

212689 7293
Distr.
LIMITED

ECA/NRD/MIN80/INF.7
6 December 1980

Original : FRENCH
ENGLISH

ECONOMIC COMMISSION FOR AFRICA

Regional Conference on the Development and
Utilization of Mineral Resources in Africa

2-6 February 1981, Arusha, United Republic of Tanzania

AIDE-MEMOIRE ON THE MINERAL WEALTH
OF RWANDA AND ITS MANAGEMENT

(Document submitted by the Government of Rwanda)

I. Geographical background

Rwanda, "the country of a thousand hills" is located between latitudes 1°04' and 2°51' south and longitudes 28°53' and 30°53' east. It covers a surface area of 26,338 sq km and is generally high, every part of the country being at an altitude over 1,000 m, which offsets the latitude.

Rwanda therefore enjoys a very pleasant climate which is much different from the equatorial climate. Rwanda is land-locked. Its neighbours are Uganda to the north, the United Republic of Tanzania to the east, Burundi to the south and Zaire to the west. The nearest seaport, Mombasa in Kenya, is some 1,750 kilometres away from Kigali, the capital. That distance poses serious problems to the achievement of development objectives not to mention problems of defining and according priority to those objectives. Before referring to the mineral resources that have been more or less identified, an overview of the country's mining potential will be given.

II. PROSPECTING AND RESERVES

II.1. Geological background

The territory of Rwanda is composed of Precambrian basement with, in particular, outcrops of Burundian, 700 to 1,300 million years old. A geological map has been made of the entire country to a scale of 1:100,000. Granite is the most widely occurring rock and also the most interesting in that cassiterite, colombo-tantalite and ferberite mineralizations are usually connected with granite.

II.2. Prospecting

Prospecting is conducted by the Societe des mines du Rwanda (SOMIRWA) within its concessions and prospecting areas. For more than ten years, a UNDP mineral survey project has been working in the country using to date geological and strategic geo-chemical methods. Some interesting features have been identified and it is believed that it would be possible in the near future to proceed to a tactical stage in certain areas.

The Bureau de Recherches Geologiques et Minieres (BRGM - France) is also working on another part of the country in conjunction with the Rwandese Geological Survey Department. That operation is still at the strategic stage also. However, a few geo-chemical anomalies have been identified.

II.3. Reserves

In Rwanda, prospecting is mainly for ores known to exist in Rwanda such as cassiterite, ferberite, colombo-tantalite and gold either in order to find new deposits or to evaluate the extent of deposits being mined. Prospecting for other minerals such as uranium, lead and zinc have to date revealed only indices. Only the reserves of cassiterite and ferberite were estimated in 1975.

At the time, the known and probable reserves gave an estimate of a little over ten years of mining activity at the rate of production of 2,000 tonnes of ore composed of 72 per cent Sn. Alarms were raised that the mining industry would come to an end. The fact was that such alarms were based on estimates of reserves that were in no way final. Indeed, the idea of reserves is tied up with market conditions which determine the cut-off grade. The reserve estimates also depend on the degree of investigation which is in turn a factor of the technical competence and expenditure accepted. Importers commit themselves to the costs of evaluating reserves only so as to ensure that they can exploit them for a number of years, and generally for a maximum of 10 years.

In the case of Rwanda where most of the mining has been done on shallow detrital deposits, little is yet known about the depth and the extension of primary deposits. It is therefore not surprising that the size of a good number of deposits often exceeds expectations. A case in point would be the Rutongo tin deposit near Kigali.

DATE	ESTIMATED RESERVES	PRODUCTION
	(in tonnes)	
1 January 1945	6,700	
1946-1956		8,365
1 January 1957	5,796	
1957-1960		2,317
1 January 1961	13,690	

Obviously, mineral resources are non-renewable and sooner or later, deposits are exhausted. Nonetheless, the Rutongo example shows that reserve estimates need to be treated with caution. Then again, new deposits might be discovered.

III. EXPLOITATION AND PRODUCTION

As indicated above, Rwanda produces mainly cassiterite and ferberite. A mining and mineralization map is contained in the annex. In most cases, the minerals are exploited by artisans or on a semi-industrial basis. Conventional gravity concentration methods are used with the resultant environmental problem of the casting of tailings into rivers.

