBE). These reserves are important for stabilizing its balance of payments, paying foreign debt and interests. In terms of gold reserves, Egypt ranked the fifth among the Arab countries, according to International Financial Statistics (IFS) data. In addition, gold is an important asset for investors to resist economic crises or inflation. At uncertain times, investors direct their investments from equity to gold as a form of financial security, according to an article titled "The Midas Touch: Gold and Its Role in the Global Economy", published by National Institute of Health (PMC), in 2017. Gold is also a major contributor to economic growth through providing job opportunities in the mining industry.

Gold reserves remained constant at 75.6 tons during the period from Q4 2010 to Q4 2016. Since then, gold reserves in Egypt have adopted an increasing trend. In Q4 2019, gold reserves reached its highest records to 79.3 tons, representing 8.9% of the country's total foreign reserves, according to IFS.

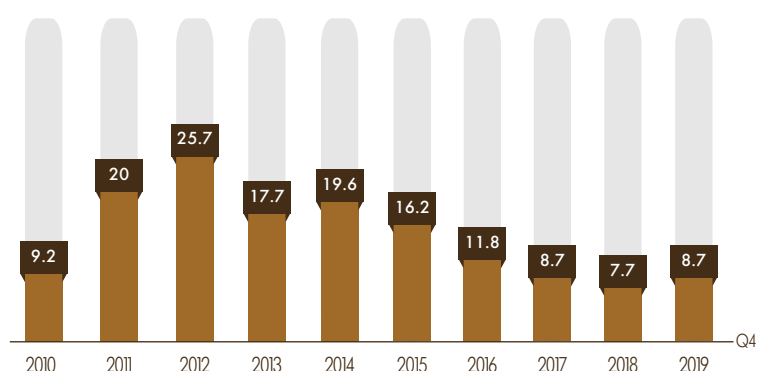
Over the period from (2010-2019), gold reserves averaged by 76.33 tons. In addition, gold's share in the total reserves reached its peak (25.7% of total reserves) in Q4 2012 compared to other years' share (ranging from 18% to 9%), according to the IFS data.



Egypt's Gold Reserves (tons)



Egypt's Gold Share in Total Reserves (%)



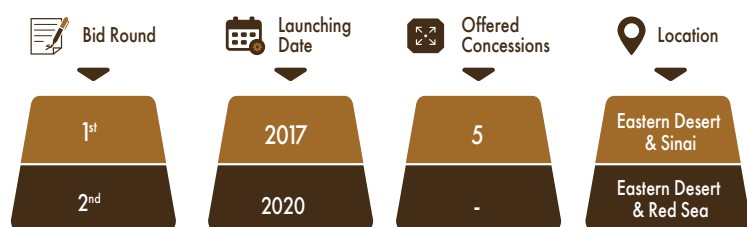
Gold was considered as one of Egypt's top exports in 2017, where it reached \$2.78 billion, accounting for 9.2% of the total exports, according to the Observatory of Economic Complexity (OEC). Moreover, gold was ranked as one of the most important 20 industrial items of Egyptian's non-petroleum exports during January 2020, according to the General Organization of Export and Import Control (GOEIC).

INTERNATIONAL BID ROUNDS AND INVESTMENTS

EMRA was established in 1896 to be responsible for developing the mining sector through preparing maps, grass-roots mineral exploration, geo-environmental studies, as well as hydro geological studies and services. Over the past year, there were many developments and actions taken to set the country on its path to be

an attractive mineral resources destination. For instance, in light of offering more exploitation opportunities for gold mining companies in Egypt, EMRA has launched two bid rounds over the past three years.

Gold Mining Bid Rounds



The first bid round for gold and associated minerals was launched in 2017, offering five concessions in the Eastern Desert and Sinai. The bid round resulted in awarding four concessions, one for each of Britain's Veritas Mining Limited, Ghassan Spain Investment, and Egypt's East Gas Co., while Resolute Egypt won two, as explained on EMRA's website.

In Early 2020, EMRA launched its second bid round that focused on gold mining. The bid round offered about 132 sectors which covered a total area of around 56,000 km² in the Eastern Desert and the Red Sea. This bid round will be under the new amendments of the Mineral Resources Law; and accordingly, it will be more attractive for investors to participate in, as stated by EMRA.

The amended mineral resources regulations issued under Law 198/2014, adopts the international system of royalties, taxes and leases, instead of the Production Sharing Agreement (PSA) system.

