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Mining Legislation and Mineral Development in Zambia

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ARTICLE

MINING LEGISLATION AND MINERAL DEVELOPMENT IN ZAMBIA

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INTRODUCTION

The principal aim of any country's mining legislation is to encourage the orderly exploration and development of its mineral resources so as to maximize economic benefit. To attain this objective, the laws must create a regime which is conducive to the mining industry, thereby attracting investment and innovation. This Article examines the legal framework for mining in Zambia, and examines the extent to which Zambian mining achieves the goal of maximizing economic benefit.

The sources of Zambian mining law are the common law of Eng-

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land[1] and the Mines and Minerals Act of 1976, Chapter 329 of the Laws of Zambia.[2] The Mines and Minerals Act repealed pre-colonial legislation which had inhibited the fullest possible exploration and development of the country's mineral resources. Prior to independence, mineral rights were held as private property by a small number of companies which had obtained them through concessions from African chiefs during the 1800's. In some cases, these companies retained possession of valuable mining property without developing it, thereby preventing interested parties from developing the resources as well. The Mines and Minerals Act was enacted to remedy this situation and to encourage the development of Zambia's mineral resources.[3]

This Article examines Zambia's mining laws by focusing on the current requirements for obtaining the right to conduct mining operations in Zambia. Part I provides a general background of the mineral industry as it has evolved throughout the history of Zambia. Part II discusses the sources of law relating to mineral rights—English common law and Zambian legislation—and describes Zambia's approach to mining rights. Part III describes the requirements for various types of mining licenses, the nature of a mining interest, and the obligations of a mining right holder. Finally, this Article concludes that, on the whole, the Mines and Minerals Act of 1976 successfully promotes the increased discovery and development of minerals in Zambia and thereby maximizes economic benefit from Zambia's mineral resources.

I
BACKGROUND

A. History of Mining in Zambia

1. Pre-colonial trade in copper

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.[4] Early quests for copper were limited by the primitive technology of the

1. Zambia, like most former British colonies, inherited a common law system when it became independent. *See infra* notes 75-77 and accompanying text.

2. Mines and Minerals Act, ch. 329 of the Laws of Zambia (as amended by No. 32 of 1976).

3. The preamble to the Mines and Minerals Act defines the purpose of the Act as "[a]n Act to regulate the law relating to mines and minerals; to provide for the granting of, renewal and termination of mining rights; to establish a Mining Affairs Appeals Tribunal and define its jurisdiction; to create offenses and provide for the making of regulations; and to provide for matters connected with or incidental to the foregoing." *Id.*

4. For a detailed discussion of the early discovery and uses of copper in Central Africa, see J.A. Bancroft, Mining in Northern Rhodesia 26-39 (1961) (Dr. Bancroft, a former Professor of geology at McGill University, discovered the Bancroft mine).

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times.[5]

The first Europeans to establish contact with what is now Zambia were the Portuguese. Gold was the primary attraction to these early overseas traders, but copper and ivory soon grew in demand.[6] In the 1700's, 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.[7]

During the height of trading at Zumbo, more than 300 tons of copper were traded annually,[8] an amazing amount considering the technology of the time. Copper trade in Central Africa was temporarily halted during the early 1800's, when local tribes destroyed the Portuguese stronghold in Zambia. These early copper mines, however, later facilitated the discovery of vast copper ore deposits by European prospectors.[9]

2. *Current status of the Zambian copper industry*

Today Zambia is the fifth leading producer of copper in the world,[10] possessing thirteen percent of the world's known copper reserves. Most copper production in Zambia occurs in an area known as the "Copperbelt."[11] Ten major mines are currently in production in the area,[12] which is also the site of substantial prospecting and preparation operations.

To a much lesser extent, Zambia produces other minerals.[13] Cobalt, a by-product of copper production, is a growing export. Large coal reserves are mined in the southern portions of Zambia. To date,

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5. *Id.* at 26.

6. By the 1600's, the Portuguese had established themselves on both coasts of Africa, on the west coast in Angola and on the east coast in Mozambique. The Portuguese located in Mozambique first conducted trade with the inhabitants of Zambia. Upon arrival in this area of central Africa, the Portuguese subdued Muslim Arabs who had been trading in gold and ivory. *See generally* A. ROBERTS, A HISTORY OF ZAMBIA 105-07 (1976).

7. *Id.*

8. *Id.* at 107.

9. *See* J.A. BANCROFT, *supra* note 4, at 25. As Dr. Bancroft notes, later "European arrivals directed their prospecting efforts almost exclusively to the 'discovery' and exploration of these old workings." *Id.*

10. The leading producers of copper are, in the order of annual production per thousand tons: United States (1564 tons), U.S.S.R. (1224 tons), Chile (969 tons), Canada (868 tons), Zambia (757 tons). ZAMBIAN MINING YEARBOOK (1974).

11. The "Copperbelt," located in central Zambia, measures roughly 30 miles by 90 miles.

12. These mines are Chambishi, Chibuluma, Chingola, Kalengwa, Konkula, Luanshya, Mufulira, Rokana, Bwana, and Mkubwa.

13. The minerals, and yearly production in tons, are: coal, 1,094,425 tons; copper, 757,000 tons; amethyst, 34,356 tons; zinc, 27,041 tons; lead, 24,596 tons; silver, 8,938 tons; and cobalt, 1,962 tons. ZAMBIAN MINING YEARBOOK (1978).

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coal has been used primarily for local consumption by the copper mines.[14]

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 currently holds the largest known deposits of that stone.[15]

Large nickel deposits have been discovered and are now being explored under the Munali prospecting license.[16] Iron ore is common and widely distributed throughout Zambia. However, limited amounts of work have been done to mine the great majority of mineral deposits.[17]

The mining, processing, and exportation of copper form the cornerstone of the Zambian economy. Depending on the current world price of copper, mineral exports can account for up to sixty-eight percent of the country's total revenues.[18] Copper alone can be responsible for ninety-five percent of Zambia's exports.[19] Few countries in the world depend as much upon the production and price of one commodity as does Zambia upon the production and price of copper.

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.[20] City attractions and economic pressures have combined to result in a mass exodus from the rural areas to the urban centers of the Copperbelt. Most of Zambia's urban centers are situated on the Copperbelt.[21] Thirty-five percent of Zambia's inhabitants reside in these

14. Until the mid-1960's, all of Zambia's coal requirements were met by importing coal from South Rhodesia. After the Unilateral Declaration of Independence by South Rhodesia and subsequent United Nations sanctions, Zambia began to develop coal mines within its own borders. By 1972, domestic production of coal had grown to 936,500 tons and imports had fallen to 10,000 tons. *See* THE AMERICAN UNIVERSITY, FOREIGN AREAS STUDIES, ZAMBIA: A COUNTRY STUDY 195-96 (3d ed. 1979).

