



TI-UP Enquiry: The Gemstone Sector in Malawi

This 0.80-ct. padparadscha sapphire was recovered from Chimwadzulu Hill, Malawi. Photo courtesy of Columbia Gem House, Vancouver, Washington.

Introduction

The mining sector in Malawi is very small and contributes only 3 per cent to GDP. The few existing mines are of small and medium sizes and their linkages with the manufacturing sector are weak. Apart from industrial mineral production, which services local demand, Malawi does not have a well-developed minerals industry, although there are potential heavy mineral sand, bauxite, phosphate, uranium and rare earth element deposits.

Several mineral deposits exist in Malawi which can be mined on a small scale. The Malawi Government has embarked on an economic empowerment programme aimed at promoting and supporting small-scale mining in areas of import substitution and value-adding services. These programmes include gemstone cutting and polishing, gypsum mining and lime production using coal.

Gemstone Mining

Gemstones found in Malawi are principally ruby, sapphire, aquamarine, beryl, garnet, amethyst and rose quartz. Miners use picks for digging, shovels for removing and hammers for cobbing out undesired minerals. Gemstone mining is undertaken in the dry season only because of difficulties in access to mining sites during the wet season. In addition, the operators concentrate on subsistence farming during the rainy season.

Gemstone mining in Malawi is almost all done on an artisanal basis, used by locals as a way of supplementing their income. One exception to this is the ruby and sapphire mine at Chimwadzulu Hill in the south central part of the country.

Chimwadzulu is the single biggest mine in Malawi and is responsible for the bulk of the country's gemstone exports. The deposit produces a range of sizes -- generally less than two carats, but larger stones have been found. The colour of the corundum goes from a light pink-orange (padparadscha) to pink to deep purple, and can be sold unheated. The material is being marketed in the United States by a single supplier as Nyala ruby.

Another active area is Mzimba, in the northern part of the country near the border with Zambia. Mzimba's main gemstone is aquamarine, but it also produces other types of beryl, as well as garnet, amethyst, and rose quartz.

Almost all gemstones are exported, except <1% which are used locally within Malawi. In 2001 Malawi exported gemstones totalling a declared value of MK13.6

million, although real export values are likely to be significantly higher due to smuggling.

National gemstone production declined to 1,620 kilograms (kg) in fiscal year 2004-05 from 2,318 kg in fiscal year 2003-04. The Chimwadzulu Hill Mine produced ruby and sapphire; the capacity of the mine increased to 5 kilograms per month of gem-quality ruby and pinkish-orange sapphire with the installation of a new washing plant in late 2004. About 10% of the ruby mined was gem quality. Historically, ruby has accounted for 30% of the mine's production; pinkish-orange sapphire, 17%; and other sapphire, 53%.

Small-scale and artisanal miners produced such ornamental stones as blue agate and rose quartz. The production of ornamental stones declined to about 23 t in fiscal year 2004-05 from 417 t in fiscal year 2003-04 because of oversupply in world markets. Sunstone Ltd. and Robin Mines of Malawi explored for agate and sunstone.

Gemstones are marketed through the Gemstone Association of Malawi to the government. The Gemstone Association of Malawi was formed to support various gemstone miners throughout Malawi. Recent development in the gemstone area includes the opening of the first stone cutting and jewellery shop in Lilongwe. Production of sodium silicate at Maone Industrial Park is another milestone. Development of ceramics processing in Dedza and small scale lime works in Lirangwe and Balaka are also encouraging developments. The opening of a new cement factory in Kasungu is also note-worthy.

Under the EDEC programme, the Malawi Industrial Research and Technology Development Centre and Gemstone Association of Malawi are offering training programmes for small scale gemstone miners from all the three regions of Malawi

Problems

Prospecting for gemstone is mostly done when gemstone deposits are discovered as float in gardens. Local people then pair up to start mining, sometimes even without licenses. After exhausting the gemstones in loose earth (alluvium) they abandon the pits to open new ones in other areas, due to several reasons including: the pits may be deep and unsafe to work in; the miners might have reached the water table and the pits have become water logged; and due to lack of appropriate tools to break the hard quartz rock in which most quality gem stones penetrate. This practice creates environmental degradation due to lack of rehabilitation of the environment once the pits have been abandoned. Mining equipment and accessories required include picks, shovels, hammers, combing hammers, sieves, generators, water pumps, excavators; and compressors.

Trends show that gemstone production is seasonal and erratic reaching its peak during summer. The reasons for this state of affairs include the lack of finance, technical expertise, mining tools and the effects of the rainy season. Consequently, any gemstone that is found is immediately sold to pay for labour. Buyers have capitalised on this constraint and often offer very low prices for the gemstones.

One other major constraints facing miners is the lack of capacity to grade, evaluate and negotiate the right price for their stones. In order to buy, sell and appraise coloured gemstones appropriately and profitably, dealers need a systematic approach to their description and evaluation. Gemological coloured stones grading system presents a repeatable, consistent method for evaluating the factors of colour, clarity and cut based on carat (or gram) weight of the gemstone. Gemologists are the most competent experts in undertaking gem valuation and in Malawi there is only one known Malawian gemologist.

Malawi also lacks capacity to process the stones into jewels and jewellery. There is only one processing enterprise, Gem and Jewellery Lanka Limited, a foreign company based in Lilongwe. Due to the lack of a well coordinated system of buying and marketing gemstones from the miners, the sector suffers from smugglers from neighbouring countries and beyond.