As per the 2014 law, royalties were set to be not less than 5% of the annual production of ores; and they did not have a maximum cap. The new law fixed that by stipulating that royalties will be at a minimum of 5% and capping at 20% of the annual production of ores, noting that the royalty fee is assigned depending on the ore extracted. Additionally, the old law required companies to pay additional royalty fees that are directed towards societal developments of the area where the project takes place. As for the new law, 1% and 6% of the royalty paid for mine exploration or exploitation, and 6% of quarries and salt pans royalty, respectively will be deducted for this purpose from the total royalty amount, according to article 10 for Law No. 145 of the year 2019.

The Minister of Petroleum and Mineral Resources, Tarek El Molla, declared that this modified law will be a new legislative framework for the mining sector. In addition, it is one of the steps taken for modernizing the sector to increase the sector's contribution to the Egyptian economy and to keep pace with Egypt's 2030 vision, according to a ministerial press release published in February 2020.

To flourish investments, in 2017, Egypt established a free economic zone dedicated to mining known as the Golden Triangle. The Golden Triangle is located between Qena, Safaga, and Al Qusair. This triangle is considered one of the richest areas in mining sources amounting to 75% of Egypt's mining minerals, stated the General Authority for Free Zones and Investment (GAFI).

MAIN LOCATIONS OF GOLD IN EGYPT

Egypt possesses more than 120 gold sites in which gold was explored. To exploit more gold sites, EMRA works on developing the sites' data base and research programs through sending annual field missions to various sites in Egypt's deserts, as stated by the Former Chairman of EMRA, Omar Teema, during a seminar titled "Gold Mines Agreements ... Opportunities and Challenges" in August 2017.

i. Classification of Gold Sites

Main Gold Sites in Egypt

Sector	Northern	Middle	Southern	Southeastern
Location	Safaga - Qena Road	From Safaga - Qena Road to South Idku - Marsa Alam Road	Wadi Al Allaqi	South Berenice
No. of Sites	5	62	19	7
Most Important Sites	Fateri - El Hadid - Um Balad	Sukari - Abu Marawat - Barramiya	Um Garayat - Saiga - Shashoba	Hutit - Romit - Kurbia

The gold sites in Egypt are distributed in the Eastern Desert across several sectors; including the northern sector, the middle sector, the southern sector, and the southeastern sector.

ii. Major Gold Mines

Gold in Egypt is found in more than 220 mines, which are rich with gold prospecting opportunities in different regions of the Eastern Desert, South Sinai, and Aswan. Most of Egypt's gold lies in the Eastern Desert in the Sukari, Hamash and Wadi Allaqi mines, the Former Chairman of EMRA stated.

Barramiya is also considered one of the richest gold mines in the Eastern Desert. It is located about 105 km east Edfu - Marsa Alam road. The mine embraces mineral resources' reserves in three sections. The first section holds about 14.8 mmt of reserves; with average gold reserves of 1.07 grams per ton (g/t). The second area has total reserves of 1.22 mmt and average gold reserves of 2.85 g/t. Finally, the third section has reserves of only 0.5 mmt, with average gold reserves of 3 gram per ton, EMRA stated.

In addition, Halayeb and Shalateen are two promising regions for gold production. Shalateen Mineral Resources Company operates five areas, including four areas in Halayeb, Shalateen, and one in Aswan.

Major Gold Mines in the Egyptian Eastern Desert

Gold Mine	Location	Mineral Resources Total Reserves (mmt)	Average Gold Reserves (g/t)
Fateri	North Safaga - Qena Road	00.7	14
Abu Marawat	South Safaga - Qena Road	0.29	4-8
Semna	South Safaga - Qena Road	0.01	15.5
Al Ardyia	South Safaga - Qena Road	0.02 0.05	7.75 2
Atud	55 km West Marsa Alam	0.0086	12.68