15. Mines Industrial Development Corporation, ZAMBIAN MINING INDUSTRY 3 (1974).

16. Mines Industrial Development Corporation, PROSPECTS FOR ZAMBIAN MINING INDUSTRY 3 (1970).

17. The economic reports as to the viability of mining much of these deposits was still unclear in the late 1970's. *See* ZAMBIA: A COUNTRY STUDY, *supra* note 14, at 187.

18. In 1965, copper accounted for 60% of Zambia's revenues. On the average, for the period from 1964 to 1975, mining accounted for 45% of Zambia's revenues. *Id.* at 188.

19. *Id.*

20. As of 1976, 64,580 of Zambia's 368,470 wage earners were employed in the mining industry. ZAMBIA: A COUNTRY STUDY, *supra* note 14, at 255 app. (based on information from Zambia, Central Statistical Office, XIV MONTHLY DIGEST OF STATISTICS (Lusaka) 3-6 & Supp. at 1 (Mar.-June 1978)).

21. All of Zambia's major towns except three, Lusaka, Kahwe and Livingstone, are on the Copperbelt. ZAMBIA: A COUNTRY STUDY, *supra* note 14, at 59.

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urban centers.[22]

Numerous social problems have accompanied the mass migration. The poverty existing in much of Zambia's rural area has been magnified by a lack of available manpower.[23] In most rural areas, the sole source of cash is money sent home by laborers in the Copperbelt.[24]

B. ZAMBIA PRIOR TO INDEPENDENCE

1. *The British South African Company*

No force has had a greater impact upon Zambia and its mining industry than has the British South African Company (BSAC). Cecil Rhodes founded the BSAC and secured a British charter for the company in 1889.[25] The BSAC provided Britain and Rhodes with a means to compete with other European powers for the vast mineral wealth of the region.[26]

The BSAC quickly set out to compete with the other European powers in establishing claims. Rhodes and the BSAC sent three expeditions north from the South African Province. These expeditions entered into treaties with local chieftains, granting British "protection" in exchange for pledges not to make similar agreements with competing foreign powers.[27] More importantly, these treaties secured exclusive mineral rights to the region for the BSAC;[28] the BSAC thus acquired exclusive mineral rights over most of Zambia.

The BSAC administered the holdings it had secured in two regions located within present-day Zambia: Northeast Rhodesia and

22. In 1963, urban dwellers constituted 20.5% of Zambia's population. By 1974, 35.4% resided in urban areas. *Id.* at 59. Of Zambia's population of 4,695,000 in 1974, 1,525,000 resided in Zambia's ten largest cities. Zambian Central Statistical Office, SAMPLE CENSUS OF POPULATION 1974: A PRELIMINARY REPORT (Lusaka) 6 (1975).

23. A. ROBERTS, *supra* note 6, at 191.

24. *Id.*

25. This Royal Charter allowed the BSAC to use the authority of the British government to stake out claims in Central Africa. This Charter covered an area vaguely defined as north of Bechualand (now Botswana), northeast of the South African Republic and west of the Portuguese claims (now Mozambique). The BSAC was to be responsible for administering any acquired areas, but the British government was to retain the right (although utilized infrequently) to supervise the company's actions. Such a Royal Charter was a convenient method for the Royal Government to expand its empire. The East India Company had been given similar powers in the 17th century. *See generally* A. ROBERTS, *supra* note 6, at 155-72.

26. By this time, Belgium had claimed the Congo Free State (now Zaire); Portugal had acquired Mozambique and the area which is now Angola. Additionally, Germany had laid claim to large areas in the east called German East Africa (now Tanzania). *See generally* A. ROBERTS, *supra* note 6, at 157-62.

27. *Id.* at 159.

28. *Id.* As Roberts notes, the grant of such exclusive mineral rights to the BSAC "was largely a matter of insurance." The BSAC had little hope for finding minerals outside of the Katanga region. *Id.* at 159.

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Northwest Rhodesia. These regions were administered separately from 1900 until 1911. In 1911, the BSAC consolidated the regions into Northern Rhodesia, the pre-independence name for Zambia.[29]

The costs of administering Northern Rhodesia proved burdensome to the BSAC. Since the BSAC had not yet developed the mineral resources of Northern Rhodesia, the region was used primarily as a source of labor for mines elsewhere in Africa.[30] On February 20, 1924, the BSAC turned the formal administration of Northern Rhodesia over to the British government, making Northern Rhodesia a British protectorate.[31] Significantly, however, the British government continued to recognize BSAC's exclusive claim to the mineral rights of the country.

On August 1, 1953, Northern Rhodesia became part of the ill-fated British Central African Federation.[32] The Federation, which lasted until 1963, combined Northern Rhodesia, Southern Rhodesia, and Nyasaland under a single administration.[33]

2. *Mining legislation and mining development in pre-independence Zambia*

The Mining Ordinance of 1912 was the first statute regulating mining in Northern Rhodesia.[34] The statute provided the BSAC with a mechanism for regulating the mining rights granted by the company.[35] For a minimal fee, anyone could acquire a prospecting license which enabled the holder to search for minerals in any area of Northern Rhodesia, except those in which the BSAC had previously granted

29. Northern Rhodesia Proclamation, No. 1 of 1911.

30. Prior to 1923, the BSAC had done little to realize the mineral potentials of Northern Rhodesia. The BSAC did have a stake, either directly or indirectly, in the mines of the Katanga region and in Southern Rhodesia. Thus, the BSAC benefited by supplying cheap labor from Northern Rhodesia. *See generally* A. ROBERTS, *supra* note 6, at 177-78.

31. As a British Protectorate, Northern Rhodesia was under the administration of the British Colonial Office.

32. Federation of Rhodesia and Nyasaland (Constitution) Order in Council, Stat. Instr. 1953, No. 1199. After a few years the Federation began to show strains. Constitutionally and politically, Southern Rhodesia was the center of the Federation. Much of the joint profits of the Federation were spent primarily in Southern Rhodesia, causing resentment among the "white" settlers of Northern Rhodesia and Nyasaland. ZAMBIA: A COUNTRY STUDY, *supra* note 14, at 33-34.

33. Federation of Rhodesia and Nyasaland, Dissolution Order in Council, 1963. *See also infra* note 50 and accompanying text.

34. Mining Proclamation, No. 1 of 1912. This system survived with little substantive change in the 1958 Mining Ordinance, No. 13 of 1958 (subsequently repealed and replaced by Mining Ordinance ch. 91 in Laws of the Republic of Zambia (1965)).

35. *See generally* Ushewokunze, *The Legal Framework of Copper Production in Zambia*, 6 ZAMBIA LAW JOURNAL 75, 77-78 (1974). Prior to the Mining Ordinance of 1912, the BSAC granted mining rights by an "exchange of letter." These exchanges set forth important information such as a description of the area and the number of claims within the area. Further, the grantee was obligated to grant to the BSAC a certain equity share in the company formed to work the area covered. *Id.* at 78.

