

**AFRICAN DEVELOPMENT BANK HIGH LEVEL POLICY SEMINAR ON
OPTIMIZING THE BENEFITS OF COAL & GAS IN MOZAMBIQUE**

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**LEGAL AND REGULATORY FRAMEWORKS FOR RESOURCE EXPLORATION
AND EXTRACTION-GLOBAL EXPERIENCE**

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Introduction

A legal framework is required for most human endeavors, whether it be to apply justice or to establish codes of public conduct or to provide facilities for the conduct of social or economic life by regulating and thus enabling such activities to be carried out in an orderly manner. The number of activities have proliferated considerably mostly as a result of the extraordinary industrial and social development of the world. Hence, like in all other activities legislation is required to establish rules and regulations to control mining activities. This paper is an attempt to provide a discussion on issues that arise in the design of legislation to regulate the orderly development and operation of activities relating to mineral exploitation. The term mining law here is used to mean those enactments which in various ways regulate the acquisition and tenure of mining rights and mining grounds, and the practice of mining-right holders. It relates primarily to the disposition of mining rights and the specific imports that relate to the exploitation of mineral deposits. The main aspects of mining law cover such things as definition of minerals, ownership of resources, law relating to the right to mine, conditions of governing the issue and holding of mining rights to enable private parties access mineral resources in a country, and the relationship between mineral and surface right holders. This is in contradiction to mining regulations, which control the method of working a mine and the safety of mining operations. The term mining regulations covers a broad spectrum and includes such diverse

elements as fiscal and monetary policy, labor relations, and safety measures concerning machines and people. In short, mining regulations deal with the day to day operation of mining enterprises.

Traditionally in legal studies by lawyers mining law was treated as an aspect of land law or property law. Mining activities today reveal novel and intricate questions that are based upon developments in technology, multiple use of mineral bearing lands, multiple methods of taxation, and techniques of leasing, financing, and operating mineral properties. While the fixed rules of land law may have provided a skeleton upon which to build, it is generally accepted that mining legislation has departed from them in order to meet the practical requirements of the miners and the mining industry. Thus a body of legal concepts has developed which is peculiar in its application to mining activities.

The principle aim of any country's mining legislation is to encourage the orderly exploitation and development of its mineral resources so as to maximize economic benefit to the country. To attain this objective the laws must create a regime which is conducive to the mining industry, thereby attracting investment and innovation and at the same time ensures that the country benefits from mining activity. Mining capital is scarce and in most developing countries is foreign in origin, and, as is known, in general such capital is timid with regard to venturing into countries it perceives as risky. Thus this paper makes a basic assumption that because of the absence of local sources of capital, foreign investment in mining industry is desirable. Since investors invest to make a profit, the need of the private investor to realize a fair return on his or her investment is recognized, and must also bear in mind that mining investment can only take place on the basis of reasonable consistence in the long-term stability of operating conditions, consequently certain aspects of the aspects of mining legislation policy will be evaluated in terms of how it affects the flow of foreign capital and also the benefits of mining to local economies.

The article will examine Zambian mining legislation focusing on requirements for obtaining the right to conduct mining operations and the requirements for various types of mining licenses, the nature of the mining interest, and the obligations of a mining rights holder. The concepts and approaches the Zambian mining legislation embody are representative and common to many mining regimes of developing countries in particular, to the mining countries of Southern Africa.

Background

Minerals, especially copper, have long played an important role in the economy of Zambia. The demand for copper for ornamental use and as a medium of exchange dates back to the early iron age.¹ Early quests for copper were limited by the simple technology of the times.² The first Europeans to establish contact with what is now Zambia were the Portuguese. Gold was the primary attractions of these early overseas traders, but copper and ivory soon grew in demand. In the 1700s, the Portuguese established a Jesuit mission trading post named-Zumbo at the confluence of the Luangwa and Zambezi Rivers. The inhabitants of Zambia and Katanga quickly established a growing trade in copper. Aided by the Portuguese, copper was sent to ports on both the Atlantic and Indian Ocean coasts of Africa.³ During the height of trading at Zumbo, more than 300 tons of copper were traded annually,⁴ an amazing amount considering the technology of the time. Copper trade in Central Africa was temporarily halted during the early 1800s,⁵ when local tribes destroyed the Portuguese stronghold in Zambia. These early copper mines, facilitated the discovery of vast copper deposits by European prospectors in the early 1900s.⁶

Today Zambia is the leading producer of copper in Africa,⁷ possessing thirteen percent of the world's known copper reserves. Copper and cobalt are the key commodities produced in Zambia. Most copper production in Zambia occurs in an area known as the "Copperbelt."⁸ The copperbelt is situated between Zambia and The Democratic Republic of the Congo (DRC) and it is one of the world's greatest metallogenic provinces. There is however a new "Copperbelt" located in the North- Western Province near Angola whose copper production it is predicated will exceed that of the old "Copperbelt" in the next ten years. More than twelve major mines are

¹ For as detailed discussion of the early discovery and uses of copper in Central Africa, see, J.A. Bancroft, Mining in Northern Rhodesia, pp. 26-39 (1961). (Dr. Bancroft discovered Bancroft Mine.)

² Ibid.

³ By the 1900s, the Portuguese had established themselves on both coasts of Africa, on the west coast in Angola and on the east coast in Mozambique. See generally Roberts, History of Zambia, pp. 105-107, (1976).

⁴ Ibid.

⁵ Ibid.

⁶ Bancroft, *supra*, at p. 25. As Dr. Bancroft notes, later "European arrivals directed their prospecting efforts almost exclusively to the discovery and exploitation of these old workings."

⁷ The leading producers of copper are, in order of annual production per thousand tons: United States (1564 tons), Russia (1224), Chile (969 tons), Canada (868 tons), Zambia (757 tons). Zambia's production has fallen in recent years to somewhere around 500 tons.