HIGHLIGHTING THE SUKARI GOLD MINE

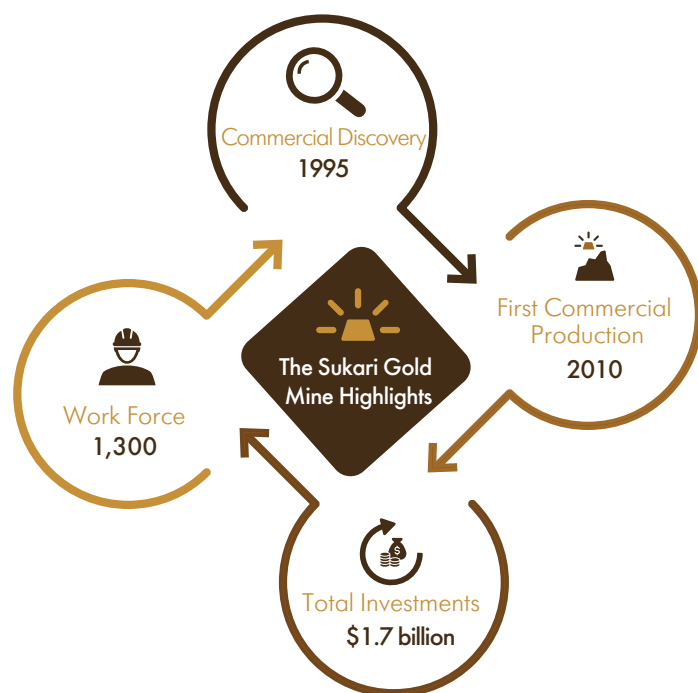
The Sukari Hill has been hosting mining activities since the Pharaohs to the Romans to the British colonialism, and to the modern ages. The Sukari gold mine is located in the Sukari Hill in the Eastern Desert. The Sukari mine was the only gold mine operated by the government until its production was halted in 1954. The mine was officially announced to have made a commercial discovery in 1995. The Sukari is considered one of the largest gold mines in the world in terms of reserves and production, according to Centamin's official website.

Following the official discovery of the mine, Sukari Gold Mine Company, Centamin's subsidiary, was established in June 1995 when the 160 km² Concession Agreement was ratified by the Egyptian House of Representatives as Law no. 222, as mentioned in Centamin's 2018 Annual Report.

The operations in the Sukari mine started in 2009, where a plant was established to produce precious metals including gold, silver, and copper. Subsequent to the first commercial production in 2010, the processing capacity of the plant was increased in a staged manner.

The Sukari, the only operating gold mine in Egypt, has a large reserve and resource base. In 2018, the total resources in the Sukari were estimated at 343.75 tons (11 million ounces), while the total mineral reserves are estimated at 226.6 tons (7.25 million ounces), underpinning at least a 15-year lifespan of the mine, according to Centamin's 2018 Annual Report.

The Canadian company invested around \$1.7 billion over the period from 2010 to 2017 in the project, which provides around 4,500 direct and indirect job opportunities, as stated by Dr. Ali Barakat, Chairman of Sukari Gold Mining Company, during a visit to the Sukari site in March 2017.



GOLD MINING PRODUCTION

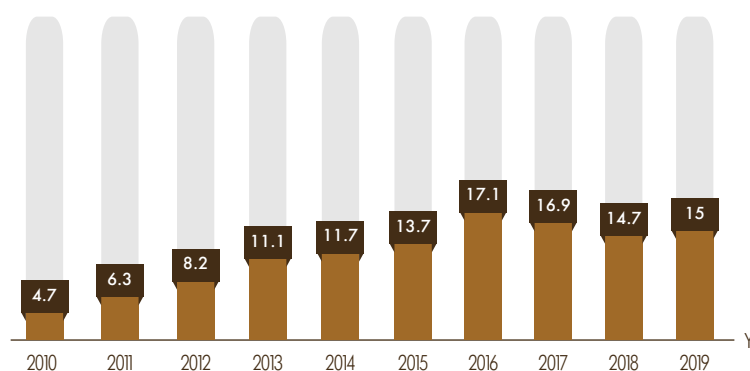
Over the period from 2010 to 2019, Egypt's total production of gold, which 100% comes from the Sukari mine, recorded 119.4 tons. Over the referred period, the mine's annual average production of gold reached 11.9 tons, according to the IFS data and Centamin Egypt press releases.

The mine's lowest production rate was in 2010 when it recorded 4.7 tons. On the other hand, its highest rate was recorded in 2016 with a production of 17.1 tons of gold. Following 2016, the production level tended to slightly decline as it has fallen to 14.7 tons in 2018 with a negative growth rate of 15.8% compared to the 2016 production rate, according to the press releases.

The decline in production was mainly driven by the delay in operating processes developments, which decreased the targeted production of the operating company, according to a press release by Centamin. From 2010 to 2019, the rate of production increased by 219.1%, according to the IFS data.



Egypt's Gold Mining Production (tons)



MAJOR EXPLORATION AND PRODUCTION GOLD COMPANIES

Many international companies are operating in Egypt's gold sites. Two major companies are working in gold production, namely Centamin and the Cypriot company Matz Holding. For exploration of gold, there are many active companies in Egypt; two of the earliest are the Canadian Aton Resources and the United Arab Emirates' (UAE) Thani Dubai. It is worth mentioning that there are other mining companies such as SMW and Resolute Egypt, in addition to other companies working in the gold industry in Egypt, such as Gold Pyramid Group.

i. Centamin

Centamin is a mining company which is listed in London and Toronto Stock Exchange. As one of the first gold producing mines in Egypt, the company commenced production from the Sukari mine in June 2009, according to Centamin's website.