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mining rights.[36] Although the statute increased interest in mining to a certain extent, investors continued to overlook the vast potential of the territory.[37]

The effects of World War I and the enormous growth of the electrical and automotive industries greatly increased the demand for copper. The BSAC began to grant vast, exclusive mining concessions to large, well-financed companies.[38] By the end of the 1920's, two foreign companies, Roan Select Trust Company, a United States concern, and the South African-controlled Anglo-American Group had developed into the dominant mining companies in Northern Rhodesia.[39]

The end of the 1930's saw Northern Rhodesia emerge as one of the world's leading copper producers.[40] Rearmament and the coming of World War II greatly stimulated the demand for copper. Copper had become the cornerstone of Northern Rhodesia's economy, accounting for up to ninety percent of its exports.[41]

The demand for labor spread in the territory. In 1930, over 20,000 African laborers worked in the Copperbelt, roughly one-third of the Africans employed in the territory. By 1940, this number had increased to 40,000.[42] Thousands more were employed to service the mines and towns that grew up in the Copperbelt.[43]

Although growth of the Copperbelt greatly increased the overall wealth of the territory, much of the revenue was diverted from the Northern Rhodesian government. As "owner" of the mineral rights, the BSAC received considerable sums in the form of royalties.[44] Estimates suggest that by 1964, the BSAC had received over £135 million in pre-tax revenue from its mining royalties.[45] Because the BSAC had a right to these royalties—even if the concession-holder did not make a profit[46]—mining companies had little incentive to invest in mining operations not yielding an immediate profit.

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36. J.A. BANCROFT, *supra* note 4, at 62.

37. *Id.*

38. The size of these concessions was staggering. The first such concession granted by the BSAC was for an area of about 50,000 square miles. *Id.* at 74.

39. *Id.* at 78.

40. For a detailed discussion of the growth of Northern Rhodesia's copper industry, see A. ROBERTS, *supra* note 6, at 185-94.

41. *Id.* at 186.

42. *Id.*

43. Despite the growing demand for labor, Northern Rhodesia still served as a source of exported labor. By the mid-1930's, more than 50,000 Northern Rhodesian laborers worked in Southern Rhodesia. Further, the gold fields of Tanganyika in East Africa employed over 10,000 workers from Northern Rhodesia. ZAMBIA: A COUNTRY STUDY, *supra* note 14, at 27.

44. These royalties varied, but on the average the BSAC received between 12½ and 13 percent of the value of the copper produced. A. ROBERTS, *supra* note 6, at 229.

45. Ushewokunze, *supra* note 35, at 79.

46. A. ROBERTS, *supra* note 6, at 192.

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The BSAC was not the only economic drain on Northern Rhodesian copper revenues. Because the BSAC's headquarters were located in London, the British government also received a share of the copper industry's revenue in the form of taxes.[47] The taxes levied by the Northern Rhodesian government remained low due to the considerable influence exerted by the mining companies.[48] These factors resulted in a low share of the profits for Northern Rhodesia. In 1937, for example, over thirty percent of the value of the copper produced was paid out as royalties and taxes. Of this thirty percent, only twelve and one-half percent remained in the hands of the Northern Rhodesian government.[49]

The years of the Central African Federation (1958-1963) led to further economic drain on Northern Rhodesia. Under the terms of the Confederation, all income received from the territories of Northern Rhodesia, Southern Rhodesia, and Nyasaland were combined in a federal pool, from which Northern Rhodesia received considerably less than its proportional share.[50] The Confederation's dissolution in 1963 thus offered the prospect of relief for financially-troubled Northern Rhodesia.

C. Zambian Independence and the Repeal of the Old Mining System

1. *Acquisition of the British South African Company's mineral rights*

In the months prior to Zambia's proposed independence, Zambian leaders were anxious to secure the BSAC's mineral rights, and hence, the huge royalties to which the BSAC was entitled. The leaders argued that the Company had no recognizable legal title to these mineral rights.[51] On the eve of independence, the BSAC bowed to this pressure and agreed to surrender its mineral rights and royalties to the Zambian government. In return, the BSAC was to receive token pay-

47. It is estimated that from 1930-1940, the British government received over £2,400,000 in taxes from the Copperbelt. Northern Rhodesia received less than £136,000 from the British government as aid during the same period. *Id.* at 192-93.

48. Ushewokunze, *supra* note 35, at 79.

49. A. Roberts, *supra* note 6, at 193.

50. Southern Rhodesia exercised the dominant position in the Federation. Salisbury, the capital of Southern Rhodesia, was also the Federation capital and served as the business center of the Federation. By 1959, Northern Rhodesia had suffered a net loss of more than £ 50 million to the rest of the Federation. By 1963, this amount had risen to £ 97 million. A further disadvantage was that Northern Rhodesia could no longer determine its own rate of income tax. It could do nothing to reduce the massive flow of dividends and royalties out of the country. *Id.* at 213-14.

51. A. Roberts, *supra* note 6, at 222. Allegations had long been made that the BSAC had no legal basis. The British government never seriously considered these allegations. *See also supra* notes 25-33 and accompanying text.

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ments of £ 2 million from both the governments of Zambia and Great Britain.[52]

On October 24, 1964, Northern Rhodesia became the independent state of Zambia. Although the Zambian government was now the sole possessor 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."[53] The concessions granted to the companies covered large tracts of undeveloped mining land along the Copperbelt.[54] Even though the Zambian government was receiving a larger share of mineral royalties,[55] it had no legal authority to control either the rate of production or investments in the mines.

Prior to 1969, Zambia disclaimed any intention of nationalizing the copper industry. As Zambian President Kuanda stated, the industry was "too big to handle."[56] Nevertheless, arguments for nationalization began to grow within the country. Many Zambians felt that if the mines were controlled by the State, new mines would develop and resources would be utilized in Zambia's interest rather than in favor of private, foreign interests.[57]

Future investment in the mining industry became key to the nationalization issue. More investment, it was argued, would lead to more output, which would help protect the industry from a fall in prices.[58] Furthermore, additional output would mean an increase in Zambian employment.[59] 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.[60]

The Zambian government gradually came to regard nationalization as a means to obtain influence on management policies. With this

52. A. ROBERTS, *supra* note 6, at 222.

53. The Zambian government inherited the BSAC's legal framework. It had not acquired the BSAC'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 BSAC. Ushewokunze, *supra* note 35, at 79.

54. *Id.*

55. 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 London Metal Exchange price per ton of exported copper. Ushewokunze, *supra* note 35, at 80.