⁸ The "Copperbelt" is located in central Zambia and measures roughly 30 miles by 90 miles.

currently in production in the in Zambia. There is also substantial prospecting and exploration operations going on. To a lesser extent, Zambia produces other minerals.⁹ Cobalt, a by-product of copper production, is a growing export. Large coal reserves are mined in the southern portions of Zambia. To date, coal has been used primarily for local consumption by the copper mines. Amethyst is another growing export of Zambia. In fact, Zambia possesses the mine with the largest yield of semi-precious stones in the world. Zambia produces fifty percent of the world's amethyst and holds the largest known deposits of that stone.¹⁰ Large nickel deposits have been discovered in being mined in Munali hills.¹¹ Iron ore is common and widely distributed throughout Zambia. A limited amount of work has been done to mine the iron ore. The mining, processing, and exploitation of copper are the corner stone of the Zambian economy. The importance of mining in Zambia transcends economic value' it has immense social and political significance. The industry employs about fifteen percent of all people who receive cash wages in Zambia.¹² City attractions and economic pressures have combined to result in a mass exodus from the rural areas to the urban centers of the Copperbelt. Thirty-five percent of Zambia's inhabitant's reside in these urban centers. Numerous social problems have accompanied the mass migration. The poverty existing in much of Zambia's rural areas has been magnified by a lack of available manpower.

Independence and the repeal of the old mining legislation

At independence all mineral rights in Zambia belonged to the British South African Company (BSA) claimed these rights on the basis of concessions it had acquired from African chiefs in the early 1800s. In the months prior to Zambia's independence, Zambian leaders were anxious to secure the British South Africa Company's (BSAC) mineral rights, and hence, the huge royalties which the British South African Company was collecting. The Zambian government argued that the company had no recognizable legal title to these mineral rights.¹³ On

⁹ The minerals, and yearly production in tons, are: coal (109,425 tons); copper (757,00 tons); amethyst (34356 tons); zinc (27,041 tons); lead (245,96 tons); silver (8,938 tons); and cobalt (1962 tons). *Zambian Mining Yearbook* (1978).

¹⁰ Mines Industrial Development Corporation, *Zambian Mining Industry 3* (1974).

¹¹ Mines Industrial Development Corporation, *Prospects for Zambian Mining Industry 3* (1970).

¹² Based on information from the Central Statistical Office.

¹³ Allegations had long been made that the BSA Company claims had no legal basis. See Ndulo, *Mining Rights in Zambia*, Chapter 4, 1987.

the eve of independence, the BSAC bowed to pressure and agreed to surrender its mineral rights and royalties to the Zambian government. In return, BSAC was to receive token payments of 2 million pounds from both the governments of Zambia and the United Kingdom.¹⁴ Although the Zambian government was now the sole owner of the mineral rights previously claimed by the BSAC, the mining companies-notably Anglo-American and Roan Select Trust-still had full possession of the mining rights which the BSAC had granted in “perpetuities.”¹⁵ The concessions granted to the companies covered large tracts of undeveloped mining land along the Copperbelt. Even though the Zambian government was receiving mineral royalties,¹⁶ it had no legal authority to control either the rate of production or investments in the mines.

Future investments in the mining industry became the key objective of the reform of the mining legislation.¹⁷ More investment, it was argued, would lead to more output, which would help protect the industry from a fall in prices.¹⁸ Furthermore, additional output would mean an increase in Zambian employment.¹⁹ The mining companies had done little to develop new mines and increase output. The pre-independence system of royalties and the export tax which were levied regardless of whether the company made a profit discouraged investment in any venture which would not yield an immediate profit.²⁰ The Zambian government gradually came to regard a change in the mining legislation as a means of obtaining influence in the mining sector and influencing the development of the mining sector in the country. The reform in the mining legislation was carried out simultaneously with the nationalization of existing mining properties.

The reform in the mining legislation was implemented by the enactment of the Mines and Minerals Act of 1969. Under this Act, the undeveloped concessions and special grants owned by the Anglo-American corporation and Roan Selection Company were terminated, releasing areas in which the companies were not carrying out mining operations. The Mines and Minerals Act of 1969 effectively gave the Zambian government control over the copper industry. The Act

¹⁴ Ibid.

¹⁵ The Zambian government inherited the BSA Company’s legal framework. It had not acquired the BSA Company’s holdings in the various companies. Further, the new government could only make grants of mining rights in areas not covered by valid grants from the BSA company.

¹⁶ For example, the new Zambian government enacted tax schemes to enhance revenues. In 1966, the government enacted the Copper (Export Tax) Act. This tax was intended to take into account the increased world prices of copper. It applied to the amount over 600 pounds London Metal Exchange price per ton of exported copper.

¹⁷ See generally Ndulo, “The Nationalization of the Zambian Copper Industry,” 6 Zambia law journal p. 55 (1974).

¹⁸ Roberts, A History of Zambia, p. 230 (1976).

¹⁹ Ndulo, supra, pp. 55-58.

²⁰ Ibid.

authorized the government to issue licenses contingent upon their productive use.²¹ Moreover, the Act increased the government's ability to direct new mining investment to other areas outside the Copperbelt. The 1969 Act²² was amended and replaced by the 1976 Mines and Minerals Act.²³ This was a tidying up exercise rather than an exercise in substantive reform. The 1976 Minerals Act was replaced by the 1995 Mines and Minerals Act. In the 1980s a combination of low copper prices and mismanagement of the nationalized mines led to a crisis in the mining industry. With the 1995 Mines and Minerals Act Government adopted a new mining policy. Government policy is not to participate in exploration or mining activities. It is to play a regulatory and promotional role in mining rather than an ownership role. The 1995 Mines and Minerals Act was in 2008 replaced by the Mines and Minerals Development Act of 2008. The objective of the 2008 legislation is said to be to create a framework for responsible development of mineral resources. The new mining regime was intended to stabilize the development of mining by emphasizing more production, exploration, more effective mining techniques, and conservation of resources and protection of the environment. The remaining sections of this article will focus on examining the features of the 2008 Mines and Minerals Development Act.