Thanks to the developments of the Sukari mine, EMRA's profit share from Centamin increased by 14%, from \$76.4 million in 2018 up to \$87.1 million in 2019. After distributing Sukari's profit share and Centamin Group investing activities, the group's free cash flow recorded \$74.3 million in 2019 compared to \$63.4 million in 2018. In addition, Centamin's royalties paid to Egypt rose by 7%, from \$18.4 million in 2018 up to \$19.7 million in 2019, as stated in Centamin's 2018 Annual Report and Q4 2019 Results Report.

Centamin plans to pump investments of \$190 million in Egypt in 2020. The company allocated \$150 million out of the \$190 million to be only invested in the Sukari mine, according to the Q4 2019 Results Report.

ii. Matz Holding

Matz Holding is a gold producing company that operates in Egypt through Hamash Co, a joint venture (JV) with EMRA. Hamash was established under the law No. 2 of 1992 when EMRA got 50% share in it, as stated by EMRA.

Hamash targets gold and mineral resources production from Hamash mine in the Eastern Desert. The first experimental gold bar was produced for the first time in Egypt from Hamash mine in 2007 after 50 years gold production hiatus. Afterwards, the company has completed infrastructure projects to increase the gold ore reserves. In 2012, the company's production from Hamash amounted to about 0.125 tons (4,000 ounces), according to a book published by EMRA in 2014, titled "Mineral Resources in Egypt". In early 2018, Hamash mine produced 0.005 tons (160 ounces).

iii. Aton Resources

Aton Resources significantly helps in transforming the resource-rich country into a significant gold producer. Since 2007, the company has been engaged in gold exploration and development activities in Abu Marawat concession (100% stakes). The concession includes Hamama and Abu Marawat deposits as well as the Rodruin project in addition to more than 16 other potential sites, according to Aton's website.

Abu Marawat concession is located in the central Eastern Desert; about 200 km north of the Sukari mine. Aton observed a considerable amount of mineral resources within the concession. For instance, Abu Marawat's deposit alone holds 2.9 mmt with gold of 1.75 g/t, according to Aton's website.

In December 2017, the company discovered the Rodruin project where exploration activities were accelerated by drilling the first well in August 2018. The results, announced in December 2018, showed 12.47 g/t of gold extracted from the main zone of high-grade ancient workings at Aladdin's Hill, as explained on the website.

In 2020, Aton was granted a license for 20 years with an optional 10-year extension period. The license will allow the company to continue development of the Hamama deposit and Rodruin project within Abu Marawat concession, Aton announced.

iv. Thani Dubai

Thani Dubai is a gold exploration company which has been operating in the Eastern Desert since 2006. In 2006, the company was awarded a Hodine concession to explore the Hutite and Anbat prospects. The Hodine concession is located in the Egyptian Eastern Desert inland of the Red Sea settlement of Shalateen. The concession covers an area of 1,190 km². Since 2014, Thani Dubai has been carrying out exploration activities within the concession, according to the company's website.

The Anbat-Shakoosh district, which is located in the Hodine concession, currently has three prospects; North Anbat, Anbat, and Shakoosh. North Anbat was newly discovered in 2015, 5 km north of Anbat. The Anbat-Shakoosh belt holds a non-Joint Ore Reserves Committee (non-JORC) compliant resource of about 15 tons (540,000 ounces) of gold. For the Hutite prospects, it is located 60 km northwest of Shalateen in the central area of the Hodine concession. The prospect has a non-JORC compliant resource of about 14 tons (520,000 ounces) of gold, as stated by the company.

The Ministry of Petroleum and Mineral Resources (MoP) is exerting a great effort in modernizing the mining sector. The mining sector's modernization is supported by practicing different regulatory, fiscal, governance and licensing reforms. Moreover, the country's new mining law is expected to attract investors and international companies by giving them more opportunities to increase their exploration and production (E&P) in the field of mineral extraction. By attracting investments, this will boost the national economy and international exposure.

EMRA plans to implement a group of activities in FY 2019/20, such as signing 86 contracts for exploitation under special conditions, signing three agreements for gold exploration, and two agreements for exploiting and producing gold. The authority also agreed to specify 11,500 km² as a total area for mining activity, and to provide 253 exploring and exploiting licenses for various mining services. Thus, at a global level, Egypt's rank improved by three positions, ranking 41st in Q4 2019, against 44th in Q4 2018, according to the IFS. As a result of such future actions and plans, further improvements in the mining sector are yet to come.