56. A. ROBERTS, *supra* note 6, at 230.

57. *See generally* Ndulo, *The Nationalization of the Zambian Copper Industry*, 6 ZAMBIA LAW JOURNAL 55 (1974).

58. *Id.* at 55-58. *See also* A. ROBERTS, *supra*, note 6, at 230.

59. Ndulo, *supra* note 57, at 55-58.

60. *Id. See also supra* notes 44-49 and accompanying text.

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influence, the government hoped to secure training and employment of Zambians in technical and managerial positions.[61] As one commentator noted: "The industry was basically owned and operated by foreign companies, which imported investment capital; and their technical and managerial manpower requirements, to utilize the huge pool of cheap labour, and export the profits."[62]

2. *Nationalization achieved through the Mines and Minerals Act*

In June of 1969, President Kuanda set about nationalizing the copper industry. The first step was to amend the Zambian Constitution to remove a clause which prevented the government from acquiring private property by compulsory order.[63] Nationalization was implemented by enacting the Mines and Minerals Act of 1969.[64] Under this Act, the undeveloped concessions and special grants owned by the Anglo-American and Roan Select Trust companies were terminated, releasing areas in which the companies were not carrying out mining operations.[65] The Act also authorized the state to negotiate with the mining companies for a takeover of a fifty-one percent equity share in existing mines.[66] The details were settled in negotiations with the companies. The government arranged to buy out a majority share with dividends over the next eight to twelve years.[67]

The Mines and Minerals Act of 1969 effectively gave the Zambian government control over the copper industry. The Act authorized the government to issue licenses contingent upon productive use. Moreover, the Act increased the government's ability to direct new mining investment to rural areas outside the Copperbelt.

The remaining sections of this Article will focus on the reforms of the 1969 Act. The 1969 Act and its subsequent reforms in 1976 were intended to stabilize the development of mining by emphasizing more production and exploration and more effective mining techniques and conservation of resources. This Article concludes that, in light of Zambia's large dependence upon a single resource, stable economic growth has best been served by governmental control under the 1969 Mines Act.

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61. *See* Ushewokunze, *supra* note 35, at 80.

62. *Id.*

63. Upon independence, the rights of the mining companies were safeguarded in the independence Constitution of Zambia. The Constitution could only be amended by a referendum vote in which the state had to secure 51% support of all voters on the voters' roll. Zambia Independence Constitution § 18 (1964). *See* A. ROBERTS, *supra* note 6, at 230; *see also* Ushewokunze, *supra* note 35, at 80.

64. Mines and Minerals Act, *supra* note 2.

65. *See* Ushewokunze, *supra* note 35, at 80-81.

66. *Id. See also* A. ROBERTS, *supra* note 6, at 230-31.

67. *See generally* Ndulo, *supra* note 57.

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II
SOURCES OF LAW RELATING TO MINING RIGHTS

A. THE ZAMBIAN LEGAL SYSTEM

In order to understand the application of Zambian mining law, it is important to understand the sources from which the law is derived. Like most Zambian law, Zambian mining law is comprised of customary law, English common law, and laws enacted by the Zambian Parliament[68] to regulate mining practices and the acquisition of mining rights.

Legislation is the most important source of Zambian mining law. Although Zambia initially adopted the pre-independence legislation of Northern Rhodesia,[69] it later enacted significant legislation[70] that repealed much of the colonial legislation. Such legislation included the Copper (Export) Tax of 1966,[71] the Income Tax Act[72] and the Minerals Tax Act of 1970.[73]

The most important legislation affecting mining in Zambia, however, is the Mines and Minerals Act of 1969,[74] which has served as the foundation of governmental control over Zambia's mining industry. As with all Zambian mining legislation, the Mines Act strives to maximize benefits from the mining industry to the Zambian economy.

Common law is another important source of Zambian mining law. Like most former British Colonies, Zambia inherited a legal system of common law.[75] Chapter 4 of the Laws of Zambia expressly provides that the following shall be in force: (a) the common law, (b) the doctrines of equity, (c) the statutes in force in England on August 17, 1911, and (d) any later British statute applied to Zambia.[76] Accordingly, in the absence of express Zambian authority, the Zam-

68. Such Parliamentary laws include both colonial and post-independence enactments.

69. The first major mining legislation in colonial Northern Rhodesia was the 1912 Mining Proclamation, which was later replaced by the 1958 Mining Ordinance. Mining Proclamation, No. 1 of 1912; Mining Ordinance, No. 13 of 1958. These Acts served primarily to facilitate the BSAC's granting of mineral concessions. *See generally* Ushewokunze, *supra* note 35, at 77-78.

70. Numerous sections of other statutes affect Zambian mining. Among these, the Water Act has had a pronounced effect. Water Act, 1972, LAWS OF ZAMBIA, ch. 312.

71. Copper (Export) Tax Act, 1966.

72. Income Tax Act, LAWS OF ZAMBIA, ch. 668.

73. Minerals Tax Act, 1970.

74. Mines and Minerals Act, *supra* note 2.

75. For a detailed discussion of the common law in Zambia see Church, *The Common Law and Zambia*, 6 ZAMBIA LAW JOURNAL 1 (1974). As Prof. Church notes, section 4 of the Zambia Independence Order, 1964, expressly provided that the existing laws were to continue in force. *Id.* at 23.

76. English Law (Extent and Application) Act, 1970, LAWS OF ZAMBIA, ch. 4; *see generally* Church, *supra* note 75, at 24-25.

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bian courts routinely refer to British decisions and other common law decisions. At the same time, Zambian courts attempt to tailor the law to the social and economic needs of Zambia. The customary law of Zambia can greatly influence the way in which courts apply the common law of other jurisdictions.[77] In applying common law to mining, Zambian courts have emphasized decisions from countries with similar socio-economic conditions. Apart from coal mining, Britain is not a great mining country. Consequently, Zambia has looked more frequently to the common law of such countries as South Africa, which has an active mining industry.

B. THE ZAMBIAN APPROACH TO MINERAL RIGHTS

The Zambian government that replaced colonial 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 control of the mining industry was important. A government, for example, 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. Consequently, upon becoming independent, the Zambian government acquired all mining rights previously held by BSAC or by companies to which BSAC had granted concessions.[78]

Under the Zambian system of mineral rights, the President holds the property rights to all minerals in Zambia on behalf of the people.[79] State ownership of mineral resources provides the state with exclusive power over the property within its boundaries, whether mined by the state, its citizens, or foreign companies. The state enjoys this right notwithstanding other equal legal rights in the land and the property

77. Customary law, as used in this context, refers to the unique customs which have developed among the indigenous tribes of Central Africa. Customary laws are not national in scope, but rather are unique to a particular area as they develop along tribal lines. Most private legal relationships in Zambia are governed by customary law.

78. *See supra* notes 52-55 and accompanying text. The extent of these holdings were increased with the nationalization of the copper industry in 1969. *See supra* notes 63-67 and accompanying text.

