

## UGANDA

*By a Special Contributor*

Uganda covers an area of some 236,000 km<sup>2</sup> and has a population of around 25 million. The country is bounded to the north by Sudan, to the east by Kenya, to the west by Democratic Republic of Congo, by Rwanda in the extreme southwest and by Tanzania to the south. It lies astride part of the East African Rift System and its associated lakes, and much of the country is either plateau or mountainous. The climate ranges from equatorial - tropical and wet - as typified by the country's capital Kampala on the shores of Lake Victoria, to semi-arid near the northern border with Sudan. With fertile soils and ample rainfall, agriculture provides employment for about 80% of the workforce. Coffee is the principal export.

The country's head of state is President Yoweri Museveni, a Lieutenant General who seized power in 1986 from a corrupt civil government. He set about stabilising the economy and, with widespread international support, implemented currency reform, raised producer prices on export crops and improved civil servants' pay. His government has also implemented one of Africa's most successful AIDs education programmes. President Museveni has governed without any official opposition, claiming that his political organisation, the Movement, is not a political party but a mass movement that has the loyalty of all Ugandans. However, Uganda's involvement in the civil war in neighbouring Democratic Republic of Congo, some evidence of corruption within government and a slowing pace of reforms, have meant that he has lost some of his popularity. Also, there is now a major civil conflict in the north. The Lord's Resistance Army has been responsible for thousands of child kidnappings, atrocities and pillaging, and has spawned a major refugee crisis, and has yet to be quelled by government troops.

In 2003, Uganda's GDP is estimated to have grown by 4.4%, to about US\$31 billion. By sector, agriculture contributed about 36% of GDP, industry (chiefly sugar, brewing, cotton, tobacco, textiles and cement) 21% and services 43%. Virtually all electricity requirements are provided by hydropower and all petroleum has to be imported. Uganda's total import bill was about US\$1.18 billion in 2003 versus export revenues of US\$495 million. External debt is estimated at US\$3.82 billion.

Uganda's mineral resources are not insubstantial, and include base and precious metals, but apart from industrial minerals and cement, the minerals sector requires major investment if the full potential is to be realised.

The Kilembe copper mine, situated in western Uganda in the foothills of the Rwenzori Mountains, has been the only substantial base metals mine in the country and the operation has had a chequered history. Mining began in 1956 and continued into the 1970s. Between 1956 and 1977, the mine produced 16 Mt of ore averaging 1.98% Cu and 0.17% Co. The operation was

nationalised by Idi Amin in 1975, at which time Falconbridge was the major shareholder. When production eventually halted in 1977, annual production was just 7,000 t of copper. Concentrates were conveyed by pipeline some 14 km to the railhead at Kasese for onward despatch to a smelter at Jinja. Exports were almost entirely to Japan. Some of the richer ore at Kilembe ran as high as 6% Cu. Kilembe was on care-and-maintenance throughout the 1980s and although various plans were drawn up to rehabilitate the copper-mining operation none came to fruition. However, cobalt extraction has long been regarded as an attractive proposition. Over the life of the mine, in excess of 1.0 Mt of tailings of pyrite and pyrrhotite were stockpiled (cobalt is intergrown with the pyrite and pyrrhotite) and the tailings have an average estimated grade of 1.3% Co.

Since 1970, various plans were mooted to construct a cobalt extraction plant at Kasese to treat the tailings, and in the late 1980s definitive plans were implemented. In 1993, a pilot plant was commissioned as part of a US\$48 million project to extract cobalt through a joint venture involving BRGM of France, Barclays Metals of the UK and Kilembe Mines Ltd. A commercial plant was then constructed with a design capacity of 1,000 t/y. Subsequently, both Barclays and BRGM withdrew from the project and the Canadian company Banff Resources Ltd became the majority shareholder in Kasese Cobalt Co Ltd. In 2001, Banff sold its 50% shareholding, Newmont Australia took a 75% controlling interest (acquired during its takeover of Normandy) but this was subsequently relinquished. In July 2002, MSC Bancorp of Canada acquired the 75% interest.

Less than three months later, MSC Bancorp announced that the facility was being placed on care-and-maintenance. The plant used a combination of bio-leaching and solvent extraction/electrowinning, and by the end of 2001 output had stabilised at around 50 t/mth, far short of its design capacity of 83 t/mth (1,000 t/y). It appears that Kasese has resumed cobalt production and in August 2004 Bancorp announced that it was spinning off its cobalt assets to Blue Earth Refineries Inc, a wholly-owned subsidiary, but no production details were given. The remaining 25% of Kasese Cobalt Co is held by Kilembe Mines Ltd (KML), controlled by the Government of Uganda.

In September 2004, it was announced that Vancouver-based Uganda Gold Mining Ltd (UGM) had signed an agreement with KML whereby UGM can earn a 70% interest in the Kilembe mine by financing and carrying out exploration, and completing a bankable feasibility study. KML has held the property since 1975 and the last audited resource estimate was in 1979 and was 4.1 Mt at 1.77% Cu in the proven and probable categories. The agreement also covers three tailings dams, where South Africa consultancy Time Mining Ltd has estimated an unclassified resource of 3.15 Mt averaging 0.18% Co and 0.97% Cu, based on 3,900 m of drilling. UGM says its priority will be to confirm tonnages and grades at the established deposits, and to drill and outline extensions before exploring other known deposits.

Small deposits of placer tin occur in southern Uganda, for example at Mbabane, and there is some sporadic, small-scale artisanal output producing a few tonnes annually but no commercial production.

In southwest Uganda, tungsten mineralisation is found in two main zones, as wolframite and ferberite in quartz veins associated with graphitic shales, and as wolframite in beryl-bearing apatites. Resources have not been quantified in recent years, and production is confined to small-scale artisanal operations and exported unofficially.

The beryl-bearing pegmatites are also associated with the production of columbo-tantalite (coltan) as a product of beryl mining by small operators but output is uncertain and subject to the vagaries of the markets. Uganda also has a large columbium-tantalum resource associated with the country's carbonatite intrusions, notably at Sukulu in eastern Uganda where pyrochlore occurs in eluvial soils. The Sukulu soils have long been exploited for their apatite content, used as the basis for the manufacture of phosphate fertilisers at Tororo.

Gold is mined by artisans and on a semi-commercial basis at a variety of locations but production is difficult to quantify.

The government is keen to encourage small-scale mining operations and has implemented a policy also designed to stimulate investors and encourage private-sector participation. There is believed to be good mineral potential in the southern part of the country, particularly for gold and base metals, but the political/economic situations in neighbouring Democratic Republic of Congo (DRC) and Rwanda have not been conducive to the required foreign investment in mineral exploration and development.