III.1. Mine operators

The Rwanda Mines Company (SOMIRWA) is the sole mining concessionaire. It was created by merging such companies as MINETAIN, SOMUKI, GEORWANDA and COREM. Its major shareholders are the Rwandese State (49 per cent) and the Belgian company GEOMINES.

The company subcontracts to artisans the working of deposits whose size is assumed to be such as to warrant major investment.

The mines worked by the company itself use little or no mechanization owing often to the characteristics of the deposits. In fact, they are often small and scattered or take the form of low-density veins thereby requiring selective exploitation.

For this reason, the Rwandese mining industry sector is labour-intensive. As of December 1979, SOMIRWA employed approximately 8,000 people with another 1,500 working for 90 subcontractors.

Some 50 independent artisans work for SOMIRWA on small deposits under temporary exploitation or special permits. Together, they employ a little over 1,000 persons. The mining sector as a whole thus employs about 10,500. Production figures are given in the following tables:

Year	SnO ₂ at +72 %	WO ₃ at +68 %	Nb - Ta	Beryl	Au
(in tonnes)					
1974	2044	510	74	53	-
1975	2084	755	46	18	-
1976	2180	825	45	46	29,127.70
1977	2239.5	836	64	68	62,718.90
1978	2138	714	54	80	34,956.54
1979	1910	732	47	86	14,693.08

The five-year development plan (1977-1981) set a production target of 2,500 tonnes of cassiterite and 1,000 tonnes of ferberite as early as 1978. Unfortunately, those targets are far from being achieved and the growth that began in 1974-1975 was reversed in 1978 principally because of difficulties in supplies of raw materials.

III.2. Control of mining operations

It is a well-known fact that relations between the State and enterprises by their very natures sometimes develop into conflicts. The sovereignty of States over their mineral resources is a principle that no one questions. Such non-renewable resources generate income which should be used as efficiently as possible for development in other sectors. The multiplier effects should be as great as possible. From the host country point of view, this position is logical. It is also logical for enterprises to seek to make the maximum profit from their investments.

The problem is two-fold. On the one hand, the question of operating margins is not always easy to settle. On the other hand, the State has to devise a policy that encourages research and investment in general and at the same time discourages plundering and wastage of resources. In the case of Rwanda, the two aspects of the issue are mainly the concern of the Ministry of Natural Resources, Mines and Quarries, the Ministry of Finance and the Ministry of Economic Affairs and Trade. They have to control mining

operations at the administrative level and to take the necessary fiscal and financial measures. This is what the management of mining and mineral resources entails. It would be a misrepresentation to state that this is being done successfully. Since the country is adequately endowed with neither skilled manpower nor the necessary logistics, further efforts will need to be made in this area. Fortunately, in the present instance, enterprises operating in Rwanda have always been willing to co-operate.

In any case, the proper management of national mineral resources depends first on the competence of the country's services. Without that, the targets set might remain dead letters.

IV. DEVELOPMENT OBJECTIVES OF THE MINING INDUSTRY IN RWANDA

IV.1. The mining industry's role within the economy

For a very long time, the mining industry has occupied an important place in the country's economy as the following table indicates:

Year	1972	1973	1974	1975	1976	1977	1978	1979
% of mining products in exports at f.o.b. prices	36.1	21.6	16.8	18.5	9	8	8	5

The share of mining products in exports was always over 30 per cent before 1973. Their share fell off at a constant rate after 1976 owing to the improvement and even the boom in the price of coffee (1977-1978) which is the major export of Rwanda. (Mention should be made of the production drop in 1979.) In 1975, the mining sector accounted for approximately one per cent of GDP which was estimated at \$US275.59 million. The country relies heavily on the development of the mining sector since its exports, consisting mainly of coffee and tea, are not diversified.

To this end, the 1977-1981 five-year development plan contains a number of programmes to be carried out:

- Replacement of production equipment because most existing installations are outdated.
 - Intensification of prospecting for minerals.
 - Conduct minerallurgical studies to improve recovery rates.
 - Establishment of a metallurgical industry (a tin smelter is being built). Ores have to date been exported in the form of concentrates.
 - Improvement of working conditions.
 - Development of new resources (methane gas, peat, precious stones and others).
- Substantial investments have already been made in each of these areas but the expected results have not yet been achieved. Mineral production in particular has fallen short of expectations but that does not mean that by the end of the programmes results will necessarily be negative. They will be evaluated in the near future.