79. Section 3(1) of the Mines and Minerals Act reads in part: "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* note 2, § 3(1). In most countries, the sovereign interest in the mineral resources is recognized to some degree. It has usually been recognized that the sovereign may have an overriding interest in the essential and irreplaceable resources. *See, e.g.*, Mines and Minerals Act, LAWS OF BOTSWANA, ch. 66.01; Mines and Minerals Act, § 4 LAWS OF KENYA, ch. 306.

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surrounding the minerals.[80] 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 right holder to purchase land.[81]

The state regards its ownership of mineral rights as inalienable.[82] 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 a 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 under the Mines Act. The first approach is the lease or "regalien" system, which is presently employed by the majority of nations, including a large number of developing countries. Under this system, the state owns the mineral title and the miner derives his right to extract minerals from a tenure granted by the state, as opposed to one granted by the land owner.[83] The miner's tenure is seldom equivalent to a fee title, but is rather a bundle of rights and obligations, the composition of which varies greatly from country to country.

The second approach to mineral rights allows mineral ownership to correspond with the ownership of the land surface. Under this 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

80. Mines and Minerals Act, *supra* note 2, § 3(2). 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).

81. 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.

82. This view of mineral resources has been encouraged by the work of the United Nations Permanent Commission on Sovereignty over Natural Resources, Resolution 1803 of 14 December 1962 which affirms "the right of peoples and nations to exercise permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development. . . ."

83. The lease system may vary under a "nominal system," under which the 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.

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the minerals and registering his claim at a designated office. The claim system prevails mainly in Western countries.

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.[84] The Zambian system, as created by the Mines Act, is better suited to Zambia's economic planning goals. Minerals, especially copper, play such a vital role in the economy that the government must retain maximum control over the exploitation of these resources.

III
THE MINES ACT

A. MINING LICENSES

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 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.[85]

The licenses, created by the Zambian Mines Act, were 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.

Three categories of mining rights have been granted under the Mines Act:[86] (1) a prospecting license, (2) an exploration license, and (3) a mining license.[87] 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.

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84. *See supra* note 82 and accompanying text.

85. The minerals for which licenses may be issued are divided into four major categories: (1) building minerals (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); and (4) all other minerals. Mines and Minerals Act, *supra* note 2, § 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* note 2, § 64.

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

87. Mines and Minerals Act, *supra* note 2, §§ 16, 27, and 44.

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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.[88] A company may obtain a mining right greater than a prospecting license only if it has been incorporated in Zambia.[89] 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.[90]

1. Prospecting license

The prospecting license provides the most restrictive rights under Zambia's licensing system.[91] 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.[92] 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.[93] 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 minerals he intends to prospect and give a detailed description of the area he wishes the license to cover.[94]

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 licenses include reference to most common minerals.[95]

The need to secure the state's approval for mineral exploration is based on the assumption that the state owns any minerals discovered.[96] Discovery alone does not give the discoverer exploration rights. Ordinarily, however, an application for exploration after dis-

88. *Id.* § 5(1)(a)(i) and (ii).
89. *Id.* § 5(1)(b)(i).
90. This is unusual; most countries demand the payment of rentals.
91. The prospecting license is covered generally by §§ 16-26 of the Mines and Minerals Act, *supra* note 2.
92. *Id.* § 25.
93. *Id.* § 18.
94. Mines and Minerals Act, *supra* note 2, § 18.
95. Such practice is only common sense in that it is extremely difficult to project accurately all the minerals one finds in an area.
96. *See supra* notes 79-84 and accompanying text.

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covery is a mere formality. The person who discovers a mineral will be given the mining rights unless someone else already holds the rights to that mineral. This policy justly rewards the discoverer for his previous expenditures in exploration.

Even if an applicant has complied with all of the preliminary steps required by the Mines Act, the state's authority to grant a prospecting license is discretionary. The mere fact of compliance gives no inchoate right to a license.[97] Once a prospecting license has been issued, however, the state is committed to issuing subsequent exploration and mining licenses. Both sections 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.[98] Of course, the mandatory grant is contingent upon the applicant's discharge of his obligations, his presentation of reasonable evidence of mineralization in the specified area, and his proposal of an acceptable plan for the next stage.[99]

No later than two months before the expiration of his license, a holder of a prospecting license may apply for and obtain an exploration license. The exploration license is limited to the area and minerals specified in his prior prospecting license.[100] If the holder wishes, he may apply directly for a mining license.[101]

2. *Exploration license*

Exploration licenses grant exclusive rights to the areas specified therein. Such exclusiveness may be inferred from the fact that section 19 of the Mines Act does not permit the granting of prospecting licenses for areas covered by exploration licenses. Moreover, section 31(c) of the Act prohibits the grant of exploration rights to areas which overlap mining areas.

An exploration license not issued upon the expiration of a prospecting license is limited to an area of ten square kilometers.[102] This size limitation ensures that very large areas of land will not be held for long periods unless exploration actually occurs. Without this limita-

97. 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.

98. Mines and Minerals Act, *supra* note 2, §§ 30 (1), 48(1). Section 31 of the Mines Act establishes specific grounds for which the Chief Engineer shall reject an application for an exploration license.

99. In this way, the state has limited its discretion in granting or withholding exploration and mining licenses. *See generally* Mines and Minerals Act, *supra* note 2, §§ 30(1), 48(1).

100. *Id.* § 27.

101. *Id.* § 45.

102. *Id.* § 36(2).

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tion, more land than an individual could reasonably explore would be withheld from competitive prospecting and exploration. If, however, geological evidence indicates that a more extensive body of ore exists, the holder of the exploration license may apply to extend his area with reasonable certainty of approval.[103]

3. *Mining license*

The mining license provides the holder with the broadest range of rights. "[T]he holder of a prospecting licence or an exploration licence may . . . obtain a mining licence . . . for any area or areas within his prospecting area or exploration area . . . and in respect of any mineral covered by his licence."[104] A mining license may cover only the estimated area of the mineral deposit.[105] The license may, however, include such additional areas as are reasonably required to protect the machinery used to carry out the mining operations.[106] The mining license, like the exploration license, is exclusive.

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 both the prospecting and exploration licenses, the rights under a mining license may not be transferred without the state's approval.[107]

The state's authority to forbid the transfer of mining rights without prior approval is justifiable. 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 choose not to extract the minerals, which would thereby prevent a benefit to the state 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 transferees of mining rights possess the financial and technical ability to extract the minerals.[108]

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103. This seems to be an implicit aspect of § 36 (1) and (2). *Id.*

104. *Id.* § 45.

105. 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 . . . ." *Id.* § 49(1)(a). Further, such application shall be rejected if the applicant has not properly demarcated the proposed mining area in accordance with section 46. *Id.* § 49(1)(d). Under section 46, a mining site demarcated shall not exceed the estimated extent of mineral deposit. *Id.* § 46 (1)(a).