The Zambian Approach to Mineral Rights

The Zambian government that replaced the colonial government of Northern Rhodesia brought with it new concerns for the mining industry. Whereas the private mining companies that had prospered under the colonial regime were primarily concerned with profit maximization, the government's concerns included employment, foreign exchange, trade balance, and the preservation of resources. Particularly because minerals are exhaustible resources, government participation in the mining industry was important. A government, for instance, is more likely to be concerned with the preservation of resources for future generations and therefore to choose a more conservative path of development than a private company. Government should be concerned that mineral development benefits the country and that mining contributes to the country's revenue base.

²¹ Ushewokunze, The legal Frame Work of Copper Production in Zambia, 6 Zambia law Journal, pp. 80-81 (1974).

²² Mines and Minerals Act, Chapter 329 of the Laws of Zambia.

²³ Mines and Minerals Act. No. 32 of 1976.

Under the Zambian system of mineral rights, as is the case in several countries such as Kenya and Botswana, the State holds the property rights to all minerals in Zambia on behalf of the people.²⁴ State ownership of mineral resources provides the state with exclusive power over the mineral property within its boundaries, whether mined by the state, its citizens, or foreign countries. The state enjoys this right notwithstanding other equal rights in the land and the property surrounding the minerals.²⁵ This approach enables the state to provide such incentives as the granting of mining rights on private land, thereby obviating the need for the mining rights holder to purchase land.²⁶ The state regards its ownership of mineral rights as inalienable. No provision in the mining laws permits the state to transfer ownership of its mineral interest. Moreover, the total interest the state may grant under the mining laws must be less than the state's mineral interest. When the granted interest terminates, it reverts to the state.

Two other approaches to mineral ownership provide a useful contrast to Zambia's system of state ownership described above. The first approach is the lease or "regalien" system, which is presently employed by a number of countries, including a number of developing countries. Under this system, the state owns the mineral title and the miner derives his or her right to extract minerals from a tenure granted by the state, as opposed to one granted by the land owner.²⁷ Once the mineral is tenured to a mining company the mining company own the mine and the ore body. The miner's tenure is seldom equivalent to a fee simple, but is rather a bundle of rights and obligations, the composition of which varies greatly from country to country. The difference between the "regalien" system and the leasing of mining rights is that in the later the miner does not own the ore body.

²⁴ Section 3(1) of the Mines and minerals Act reads: "All rights of ownership in, of searching for, mining and disposing of, minerals are hereby vested in the president on behalf of the Republic." Mines and Minerals Act, supra, s.3(2). See also Mines and Minerals Act, Laws of Botswana, Chapter 66.0: Mines and Minerals Act, s.4 Laws of Kenya, Chapter 306.

²⁵ Mines and Minerals Act, supra section 3(2) reads: "The provisions of subsection (1) shall have effect notwithstanding any right of ownership or otherwise which any person may possess in and to the soil on or under which minerals are found or situated." The principle of ownership established by section 3 of the Mines Act is based upon a fundamental distinction between ownership of the surface and ownership of the subsoil. Although private ownership of real property is fully recognized, ownership of minerals imbedded in the soil is vested in the state by virtue of the Mines-Act, i.e., the owner of the land is not the owner of the minerals in it. In this respect, the state's mineral rights in the land it has parted with are analogous to those of a common-law owner of land in fee who parts with the land but retains the minerals. See, e.g. Ramsey v. Blair, 1 App. Cas. 70 (1976).

²⁶ A problem exists in that a mine is never co-extensive with the surface. No two ore bodies are alike, since one may continue to great vertical depth while another goes horizontally. This leads to confusion over the ownership of the mine and its exploration where the owner of land is also the owner of the minerals therein.

²⁷ The lease system may vary under a "nominal system," under which minerals belong to the state. The right to extract the minerals or otherwise dispose of them is granted to the highest bidder by the state.

The second approach to mineral rights allows mineral ownership to correspond with the ownership of the land surface. Under the system, any individual possessing the land has the right to hold, extract, or dispose of the minerals. This system is commonly referred to as the claim or “accession” system. In its modern form, the claim system permits a prospector to obtain private mineral rights by discovering the minerals and registering his or her claim at a designated office. The claim system prevails in some western countries such as the United States.

These two systems of mineral ownership both differ from the Zambian system because they allow the alienation of mineral ownership. Under the Zambian system, the state’s ownership of the minerals is inalienable.²⁸ The Zambian system is better suited to a developing country’s economic planning goals. Minerals play such a vital role in the economy, that the government must retain some control over the exploitation of these resources. This view of mineral resources has been encouraged by the work of the United Nations Permanent Commission on Sovereignty Over natural Resources which in resolution 1803 of 14 December 1962 affirmed the right of peoples and nations to exercise permanent sovereignty over their natural wealth and resources and that such resources must be exercised in the interest of their national development.

Mineral extraction requires such large amounts of capital that the state alone could not efficiently mine all the minerals in the country even if it is so desired. Therefore, to promote the maximum use of mineral resources, the state has implemented a system under which private individuals and mining companies may develop mineral resources by obtaining licenses through grants from the state.²⁹ The licenses, created by the Zambian Mines and Minerals Development Act, are designed to maximize the possibility of exploration for mineral resources. The licenses also retain sufficient sovereign control to ensure that the mineral resources are developed in the interests of the national economy and that the state receives the maximum return from mineral exploitation.

²⁸ See Mines and Minerals Act, *supra*, s. 3.