There is some hostility in gemstone mining between villagers and operators. Sometimes customary landowners or ordinary villagers do not want to give access to operators even if they possess the necessary permits from the Mining Department. This arises out of jealousy. Local legislation on gemstone mining stipulates that mining up to about 2m involves land that belongs to a customary owner. Beyond that, the law permits operators to mine in accordance with authorization obtained from government. Even so, customary landowners would still object.

Legislation

Legislative instruments for the mineral and mining sector in Malawi are administered by the Mining Department in association with the Geological Survey Department. The main focus for the Geological Survey Department, however, is exploration.

The Mining Department is also responsible for processing of all applications for mining, and subsequently licensing of the same. It also guides miners on appropriate mining methods. The department is also responsible for inspection of technology and safety.

The Mining Department liaises with the Department of Environmental Affairs in evaluating EIAs specific to the mining sector.

The Ministry of Labour oversees the Occupational Health and Safety Act for the mining sector. Arrangements are currently in hand to change legislation such that the Ministry of Labour only oversees occupational health in industries and factories while occupational health aspects pertaining to mining will be covered by the Department of Mining – *it is unclear whether or not this has been progressed since the report was published*).

Below is an overview of the legislation governing the mining of minerals in Malawi, correct as of November 2004:

Overview of Minerals Legislation

(Last update: November 2004, <http://www.mbendi.co.za/indy/ming/af/ma/p0005.htm>)

- All minerals are vested in the President on behalf of the people of Malawi. The search for mining and disposal of these minerals is governed by the Mines and Minerals Act (1981). The Administration of the Act is the responsibility of the Commissioner for Mines and Minerals in the Ministry of Energy and Mining.
- The overall policy objective is to maximise the economic benefit to the nation that can be realised from the exploitation of the nation's mineral resources. The government encourages investors to explore, delineate, evaluate and where viable exploit the resource using appropriate technologies.
- Reconnaissance Licences (RL) are issued for one year for an agreed programme over an area not exceeding 100 000 km² at a fee of K1 000 for the licence and annual charges of K0.1 per km². No subsurface operations are permitted unless specifically authorized. However, holders may erect camps and temporary buildings.
- An Exclusive Prospecting Licence (EPL) confers exclusive rights to carry out a programme of prospecting operations for specified minerals over a specified area. A detailed programme of exploration, expected expenditures and personal details are required. There must also be a proposal for the training and employment of Malawi citizens in the operations. The licence is issued for a maximum of three years and may be renewed twice for periods not exceeding two years each. Fees payable at issue are K500 and annual charges are K10.00 per km². Fees of K200 are payable for each renewal requested. The maximum area at initial grant is 2,500 km² and this is reduced by 50% at each renewal. The holder has the automatic right to apply for and be granted a Mining Licence after recording a find and on submission of a feasibility study report. Progress reports must be submitted to the Minister at the end of each phase including a work programme and cost estimates for the following phase.
- A Mining Licence (ML) may be issued to holders of an EPL or non holders. The applicant must give a detailed feasibility report including the anticipated programme of mining operations, an environmental impact assessment, and proposals for the employment and training of Malawians. The licence confers the holders the exclusive right to prospect, mine, produce and sell specified minerals from the designated area. The maximum areas for non holders of EPL is 250 km² and for the holders not more than the land subject to the EPL. The ML fee is K1000 per km². The initial term for a ML is for a period not exceeding than 25 years or estimated life of the mine, which ever is shorter. It may be renewed for a period of 15 years thereafter. Regular reports on the operation must be made to the Minister.
- Three types of licences are issued for small scale mining and prospecting operations. Methods are limited by both financial costs and technical expertise. These licences are:
 1. Mineral Permits are issued to individuals by the District Commissioner of the area for building and other construction materials upon payment of a prescribed fee. The fee depends upon the quantity to be extracted.

2. Non-Exclusive Prospecting Licences (NEPLs) are issued to individuals or firms who cannot afford large scale prospecting operations but have technical expertise. The holder may conduct prospecting operations in one or more districts for any mineral specified in the licence. The holder may not prospect in an area held under exclusive licence. The initial term of the licence is one year but may be renewed for further one year periods. Applicants must be Malawians or foreign nationals who have resided in Malawi for not less than four years. The holder must seek permission from owners of the land before commencing operations.
3. Mining Claims are issued to holders of NEPLs after submission of sketches and fees. A claim licence confers the holder exclusive right to prospect mine and sell the product. The maximum area to be pegged for each claim is two hectares and up to three claims may be pegged with one NEPL. All claims expire on 31st March of each year and renewed effective 1st April. Fees payable are K35.00 and K30.00 for grant and renewal respectively. A claim licence does not prohibit the land owner from grazing and farming on the property. A claim may be cancelled where either conditions are not being met or the deposit can be exploited using large scale equipment. Annual reports on prescribed forms must be submitted to the Commissioner of Mines and Minerals.

In addition, the following apply to the following types of Licences:

- Reserved Minerals Licence are issued to those wishing to buy and sell precious and metals and precious semi-precious stones. The fee is K300 at each application and duration is one year.
- A RML, EPL and ML may only be transferred with the approval of the Minister.
- Malawi is preparing a National Environmental Action Plan, however, the Mines and Minerals Act already contains adequate environmental provisions. Potential environmental impacts must be included in applications for exploration and mining and in a mining proposal, suggestions for addressing environment problems, prevention of pollution from mining and mineral treatment and land rehabilitation must be submitted.

Officially Malawi has 59 holders of non-exclusive prospecting licenses, 24 holders of mining licenses and 36 reserved mineral licence holders. 21 of the miners in the country are women.¹

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¹ Taken from the document titled "Technology Strategy for Sustainable Livelihood: A Paper on Enterprise Development". It is unclear which year this was published in, therefore figures are likely to be slightly out-of-date.

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