106. *Id.*

107. *Id.* § 58.

108. 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. *Id.* § 58(3).

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B. THE NATURE OF THE MINING INTEREST

1. *General nature of the interest*

In order to appreciate the degree of control exercised by the Zambian government, one must have a clear understanding of the nature of the mining right created by a mining license. As observed, a mining right in Zambia gives the holder the right to prospect, explore, exploit, and process the minerals within the terms of the license for a specified number of years. These rights are renewable provided that the holder observes and fulfills all obligations demanded by the state.

The Mines Act, by its terms and in actual practice, indicates that the grant of exclusive mining rights includes two separate interests: an interest in the surface covered by the license and an interest in the minerals within the bounds of the license. The license holder's interest in the minerals derives entirely from the statute; the holder may not negotiate with the government for any other rights. Because the Mines Act vests the right to mine and dispose of all minerals in the state,[109] the license holder's rights in the minerals are restricted. The terms under which the license is held and the interpretation of those terms, the definition of rights and their scope, and the reciprocal obligations between the license holder and the government are absolutely fixed by the Mines Act. The license holder's surface interest is also limited: the miner may only use the surface of the land covered by his license in ways which will not interfere with the main purpose of his tenure—i.e., the miner's surface use may not interfere with the extraction of minerals.

The granting of interests under a mining license should be distinguished from legal title to the land and minerals, which is split. As owner, the state holds title to both the minerals and the land. However, the right to use the land and title to the minerals pass to the holder of the mining license after extraction.

2. *Nature of the relationship between the state and mining right holder*

The exact nature of the relationship created between the state and a mining rights holder has not been judicially interpreted in Zambia. A number of South African cases, however, have discussed this relationship. The government of South Africa, like the government of Zambia, possesses the right to mine and grants mining licenses. South Africa has had a great deal of influence in shaping the Zambian mining laws, and South African cases therefore offer some instruction for Zambian courts.

109. *See supra* notes 79-84 and accompanying text.

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The early case of *Neebe v. Register of Mining Rights*[110] considered the relationship between the state and the mining rights holder in some detail. In this case, Neebe applied for an order of the Registrar of Mining Rights to pass and register a transfer of prospecting claims as property rights. The Court rejected this classification of the rights and concluded that the nature of such a mining right is *sui generis*—especially created by statute—and that the incidents of tenure must be read from the terms of the statute which establishes tenure.

The Supreme Court of the Cape Province of South Africa likewise refused to classify claims in a diamond mine as property rights. In the case of *South African Loan and Mortgage Agency v. Cape of Good Hope Bank*,[111] the Court distinctly stated that the licenses dealing with diamond mines clearly do not convey property rights. The Court added that the mining license holder takes no title to minerals which have not been extracted. Rather, the holder takes title upon extraction, at which time the minerals become personal property.

Interpreted according to the South African approach to mining rights, Zambian mining rights provide only a bare license to mine. No interest passes in the unsevered minerals; the holder of the right acquires an interest only after the minerals have been extracted.[112]

The exercise of mining rights can be restrained because the rights derive from the mining statutes. In fact, the state may even impose new obligations, notwithstanding conflicting provisions or rules in existence when the mining right was granted. New restrictions and obligations which adversely affect existing mining rights holders are unlikely, however, because such changes might intimidate mining investors. Investment would become less attractive if miners were unable to forecast the nature and extent of their license obligations and rights.

If regulations require change, the state will most likely follow the pattern established in 1969: the state will treat the rights of existing license holders as a separate issue and arrange amicable settlements with them. In 1969, the introduction of the new system of mining rights extinguished all pre-existing prospecting and mining rights. Provision was then made for the immediate granting of mining licenses to protect the producing mines.

110. [1902] Transvaal Law Reports 65.

111. 11 S.C. 163 (1886).

112. Robinson v. Blundell [1867] Macassey's Reports (N.Z.) 683; *see also* R. v. Fayle, 27 L.T. 64 (1972) and Low Moor Co. v. The Stanley Coal Co., 33 L.T. 436 (1875) (action for trespass for unlawfully working coal belonging to plaintiffs).

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3. *Mining rights and surface rights*

A person who acquires a mining right does not thereby acquire surface rights to the land; rather, the state retains the surface rights. Title to the surface is a very important issue to both mining right holders and surface owners.[113] 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 the necessary plant, works, and buildings. Furthermore, the surface land linked to mining rights may be needed for building roads or for providing services, 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 purposes.

During prospecting operations, the mining right holder and the surface owner have little cause for disagreement. Once exploration and mining activities have started, however, the opportunity for dispute 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 mining 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.

a. Land rights of mining right holders

A mining right holder enjoys the right to use the surface of public and private land. He may enter the property covered by his mining right with his servants and agents, create mining excavations, and erect any camps, temporary buildings, or machinery needed to conduct mining.[114] Erecting structures, however, does not confer any right, title, or interest in the land. 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.

113. 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 question of their relative rights.

114. Mines and Minerals Act, *supra* note 2, § 53(1).

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A mining license holder may purchase the mining area or obtain a lease to the land covered by his 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 President of Zambia may intervene and acquire the land in the name of the state for use by the holder of the mining license.[115] Before the President may acquire the land, however, the holder of the mining right must prove that he has taken all reasonable steps to acquire the land or the desired right peacefully but has been unsuccessful.[116] To avoid an abuse of presidential power, compulsory acquisition should be a last resort for the mining right holder.[117]

Every person exercising a mining right is required to give notice that he intends to exercise such right. In fact, exercise of the right is conditioned upon such notice. The notice must state the area covered by the right and the right's date of expiration.[118]

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.

This notion of non-interference also carries over to 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.[119]

b. Water rights of mining right holders

The traditional common law concept applicable to water problems relating to mining is *riparianism*. A variety of rights to water, known as *riparian* rights, arise solely from ownership of land adjoining a natural stream. Under the natural flow concept of riparianism, all riparian owners are entitled to have the streams on their land flow naturally. Except for minor domestic uses, no riparian

115. *Id.* § 79.
116. *Id.*
117. When the land is compulsorily acquired, compensation for the land is payable by the mining right holder at a rate determined by the President. Mines and Minerals Act, *supra* note 2, § 80. Section 80 states that compensation may be paid by the mining license holder "as the President may decide to be adequate." The Mines Act does not provide guidelines for how the compensation is to be measured.
118. Mines and Minerals Act, *supra* note 2, § 72(3).
119. *Id.* § 74.

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owner may impair the quantity or quality of the stream's flow so as to cause injury to another riparian owner.