²⁹ The minerals for which licenses may be issued are divided into four major categories: (1) building materials (sand, clay, gravel, laterite, limestone, etc.); (2) industrial minerals (non-metallic minerals such as graphite, gypsum, and mica, as well as talc, sand, and dyes used for industrial purposes); (3) reserved minerals (mineral oils, gas, diamonds, emeralds, gold, the platinum group and radioactive minerals); (4) all other minerals. Mines and Minerals Act, *supra* s.2. Licenses for reserved minerals differ from other licenses only insofar as other licenses include conditions relating to the disposal of any reserved minerals. Such conditions are called permits. See mines and Minerals Act *supra* s. 62.

Two categories of mining rights have been created under the Mines and Minerals Development Act:³⁰ (1) a prospecting license; and (3) a mining license.³¹ The prospecting license grants the fewest privileges, while the mining license grants the most privileges. The licenses are cumulative, so that the mining license includes the rights to prospect and explore. An individual may only obtain a mining right, or license, if he is at least eighteen years of age, a citizen of Zambia, and has been a resident of Zambia for a period of two years.³² A company may obtain a mining right greater than a prospecting license only if it has been incorporated in Zambia.³³ Holders of mining rights are not required to pay any fees or rental payments. Therefore, miners may spend all their funds on actual mining activities.³⁴

Prospecting License

The prospecting license confers the right to prospect for any mineral over any size of area for two years. No distinction is made between a Prospecting and Exploration license. Only one license is renewable with relinquishments of at least 50% of the area at each stage.³⁵ The initial grant will be for two years renewable for successive periods of two years. The minister may further renew the license in order for the holder to complete the feasibility study. The prospecting license obliges the license holder to adhere to agreed program of work, financial commitment and training of Zambians. A prospecting license entitles the holder to enter freely upon the specified land to search for minerals. A person wishing to obtain prospecting rights over an area can apply for any number of prospecting licenses.³⁶ If the applicant is a company, it must provide the names and nationality of the directors and the names of any shareholders possessing beneficial ownership of more than five percent of the issued capital.³⁷ An applicant for a prospecting license, like every applicant for any mining right, must demonstrate the financial and technical capability to mine. The applicant must also specify the names of the

³⁰ This theme follows a three stage concept of prospecting, exploration, and mining, which was also a feature of the pre-1969 Zambia (Northern Rhodesia) legislation.

³¹ Mines and Minerals Act, supra, ss 16, 27, and 44.

³² Ibid. s. 5(1)(i) and (ii).

³³ Ibid. s. 5(1) (9b)(9i).

³⁴ This is unusual; many countries demand the payment of rentals.

³⁵ The prospecting license is covered generally by ss16-26 of the Mines and Minerals Act, supra.

³⁶ Ibid, s.25.

³⁷ Ibid, s.18.

minerals he or she intends to prospect and give a detailed description of the area he or she wishes the license to cover.³⁸

Although prospecting licenses are issued for specified minerals, individuals and companies are allowed to carry out general reconnaissance before applying for a license. When license applications cover different minerals in the same or overlapping areas, the applications are considered in the order in which they are received. It is possible that minerals other than the ones specified in the license may be discovered in the process of prospecting. This possibility is unlikely, however, because most prospecting license include references to most common minerals in order to cover that eventuality.³⁹

The need to secure the state's approval for mineral exploration is based on the assumption that the state owns any minerals discovered.⁴⁰ Discovery alone does not give the discoverer exploration and exploitation rights. Ordinarily, however, an application for exploration after discovery of a mineral is a mere formality. Discovery however seems to confer a recognized right to mine the mineral discovered. The person who discovers a mineral will be given the mining right unless someone else already holds the right to that mineral. This policy justly rewards the discoverer for his previous expenditures in prospecting.

Even if an applicant has complied with all of the preliminary steps required by the Mines and Mineral Development Act, the state's authority to grant a prospecting license is discretionary. The mere fact of compliance gives no inchoate right to a license.⁴¹ Once a prospecting license has been issued, however, the state is committed to issuing subsequent exploration and mining license. Both section 30(1) and 48(1), the provisions of the Mines Act relating to the grant of these licenses, specify that the state "shall" (rather than "may") grant the subsequent licenses. Of course, the mandatory grant is contingent upon the applicant's discharge of his or her obligations, his or her presentation of reasonable evidence of mineralization in the specified area, and his or her proposal of an acceptable plan for the next stage.⁴² Once mineral

³⁸ Ibid, s.18.

³⁹ Such practice is only common sense in that it is extremely difficult to project accurately all the minerals on finds in a given area.

⁴⁰ Mines and Minerals Act, supra, s.3.

⁴¹ Presumably, an aggrieved party can challenge the rejection of his license, if such rejection is based on reasons other than those provided for in Zambian mining laws, by applying to the High Court for certiorari. See generally, Patel V.A.G., Selected Judgments of Zambia, No. 1 of 1968.

⁴² Mines and Minerals Act, supra s.30(1), 48(1) Section 31 of the Act established specific grounds for which the Chief Mining engineer shall reject an application for an exploration license. In this way, the state has limited its discretion in granting or withholding exploration and mining licenses.

occurrences have been found, the holder of a prospecting is free to engage in exploration activities.

The holder of a prospecting license has the right to apply for and be granted a special mining license for mining with the prospecting area, upon fulfilling certain conditions. The holder of a prospecting license may apply for a retention license if he identifies a deposit of potential commercial interest or when a deposit cannot meet adverse market conditions or other economic factors of a temporary character. The duration of a retention license is three years, renewable for a single period of three years.