Finally, machineries have recently been defined to organize independent SOMIRWA artisans. Such machineries are designed to increase production and guarantee outlets, to improve working conditions and promote employment. The establishment of such machineries would require about RF 100,000 - approximately \$US 1 million for a period of five years. Financing has not yet been found.

IV.2. Review of major objectives

It is often difficult to accord an order of priority to objectives and even more so to attain them since it is impossible to foresee economic and political trends over any length of time.

In the interdependent world of today, the attainment of an objective set in one country depends also on the situation prevailing in other countries. That, however, cannot prevent countries from setting targets all the same as long as they revise them as and when necessary. Rwanda has set itself the following objectives:

(a) Ensuring that geo-scientific studies are conducted

In this context, geological, metallogenic, minerallurgical and mining surveys are being conducted with the assistance inter alia of UNDP and such friendly countries as Belgium, France and Austria.

(b) Increasing production

The strategies are defined in the five-year plan mentioned above. Ways are also being sought to organize independent artisans as mentioned earlier.

(c) Improving control of mining operations

Rwanda has no skilled personnel in several areas, particularly in mining and geology. Plans have been made to design training for new specialists and to encourage further training of those already on the job. The gradual replacement of expatriates by Rwandese cadres is also a set objective. The process of filling technical positions with Rwandese has already started and hopes are that such cadres will gradually move up to occupy management positions without any major problem.

Well-thought out legislation and regulations are valuable tools for directing and controlling mining activities in the interest of both the host country and foreign investors. Indeed, mining can properly be managed only within a well-defined legal framework, which is allowed to function and suited to the times. The legal system would have to be both stable and dynamic.

V. LEGAL FRAMEWORK

The mining legislation of Rwanda (1971) is based on the principle of State ownership. Mines belong to the State before and after the expiry of the concession.

Mining concessions are granted to legal or natural persons whose technical competence and financial capacities have been established. They last for 30 years and may be renewed several times for periods of 15 years. In practice, the concession is granted to a holder of a prospecting licence. Small deposits that do not warrant the establishment of a concession are given to small-scale artisans under temporary leases lasting for one year and which may be renewed twice or under a special permit lasting four years which may be renewed twice.

The system of taxation takes into account the interests of the enterprises and the State. It is not considered onerous. For the sake of brevity, mention will be made only of the type of tax without specifying the amount unless the need to arises. Taxes are mainly:

Fees for the award, renewal or change of mining titles.

They are payable once and vary in accordance with the type of licence.

Royalties levied on surface rights:

This duty is payable on the basis of RF 20/ha for a prospection area and RF 120/ha for a concession.

Tax on value estimated at the pithead:

Although mining legislation provides for it, this duty is not levied out of a desire to lighten the operators' burden. However, a 10 per cent duty is paid on prospection products.

The expected impact of that levy is therefore to:

Make enterprises see to it that prospection does not turn into exploitation;

Make enterprises see that they stand to gain by securing a concession in exchange for their prospecting licence as soon as the deposit is proven.

Export duty:

The tax scale encourages the operator to produce more. Casseritite is exempt from tax once the export tonnage exceeds 2,000 tonnes. Wolfram, colombo-tantalite and gold are always exempt from tax.

Miscellaneous duties:

These may not necessarily be mining taxes, but for example profit taxes, property and withholding taxes.

Rwanda's investment code sets forth a number of advantages for mining enterprises in accordance with the type of operation. Those include duty-free imports and/or exports, certain reductions and the system of other agreed benefits, stabilization of taxes, levies, consultations and fiscal duties and fees.

VI. NEED FOR BILATERAL AND/OR MULTILATERAL CO-OPERATION

In order to develop its natural resources, Rwanda obviously needs the assistance of industrialized and developing countries. The role played by such international agencies as UNDP is also of capital importance.

Mention should be made of another type of co-operation. This refers to co-operation among neighbouring countries. For example, within the context of the Economic Community of the Great Lakes Countries (CEPGL) Burundi, Rwanda and Zaire are considering the possibility of exploiting the methane gas from Lake Kivu.

Rwanda also supports the establishment of a multinational Mineral Resources Development Centre in the Central African subregion as described in the report on an ECA survey conducted in 1978. That Centre would play a role in several areas including: Exchange of experience, publications and the like among countries; Geological correlations and synthesis of geological, geophysical and mining data; Specialized laboratory identification, ore processing and manpower training services; Advice on some projects.

Kigali, 4 September, 1980