Mine workings by their very nature tend to interfere with water resources on a mining site. They may, for instance, intercept subterranean waters as an incident of the mining activities. The natural course of the subterranean waters would thereby be altered, causing the waters to flow along the mine workings. From there, the waters are either drained or pumped to the surface and very often are discharged at places other than their natural surface outlets.

Zambian law, however, overrides these traditional common law concepts. The water rights of the mining right holder are to be exercised in conformity with the Water Act,[120] which totally deprives the riparian owner of his common law rights. The Water Act generally divides water rights into three groups: primary use, covering domestic purposes; secondary use, covering irrigation; and tertiary use, covering industrial purposes.[121] The holder of a mining right may use private water on the land under his control. However, he must do so with due regard to other water users, who are entitled to relief if any contamination of the water interferes with the water's primary use.

If a miner wishes to use public water, he must apply to the Water Board.[122] The Board, created by the Water Act, will grant permission for use of a reasonable quantity of water if such use does not prejudice the holder of existing rights. If, however, others enjoy beneficial use of the water by virtue of a statutory or contractual right from the state, then the grant will be made only after full inquiry and payment of compensation.[123]

In addition to the water rights obtainable from the Water Board, the Mines and Minerals Act authorizes the holder of a mining right to lay water pipes and water courses; create ponds, dams, and reservoirs; and construct drains, sewers, and sewage disposal plants.[124]

c. 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 Act suggests this dominance of the mining right; provisions of the Act relating to the compulsory acquisition of

120. Water Act, 1972, THE LAWS OF ZAMBIA, ch. 312. Section 53(1) of the Mines and Minerals Act specifies mining right holders must act in conformity with the Water Act provisions.

121. *See* Water Act, *supra* note 120, § 2.

122. *Id.* § 15.

123. *Id.* § 16.

124. Mines and Minerals Act, *supra* note 2, § 53(1)(g).

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land for mining purposes reinforce section 74.[125] 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 wherever 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 Act.[126] Section 73 provides that the holder of a mining right shall exercise his 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.[127] The test for intervention is whether the use is necessary or incidental to production.[128] 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.[129]

Section 76 of 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:

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125. *Id.* §§ 79-80.

126. *Id.* § 73. Section 73 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 the operations concerned."

127. 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 will be stopped. Also, although a mining right holder is entitled to erect and occupy houses, he may not rent houses to persons other than his own employees. *See generally* Mines and Minerals Act, *supra* note 2, § 73.

128. *Id.*

129. Here again, one is faced with a very nebulous term. What does and does not constitute "reasonable and proper conduct" in mining practice will depend on the facts of each case. Any attempt to formulate a general definition would be unpractical.

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> [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 interests (if any) in the property concerned. . . .[130]

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.[131]

4. *Nature of the mining right vis-à-vis third parties*

The Mines Act's distinction between surface rights and mineral rights also has implications with respect to third parties. Situations often arise in which a third party other than the state interferes with the rights of a mining rights holder. Two frequent types of interference are unauthorized entry into the mining territory, either upon or beneath the surface, and deliberate and unlawful extraction of minerals, sometimes by the surface owner.

The remedies of a mining right holder for wrongful interference by the surface owner or another third party are determined according to general rules of law. Since a mining right holder has no proprietary interest in minerals not yet extracted, the holder cannot recover the value of minerals wrongfully extracted by third parties. The right to recover the value of the minerals belongs to the state.[132] The state, however, as owner of the extracted minerals, must attempt to protect its ownership rights against injury,[133] whereas the mining right holder has no obligation to protect minerals from third parties.

A third party's removal of minerals undoubtedly infringes upon the mining right holder's ability to exercise his mining rights. Thus, although the mining right holder cannot recover the value of minerals wrongfully extracted, the holder can sue third parties for the invasion of his exclusive right to mine. The right to bring suit in such a situation derives from common law. At common law, when an exclusive license is granted, no one may interfere with the operations of the license or deprive the holder of the license's benefits.[134]

This common law principle is illustrated in *Fitzgerald v. Firbank*.[135] In that case, the defendant deeded the exclusive fishing

130. Mines and Minerals Act, *supra* note 2, § 76.
131. *Id.* § 77.
132. *See supra* notes 79-84 and accompanying text.
133. Section 133 of the Mines and Minerals Act sets forth the offense of wrongfully removing minerals. *Id.*
134. Newby v. Harrison, 4 L.T.R. (n.s.) 397 (1861).
135. Fitzgerald v. Firbank, [1897] 2 Ch. 96.

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rights in a defined part of a river to the plaintiff for a term of years. Later, the defendant wrongfully discharged water containing sediment into the stream. The sediment drove the fish away and impaired their breeding. The court upheld the plaintiff's claim for damages, ruling that the plaintiff had a right of action against anyone who wrongfully acted in a manner which adversely affected the exercise of his deeded rights.

The Court followed the *Fitzgerald* reasoning in *Nkumbula v. Mining Industrial Development Corporation*,[136] where the Chief Mining Engineer assessed damages for the removal of the minerals, minus the costs of extraction. Such an action does not rest upon the holder's right to a property interest in the unsevered minerals; rather, it rests upon the taking of the right to possible future possession of the minerals.

One holding mining rights in Zambia can also maintain an action in conversion to recover extracted minerals which have been removed from the mining premise, as title to such severed minerals legally rests with the mining right holder.[137] Conversion of such minerals clearly deprives the holder of his property interest in the minerals.[138]

C. Obligations on the Mining Right Holder Under the Mines Act

In order to encourage the discovery and rapid development of mineral deposits, the Mines Act imposes a system of development obligations on the mining right holder.[139] 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 right holders, however, are designed to ensure that mining proceeds with minimal disturbance to the environment.[140] The mining right holder is thus subject to conflicting obligations.

1. Obligations Designed to Influence the Rate of Development

A number of methods to increase the rate of mineral production have evolved from the mining laws. Among the most important are the following: (1) restriction of exploration licenses to a short period of time; (2) stated work and production requirements; (3) payment of advance royalties; (4) surtaxes for failure to reach production quotas;

136. Chief Mining Engineer's file on display at Ministry of Mines and Industry, Lusaka.
137. *See supra* Part III (B) (1)-(2).
138. *Id.*
139. Mines and Minerals Act, *supra* note 2, § 54.
140. *Id.* § 55. Section 55 provides that the miner is not to engage in wasteful mining or metallurgical practices.

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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 often result in wasteful mining techniques.

The solution adopted under the Mines Act embodies some of the above approaches, but attempts to avoid the negative consequences. First, the Mines 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.[141] Mining officials suggest that if a prospector cannot find minerals within four years, he should not be entitled to retain his 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 compete with any other interested parties.

An exploration license, on the other hand, is initially valid for up to three years with a right of renewal for two more years, providing always that the progress achieved is satisfactory and the program for future operations is adequate.[142] The state, in fact, will almost certainly extend the period of renewal beyond two years in special circumstances.