Mining License

The holder of a prospecting is entitled to a Mining license. The duration of the Mining license is 25 years renewable for 25 years. The application is to be accompanied by the following: (a) proposed program of mining operations; (b) applicable environmental protection plan; (c) proposal for employment and training of citizens of Zambia and (d) a mining development agreement. The mining license provides the holder with the broadest range of rights. The license cannot be withdrawn once granted except on specified grounds clearly spelt out in the law and adequate accepted procedures followed. The holder of the mining license has the exclusive right subject to the Mines and Minerals Development Act, regulations and conditions in the license to carry on all operations in accordance with the program of mining operations and environmental plans. A mining license may cover only the estimated area of the mineral deposit.⁴³ The license may, however, include such additional areas as are reasonably required to protect the machinery used to carry out the mining operations.⁴⁴ The mining license, like the exploration license is exclusive.

⁴³ The Minister shall reject an application for a mining license if: “(a) the applicant was not, on the date his application was received by the Minister, the holder of a prospecting license, or an exploration license covering the proposed area and the minerals to be included...” Ibid, s.29(1)(a). Further, such an application shall be rejected if the applicant has not properly demarcated the proposed mining area in accordance with section 46. Ibid,s.49(1)(d). Under section 46, mining site shall not exceed the estimated extent of mineral deposit. Ibid,2.46(1)(A).

⁴⁴ Ibid.

The mining license vests in the holder the right to mine, i.e., the right to perform the entire operation from extracting the minerals to processing them for industrial use. As with the prospecting license, the rights under a mining license may not be transferred without the state's approval.⁴⁵ The State's authority to prohibit the transfer of mining rights without prior state approval is justified. Mining rights are valuable assets and are thus natural targets for speculators who recognize the potential for obtaining considerable revenue from those rights. Speculators, however, may hold the land and chose not to extract the minerals, which would thereby prevent a benefit to the state's economy. State approval based upon actual intent to extract minerals prevents mining companies from obtaining large profits by simply selling and reselling mining rights. Furthermore, the approval requirement provides the state with a means of ensuring that transferee of mining rights possess the financial and technical ability to extract minerals.⁴⁶

Small Scale Mining Rights

The Mines and Minerals Act provides for small scale mining licenses. These cover operations that qualify under the act as small scale operations. These licenses are restricted to Zambian nationals. The inclusion of these provisions in the Mines and Minerals Act is a welcome departure from previous mining legislation which did not provide for small scale mining licenses. This will provide great opportunities for local people to engage in mining and create the much needed employment. The state should go further and create institutions to support small scale miners. The state could for example create a machinery and skilled labor pool from which small scale prospectors and miners could hire machinery and skilled manpower. It is in the interest of the nation that even small mineral deposits be worked properly if resources are not to be misused and thus wasted.

⁴⁵ Ibid, s.58.

⁴⁶ Sections 39 and 58 authorize the Minister to inquire into the particulars concerning the proposed transfer. As to a mining license, the Minister shall reject the application on the basis of the proposed transferee's lack of adequate financial resources. Ibid. 2.58(3).

Mining Rights and Surface Rights

A person who acquires a mining right does not thereby in theory acquire surface rights to the land where the minerals are situated; rather, the state retains the surface rights. Title to the surface is a very important issue to both the mining right holders and surface owners.⁴⁷ The mining right holder may need the surface for mining as well as for purposes ancillary to mining, such as the milling, processing, and refining of the minerals extracted and the construction of necessary plant, works, buildings and workers housing. Furthermore, the surface land linked to mining rights may be needed for building roads or for providing mining inputs, such as electric power and water supply, or for establishing a mine township. The land owner, on the other hand, may utilize the surface for agricultural or other development.

During prospecting operations, the mining right holder and the surface owner have little cause for disagreement. Once mining activities have started, however, the opportunity for land use related disputes increases markedly. The mining right holder may need certain portions of the land for exclusive use. Meanwhile, the surface right owner may wish to run his cattle over the tract upon which operations are being conducted. The miner may use such large quantities of water that other users find themselves faced with a water shortage. The mining right holder's right to use the surface and the circumstances under which the owner's rights are protected are strictly regulated under the mining laws.

Land Rights of Mining Right Holders

A mining right holder enjoys the right to use the surface of public and private land. He or she may enter the property covered by his mining right with his or her servants and agents, create mining excavations, and erect any camps, temporary buildings, or machinery needed to conduct mining.⁴⁸ Erecting structures, however, does not confer any right, title, or interest in the land.

⁴⁷ It is important to point out that an understanding of the position under the common law does not clarify the situation in Zambia. Under the common law, the relative rights of the land owner and mineral owner are determined by a number of considerations, particularly the rights conferred upon the mineral owner by the terms of the mining lease, which severs the mineral rights from the land and expressly or impliedly determines the questions of their relative rights.

⁴⁸ Mines and Minerals Act, supra s.53(1).

The mining right holder must remove, on or before the termination of his rights, any camps, temporary buildings, or machinery which he has erected. Further, the right to surface use does not include a property interest in any products of the soil.

A mining license holder may purchase the mining area or obtain a lease to the land covered by his or her mining license from the owner of the surface area. If the land owner refuses to make the land available to the mining right holder, the state may intervene and acquire the land in the name of the state for use by the holder of the mining license.⁴⁹ Before the state may acquire the land, however, the holder of the mining right must prove that he or she has taken all reasonable steps to acquire the land or the desired right peacefully but has been unsuccessful.⁵⁰ To avoid an abuse of state power, compulsory acquisition should be the last resort for the mining right holder. Every person exercising a mining right is required to give notice that he or she intends to exercise such right. In fact, exercise of the rights is conditional upon such notice. The notice must state the area covered by the right and the right's date of expiration.

The notice requirement enables the surface owner to make arrangements to move livestock to other pastures, to gather crops in the area, and to otherwise prevent predictable mishaps from occurring. In this way, the surface owner mitigates damages consequent to mining activities. Without notice, damages could prove quite substantial because the surface owner or occupier of any land within a mining area has the right to allow his livestock to graze and to cultivate the surface as long as these activities do not interfere with prospecting, exploration, or mining. The notion of non-interference also carries over to the construction of new buildings. Having received notice that a person intends to exercise a mining right, the owner of surface rights must obtain the miner's consent before erecting any new buildings or structures.⁵¹ In the end though mining activities cannot coexist with ordinary use of land. When land is required for mining it is almost inevitable that other uses of land such as farming will have to give way.

⁴⁹ Ibid, s.79.

⁵⁰ Ibid.

⁵¹ Ibid, s.74.

Dominant Interest

A mining right holder's right to use the surface is superior to that of the surface owner, i.e., the mining right is the dominant interest. Section 74 of the Mines and Minerals Development Act suggests this dominance of the mining right, provisions of the Act relating to compulsory acquisitions of land for mining purposes reinforce section 74.⁵² Mining officials grant mining rights with no regard to the present use of the land. The state and its mining officials clearly give priority to mineral development and exploration over all other uses of land, such as agricultural and residential uses. The reason for this practice is that mineral deposits are rare and their location is determined by the country's geological formation; minerals must therefore be mined where ever they lie.

As a matter of law, a mining right holder has the right to use, damage, or destroy the surface, subject to the limitations imposed by section 73 of the Mines and Minerals Act.⁵³ Section 73 provides that the holder of a mining right shall exercise his or her rights reasonably and in a manner which minimally affects the interests of any owner or occupier of the land. Surface use is thus restricted to those uses that are reasonably necessary to mining operations. Section 73 appears to impose two limitations. First, the state or the surface owner may intervene when a particular use of the surface lacks a legitimate or reasonable relationship to mining activities. For example, it would not be permissible for the mining right holder to use the surface land and its resources for non-mining purposes, e.g., to set up a golf course. Similarly, if a mining right holder cuts timber with the intent to sell, he or she will be stopped. Also, although a mining right holder is entitled to erect and occupy houses, he or she may not rent houses to persons other than his own employees. The test for intervention is whether the use is necessary or incidental to mineral production. Although considerations of custom, usage, and prudent operation may be weighed, these considerations should not be determining factors. Second, section 73 imposes an obligation on the mining right holder not to create a public nuisance or a danger to public health. Liability extends to all surface damage resulting from the mining right holder's negligence, even if the holder's use of the surface was not unreasonable. Section 76 of

⁵² Ibid, ss.79 and 80.

⁵³ Ibid, s.73. it reads: "The rights conferred by a mining right shall be exercised reasonably and so as to affect injuriously the interests of any miner or occupier of the land on which such rights are exercised to the minimum extent necessitated by the reasonable and proper conduct of operations."

the Mines Act goes further than section 73 to impose liability on a mining right holder; section 76 imposes liability for damage in certain situations where the holder's activity was not even negligent. The relevant part of section 76 provides:

[W]henever in the course of prospecting, exploration or mining operations any disturbance of the rights of the owner or occupier of lands or damage to any crops, trees, buildings, stock, or works thereon is caused, the holder of the mining rights by virtue of which such operations are or were carried out shall be liable to pay to such owner or occupier fair and reasonable compensation for such disturbances or damage according to their respective rights or interest (if any) in the property concerned....⁵⁴

The statute requires the parties to decide what compensation is fair and reasonable. If the parties cannot agree, the issue is referred to the Chief Mining Engineer and dealt with as a mining dispute.⁵⁵

Obligation of the Mining Rights Holder

In order to encourage the discovery and rapid development of mineral deposits and speculation in mineral lands, the Mines and Minerals Development Act imposes a system of development obligations on the mining right holders. These obligations prevent the pre-independence problem of mining right holders' failing to develop huge tracts of land and rather holding them for speculative purposes. Other obligations imposed on mining rights holders, however, are designated to ensure that mining proceeds with minimal disturbance to the environment.

Obligations Designed to Influence the Rate of Development

A number of methods to increase the rate of mineral production have evolved from different mining laws. Among the most important are the following: (1) restriction of

⁵⁴ Mines and Minerals Act, supra, s.76.

⁵⁵ Ibid, s.77.

prospecting licenses to a short period to time; (2) work and production requirements; (3) payment of advance royalties; (4) surtaxes for failure to reach production quotas; and (5) the surface tax. These methods enable the state to set and attain a desired level of mineral production within a short period of time. The problem remains, however, that these methods to increase production can result in wasteful mining practices.

The solution adopted in the Mines and Minerals Development Act embodies some of the above approaches, but attempts to avoid the negative consequences. First, the Mines and Minerals Development Act sets clear time limits on the period for which a license is valid, with periods varying depending on the type of license sought. For example, a prospecting license is valid for a maximum period of four years with no express right of renewal.⁵⁶ Mining officials suggest that if a prospector cannot find minerals within four years, he or she should not be entitled to retain his or her prospecting license. The holder of a prospecting license that is about to expire may, however, apply for a new license over the whole or any part of his original area, but would then have to have to compete with any other interested parties.

Finally, a mining license is initially granted for a maximum period of twenty-five years and may be renewed for a similar period,⁵⁷ Provided that the miner shows that ore reserves remain to be exploited and submits a satisfactory program for future operations and minimum expenditure.⁵⁸ Most mining investors, however, consider twenty-five years a sufficient period to recoup one's investment. Opening and developing a mine takes an average of five years, leaving the mining right holder twenty years of operation. In the final analysis, the life of a mining license will naturally depend upon the quantity and quality of the ore body itself. The license will normally continue until such time as the specified minerals are exhausted.

A second means by which the Mines and Minerals Development Act influences the rate of development is to impose obligations requiring the commencement of operations within a specified time. Similar to the licensing duration requirement, these start-up obligations vary according to the type of license desired. The Act requires the holder of a prospecting license to begin prospecting within three months of the issuance of the license. The state may extend this

⁵⁶ Mines and Minerals Act, *supra*, s.18.