Finally, a mining license is initially granted for a maximum period of twenty-five years and may be renewed for a similar period,[143] providing that the miner shows that ore reserves remain to be exploited[144] and submits a satisfactory program for future operations and minimum expenditure.[145] 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 Act influences the rate of development is to impose obligations requiring the commencement of

141. Mines and Minerals Act, *supra* note 2, § 18.
142. *Id.* § 33.
143. *Id.* § 51(1). The Act also requires the state to renew a 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.
144. *Id.* § 51(4)(ii).
145. *Id.* § 51(4)(iii).

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operations within a specified time. Similar to the licensing duration requirements, 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 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.[146]

Moreover, the miner must carry out his prospecting in accordance with a strict program of prospecting operations. The miner must directly expend not less than a sum of twelve dollars per square mile of the prospecting area for each year of the license period.[147] In addition, the miner must submit detailed reports of his operations to the Chief Mining Engineer.

The Mines Act imposes similar obligations on the holder of an exploration license. He is required to commence operations within six months of the issuance of the license.[148] He must perform exploration in accordance with the program of exploration operations. In addition, he must directly expend the following amounts for each square mile of the exploration area: not less than $1,000 in the first year, $2,000 in the second year, and $3,000 in the third year following the initial grant of the license. During any renewal period of the exploration license, the license holder must expend not less than approximately $5,000 per square mile of exploration area per year of the renewal period.[149]

Holders of mining licenses are likewise subjected to strict obligations. Mining officials strongly emphasize that an applicant for any mining right must submit a program of intended operations.[150] 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 licenses. The work contemplated

146. *Id.* § 26.
147. *Id.*
148. *Id.* § 37.
149. *Id.* The minimum expenditure obligations of an exploration license are not set by law as for the holder of a prospecting license. Minimum expenditure obligations have been set at a low level for prospecting in order to encourage the use of new surveillance techniques over extensive areas.
150. *See, e.g.*, Mines Act, *supra* note 2, § 47(g).

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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 ores in the licensed 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 location 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 product 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 right holders actually engaged in mining, and not to those persons acquiring mining properties for speculative purposes, the targets of this 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 Lungula River license area, Road Consolidated Mines Ltd. 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 Zambia, the problem of unreasonable inflation has been mitigated by the high caliber of the officials to whom the returns are made.

In addition to the requirement of minimum expenditures, the Mines 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 intends to work for profit.[151] He must develop and mine the mineral deposit in accordance with the program of development and mining operations.[152] In order to meet the program requirements of section 54 and to be

151. *Id.* § 54(1)(a).
152. *Id.* § 54(1)(b).

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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.[153] The contents of the reports are confidential and can be published or otherwise revealed only with the consent of the license holder.[154]

2. *Obligations concerning the manner in which mining activity is conducted*

In addition to requirements to control the rate of development, the Mines 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 wasteful mining and metallurgical practices.[155] Consequently, the Mines Act holds the license holder to a duty of reasonable care and diligence in conducting mining operations.[156] When state mining officials discover that a miner is using wasteful practices, the officials notify the miner and require him to show cause why he should not cease to use such practices.[157]

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 of the Mines 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

153. *Id.* § 54(1)-(2).
154. *Id.* § 54(2).
155. *Id.* § 55(1). Section 55(1) reads:

> (1) 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 cause within such reasonable time as the Engineer shall specify in the notification why he should not cease to use such practices.

156. *Id.* § 55.
157. *Id.* § 55(1).

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right holder has breached these obligations.[158] 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 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 (the holder) is either not using wasteful practices or that the use of such practices is justified under the circumstances.[159] 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.[160]

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 should do 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 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 terms as he sets.[161] 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.[162] It is important that the state not alter rights involving heavy outlays of capital without providing for planning of the joint venture.

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

158. *Id.* §§ 54, 55.
159. *Id.* § 55(2).
160. *Id.* § 54(1)(b).
161. *Id.* § 87(1).
162. *Id.*

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approval.[163] If the state makes equitable compensation to one whose interest is thereby modified, no problem generally arises.[164]

3. *Consequences of breach of obligations*

If the mining right holder breaches his statutory obligations, the Mines Act gives the government the right to terminate the mining right.[165] 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 also liable for a financial penalty.[166] For example, the state may recover any difference between the required expenditure and the actual expenditure.

These 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 is not responsible for the breach.[167] A mining right holder will not be deprived of his 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 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 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.[168] 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.[169]

The breach of any obligation does not *ipso facto* terminate the right granted, but merely gives the state the option to terminate the right.[170] No mining right has ever been terminated as the result of a breach. The cases that have arisen have been otherwise resolved. If the state does terminate the right, the decision may be appealed to the Mining Affairs Tribunal, which has power to amend or vary the state's decisions.[171]

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163. *See generally* Land Acquisition Act, 1972, LAWS OF ZAMBIA, ch. 296.
164. *Id.* §§ 10-14.
165. Mines and Minerals Act, *supra* note 2, § 89.
166. *Id.* §§ 88(1)-(2).
167. *Id.* § 91(a).
168. *Id.* § 91(b).
169. *Id.* § 91(c).
170. Section 90 states that the Minister "may" notify the holder of a breach, not "must." *Id.* § 90.
171. *Id.* §§ 124, 125(1)(a). Appeals against the state's decision to terminate mining rights in some sense limit the state's exclusive right to decide who can mine its mineral resources.

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CONCLUSION

This Article has examined whether the Zambian Mines and Mineral Act of 1976 establishes a legal regime which encourages the orderly exploitation and development of minerals and yet secures governmental revenue. To meet these objectives, the statute must ensure that mining rights are acquired by competent persons, that there is free access to mineral deposits, 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 places the state in control of mining operations at every stage. For example, the state may remove any tract of land from mineral exploration at any time; it may change terms of exploration and other mining rights; it may change operating requirements; and it may ultimately terminate mining rights in circumstances where mining operations are not performed in the interests of the country.

The Mines Act, however, grants the miner 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 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 Act through its discretionary power to grant or withhold prospecting rights. The state has thus been 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 mining rights.

Yet the Act also imposes some costs. The statute eliminates the opportunity for an individual to obtain mining rights. 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 costs of mining will exceed the financial capacities of individuals. Invariably, the future

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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 services of small miners, however, would still be useful to extract the small mineral deposits remaining in Zambia (e.g., tin in the Southern Province). Normally, a big company will not look at such deposits due to excessive overhead expenses. Small miners have suggested, therefore, that they have their own legislation. Although it is preferable to treat all miners equally, there may be a need for legislation dealing specifically with small mining. The state could also create a machinery and skilled labor pool from which such 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.

The Mines Act also 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 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. The Act must ensure the best climate for investment and rigorous entrepreneurship to promote increased production and mineral discovery.

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