⁵⁷ *Ibid*, s.51(1). The Act also requires the state to renew the license if operations have been proceeding in the scheduled manner. Section 51 states that the Minister shall only reject an application for renewal if the miner is in default or the Minister considers that development has not proceeded with due diligence, minerals in workable quantities do not remain, or the program of intended operations will not ensure proper conservation and use of the mineral resources.

⁵⁸ *Ibid* s.51(4)(iii).

period if it is satisfied that more time is required to make the necessary preparations to carry on prospecting operations. In any event, the date for commencing prospecting operations cannot be more than six months after the issuance of the license.⁵⁹

Moreover, the miner must carry out his or her prospecting in accordance with a strict program of prospecting operations. The miner must directly expend a prescribed amount of dollars per square mile of the prospecting area for each year of the license period.⁶⁰ In addition, the miner must submit detailed reports of his or her operations to the chief Mining engineer.

Holders of mining license holders are likewise subjected to strict obligations. Mining officials strongly emphasize that an applicant for any mining right must submit a program of intended mining operations. This program is one of the more important criteria used in assessing applications for mining rights. Mining officials examine submitted programs item by item, and, in effect, approve the program by issuing a license. Like the expenditure requirements for both prospecting and exploration licenses, only direct expenditures fulfill the minimum expenditure obligations for mining license. The work contemplated by the state, and thus acceptable for inclusion in a program, must bear some direct relationship to the investigation and development of minerals and must tend to facilitate the extraction or investigation of ore in the licenses area. Labor performed in mining and in making improvements, such as hoisting machinery, is directly and apparently related to mining activities; airborne surveys investigating mineral locations are also directly related to mining.

The chief objection to requirements of minimum amounts of work and expenditures is the mining industry's particular susceptibility to fluctuating prices. When the price of the produce from a particular mine justifies operations, the mine will be developed or worked regardless of the minimum work requirement. On the other hand, during periods of deflated prices, the minimum work requirement merely adds to the economic woes of the already troubled mining right holder. Even if this concern were valid, it would apply only to mining properties for speculative purposes, the targets of the legislation. It is nonetheless important, in light of price fluctuation, to require expenditure levels that are fairly attainable. In practice, the minimum expenditure levels are far exceeded by most mining right holders. Indeed, there are cases of extreme expenditure. For example, in the West Luangwa River License area, Roan Consolidated

⁵⁹ Ibid, s.26.

⁶⁰ Ibid.

Mines Limited initiated helicopter operations because the area was only accessible by air. Amounts spent to gain access to the area alone were sufficient to fulfill all expenditure obligations.

Admittedly, as most mining investors protest, minimum expenditure obligations are an awkward means of ensuring that prospecting operations proceed at an acceptable level. Such obligations entail much paper work. Furthermore, expenditure returns can be inflated by mining enforcement officers who do not have a reasonable understanding of basic principles of mining.

In addition to the requirements of minimum expenditures, the Mines and Minerals Development Act requires the holder of a mining right to commence production on or before the date specified in the development program and to begin mining operations as of the date by which he or she intends to work for profit.⁶¹ He or she must develop and mine the mineral deposit in accordance with the program of development and mining operations.⁶² In order to meet the program requirements of section 54 and to be acceptable to mining officials, the plan of operations must be quite detailed. A typical program invariably includes estimated tons of ore to be mined and milled, planned mine development and exploratory drilling, estimated mineral production and operating costs, capital projects, mining methods, and estimated staff and labor requirements. Finally, a mining right holder must submit reports and information about his activities. The contents of the reports are confidential and can be published or otherwise revealed only with the consent of the license holder.

Obligations Concerning the Manner in which Mining Activity is Conducted

In addition to requirements to control the rate of development, the Mines and Minerals Development Act sets forth two sets of requirements to ensure that the mining activity is performed in an acceptable manner. Although the objectives of these two sets of requirements are unrelated, both are equally necessary to prevent excessive development which could lead to unnecessarily low recovery rates and damage to the environment. A mining license holder must develop the minerals in accordance with accepted mining standards that stipulate avoidance of

⁶¹ Ibid, s.54(1)(a).

⁶² Ibid, s.54(1)(9b).

wasteful mining and metallurgical practices.⁶³ Consequently, the Act holds the license holder to a duty of reasonable care and diligence in conducting mining operations.⁶⁴ When state mining officials discover that a miner is using wasteful practices, the officials notify the miner and require him or her to show cause as to why he or she should not cease to use such practices.⁶⁵

Given the utmost importance of controlling mining methods, state mining officials vigorously enforce existing obligations. Strict enforcement ensures that minerals are mined economically at maximum recovery rates with minimal environmental harm. Sections 54 and 55 or the Mines and Mineral Development Act, imposing respectively the obligations to develop the mines in accordance with a “program of development and mining operations” and not to use wasteful mining practices, do not indicate a standard for determining when the mining right holder has breached these obligations.⁶⁶ Theoretically, there are two possible standards: a good faith standard and the standard of the prudent mining right holder.

The good faith standard would clearly not be adequate for purposes of control and is not used in practice. The Mines Minerals Development Act impliedly excludes a good faith standard in that the mining right holder, once notified of wasteful mining practices, must satisfy the Chief mining Engineer that he or she (the holder) is either not using wasteful practices or that the use of such practices is justified under the circumstances. Likewise, in cases where the obligation to develop is breached, the mining right holder must satisfy the Minister of Mines that the failure to follow the program of development was justified under the circumstances.⁶⁷ In practice, the state employs the standard of the prudent mining right holder (sometimes called the standard of accepted mining practices). The prudent miner standard functions in the same manner as the reasonable man standard in other areas of the law. The prudent miner is defined as the hypothetical miner who does what he does with respect to mining.

Section 87 of the Mines Act furthers the state’s interest in dictating proper mining methods. This section provides that if, after inquiry the Minister of Mines and Industry considers that either the state’s interests or the interests of the mining license holders with

⁶³ Ibid, s.55 (10. Section 55(1) reads: (10 IF THE Engineer considers that the holder of a mining license is using wasteful mining practices or wasteful metallurgical practices, he shall notify the holder accordingly and require him to show because why such reasonable time as the Engineer shall specify in the notification why he should not cease to use such practices.

⁶⁴ Ibid, s.55.

⁶⁵ Ibid, s.551.

⁶⁶ Ibid, ss. 54, 55.

⁶⁷ Ibid, s.54(1)(b).

licenses covering continuous or neighboring mining areas will be best served by merging or coordinating all or part of the operations of such holders, the Minister may direct these holders to merge or coordinate within a specified time and upon such term as he sets.⁶⁸ The state, however, must afford the mining license holders a reasonable opportunity to present their positions in writing before directing any consolidation of mining rights.⁶⁹ It is important that the state not alter rights involving heavy outlays of capital without providing for a right to be heard and allowing them to plan a joint venture on their own.

Merging adjacent mining operations may give rise to a constitutional problem when a mining right holder who opposes a consolidation order claims deprivation of his rights. Because such a claim has not yet arisen, there are no cases addressing the constitutionality of consolidation. Analogous situations exist, however, in which the state has compulsorily taken land in the public interest without the owner's approval.⁷⁰ If the state makes equitable compensation to one whose interest is thereby modified, no problem generally should arise.⁷¹

Consequences of Breach of Obligations

If the mining right holder breaches his or her statutory obligations, the Mines Act gives the government the right to terminate the mining right. Most mining investors regard this consequence as fair and the safeguards against such action as adequate. Any holder of a mining right who breaches any provision of the Mines Act or any condition of his mining permit is liable for a financial penalty. For example, the state may recover any difference between the required expenditure and the actual expenditure.

The consequences seem harsh, yet their harshness is belied by the fact that the mining right holder will generally be excused for breaching an obligation if he can prove that he or she is not responsible for the breach. A mining right holder will not be deprived of his or her right, therefore, unless there is both a breach of obligation and blameworthiness on the part of the mining right holder. The mining right holder can defend his failure to comply with the Mines

⁶⁸ Ibid, s.87(1).

⁶⁹ Ibid.

⁷⁰ See generally Land Acquisition Act, 1972, Laws of Zambia, Chapter 296.

⁷¹ Ibid, ss. 10-14.

Act by proving that his failure was due to circumstances beyond his control. Similarly, the holder may prove that there was a reasonable excuse for his or her failure to comply with an obligation. For example, the holder can defend a charge of including false information in a report by proving that the false information was not intended to deceive. Likewise, in the case of failure to comply with an order to stop wasteful mining practices, the holder may present a reasonable excuse for such failure.

The breach of any obligation does not ipso facto terminate the right granted, but merely gives the state the option to terminate the right. No mining right has ever been terminated as the result of a breach. The cases that have arisen have been resolved otherwise. If the state does terminate the right, the decision may be appealed to the High Court.

Conclusion

This paper used the Zambia Mines and Minerals Development Act of Zambia to discuss the main features of a typical mining regime. In the end the test for any mining legislation should be whether it encourages the orderly exploitation and development of minerals and ensure that mining activities benefits the country. To meet these objectives, a mining statute must ensure that mining rights are acquired by competent persons, that there is reasonable access to mineral deposits on reasonable conditions, good mining practices are used to secure and protect the environment and that mining areas are not hoarded by speculators unwilling to develop the minerals.

To a large extent, the Act succeeds both in removing the anomalies of the previous legal regime and in strengthening the state's capabilities to prevent recurrence of those anomalies. The Act gives the state reasonable control of mining operations at every stage. For example, the state grants prospecting and mining rights, it endures that mining operations are being carried out in accordance with the best mining practices. The Mines and Minerals Development Act, however, grants the mining right holder substantial rights. The miner may prospect areas of sufficient size to select those sections with greatest potential. If the mineral potential warrants further exploration, the mining right holder can obtain the exclusive legal rights to occupy the land and to explore. Should the holder discover minerals, he or she may obtain the exclusive right to develop, produce, and sell the minerals. The Act grants mining rights under restrictions

calculated to regulate the speed and the methods of mineral extraction. Some of these general restrictions may be used to tailor industrial development requirements to meet the needs of the country.

The state derives its greatest benefit from the Mines and Minerals Development Act through its discretionary power to grant or withhold prospecting rights. The state is thus able to exercise judicious control over the selection of miners. The state thereby ensures that mining rights are not bestowed upon irresponsible persons or people without the means to initiate and carry out mining development. The state has also eliminated the constant increased capitalization of mining rights, which had resulted from the constant sale of mining properties, through retaining power to transfer rights. Yet the Act imposes some costs. The statute eliminates the opportunity for an individual to obtain mining right. The expenditure obligations, for example, almost always prove prohibitive for an individual entrepreneur. However, it may be the case that whatever system of mining rights the state adopts, the cost of mining will exceed the financial capabilities of ordinary individuals. Invariably, the future would-be miner will be required to extract minerals in situations involving heavy overburden or rock capping. With respect to technical competence and financial ability, the ordinary individual will be unable to shoulder this burden.

The Mines and Minerals Development Act minimizes the possibility of mineral-land monopolies through its expenditure obligations, fixed tenure of mining rights, and requirement of operation programs. The Act thereby eliminates the holding of mineral land for speculative purposes. On the whole, the Mines and Minerals Act is sound. However, its future success will depend upon the state's willingness to adopt future legislation to address changing circumstances in the mining industry and the development of technical capacity to monitor the mining industry.

