

# PROSPECTING IN ZAMBIA THE ECONOMICS AND THE LAW

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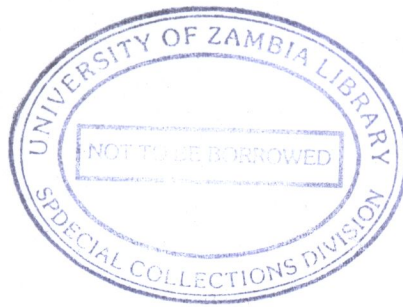
### STUDENT DECLARATION

I declare that this research paper entitled "Prospecting in Zambia: The Economics and The Law" is the result of my own research except as cited in the reference. The paper has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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# PROSPECTING IN ZAMBIA:

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THE ECONOMICS AND THE LAW

RODWYN PETERSON

## Abstract

The objective of this paper is to examine the legal systems regulating the grant and possession of exploration licences and how they may be exercised. The study, is comparative in its nature, aims at highlighting the similarities and differences between Zambia and Chile and thereby identifies interesting issues relating to the granting and exercising of mineral rights. The study examines mineral rights and different legal systems regulating mineral exploration. The focus is on mining and mineral legislation and its application, including the exercise of mineral rights within the realm of exploration. The systems chosen are those of Zambia and Chile. The main result is generated by the comparison dealing with the application, granting and possession of exploration licences. The legal processes concerning granting mineral rights are in fact complex as evidenced by this work. The continuous change of mineral legislation during the course of this study is an indication of the complexity of the topic.

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## Chapter 1

### Introduction

In the preface to the United Nations Conference on Trade and Development World Investment Report (United Nations Conference on Trade and Development 2011) Ban ki Moon writes:

*“Global foreign direct investment (FDI) has not yet bounced back to pre-crisis levels, though some regions show better recovery than others. The reason is not financing constraints, but perceived risks and regulatory uncertainty in a fragile world economy (United Nations Conference on Trade and Development 2011).*

*The World Investment Report 2011 forecasts that, barring any economic shocks, FDI flows will recover to pre-crisis levels over the next two years. The challenge for the development community is to make this anticipated investment have greater impact on our efforts to achieve the Millennium Development Goals (United Nations Conference on Trade and Development 2011).*

*In 2010 – for the first time – developing economies absorbed close to half of global FDI inflows (United Nations Conference on Trade and Development 2011)*

*They also generated record levels of FDI outflows, much of it directed to other countries in the South. This further demonstrates the growing importance of developing economies to the world economy, and of South-South cooperation and investment for sustainable development.*

*Increasingly, transnational corporations are engaging with developing and transition economies through a broadening array of production and investment models, such as contract manufacturing and farming, service outsourcing, franchising and licensing. These relatively new phenomena present opportunities for developing and transition economies to deepen their integration into the rapidly evolving global economy, to strengthen the potential of their home-grown productive capacity, and to improve their international competitiveness.*

*Unlocking the full potential of these new developments will depend on wise policymaking and institution building by governments and international organizations. Entrepreneurs and businesses in developing and transition economies need frameworks in which they can benefit fully from integrated international production and trade.”*

This statement indicates that notwithstanding the global slowdown there is still a large pool of investors ready to invest in the “right” destination, one that is not perceived as unstable and fragile; An economy that has a solid regulatory framework and one that safeguards investors’ rights.

With the bulk of foreign investment in Zambia been made in the mining sector and as Zambia is the largest copper producing country in Africa and undoubtedly one of the largest producers in the world, the potential for investment exists. The question that this study aims to address is how

the current mining regulatory framework affects the attractiveness of Zambia as an investment destination.

Zambia's wealth lies under the ground and in order to successfully attract investors who will exploit the mineral deposits we first have to attract them to search for the deposits. It is from this simple premise that the study was launched.

The study centres around the legal procedures and systems concerning granting or possessing exploration rights, with strong emphasis on security of tenure in respect of mineral rights. The study is comparative and aims at highlighting the differences between the regulatory systems of Zambia and Chile with the ultimate aim of identifying whether by virtue of its mining regulatory system Chile is seen as a more attractive exploration destination.

It is accepted that mineral policy alone is not the sole contributory factor to a country's attractiveness as an investment destination a survey by the World Bank (Otto, *The Changing Regulatory Framework for Mining Ventures* 1996) identified that mineral rights, more particularly ownership and control of these rights were second only to mineral potential in the ranking of mining companies investment decision factors

The analysis of the legal systems is based primarily on the mining code of the two countries with very little attention being paid to other aspects that affect investment decisions. Additionally there has been no case law included in this study, as this study has a macro view focusing on the

different processes and rules connected with the granting of exploration rights rather than solving a specific legal problem. Rights to oil and gas are treated separately in both Zambia and Chile therefore little to no attention has been focused on the grant of rights relating to the exploration of oil and gas.

The terms exploration and prospecting are used throughout the study and are used interchangeably, the Zambian mining code makes reference to prospecting while the Chilean code refers to any activities prior to mining as exploration. Prospecting involves searching a district for minerals with a view to further operations (Johnson 2010). The activity of exploration means improving knowledge about the bedrock with the ultimate objective of increasing the known stock of mineral resources that are amenable to economic exploitation (Copco 2011). No distinction is made between the terms prospecting and exploration in this study.

This study is divided into five chapters. This Chapter provides a background to the study, the objectives, limitations and methodology of the study. The second chapter provides a simplified overview of exploration and the economic benefits of exploration to both the mining company and to the host nation. The third chapter provides detailed descriptions of the legal systems relating to mineral exploration in both Zambia and Chile. A comparison and discussion is conducted in Chapter four highlighting the core differences between the codes with Chapter five is a reflection of the study as a whole.

## Chapter 2

### Mineral Exploration: An Overview

In this chapter the aim is to identify the basics of the economical aspects of mineral exploration as mining legislation is shaped with regard to these aspects.

Mineral exploration and development are investigative activities preceding mining (Eggert 2006). The perceived geological potential of a country is the fundamental factor which leads to mineral exploration investment, and the exploration phase is the most critical mining phase (O'Regan 2004).

The steps in the life cycle of a mineral deposit, as summarized by Charles Moon and Anthony Evans (Eggert 2006) are:

- i. Mineral Exploration – discovering the mineral deposit;
- ii. Feasibility study – proving commercial viability;
- iii. Mine Development – establishment of the entire infrastructure;
- iv. Mining – extraction of the ore from the ground;
- v. Mineral processing;
- vi. Smelting;
- vii. Refining;
- viii. Marketing; and
- ix. Closure.

A unique feature of mining is the circumstance that mineral deposits undergoing extraction are “wasting assets,” meaning that they are not renewable as are other natural resources. This

depletability of mineral deposits requires that mining companies must periodically find new deposits and constantly improve their technology in order to stay in business (Minesite 2012). Mineral deposits are not fairly or evenly distributed across the Earth, in order to find a commercially viable deposit a company must invest in and conduct exploration activities (Moon 2006).

Exploration is termed either Greenfields or Brownfields depending on the extent to which previous exploration has been conducted on the tenements in question. While loosely defined, the general meaning of brownfields exploration is that which is conducted within geological terrain within close proximity to known ore deposits. Greenfields are the remainder (Majoribanks 2010).

Greenfields exploration is highly conceptual, relying on the predictive power of ore genesis models to search for mineralisation in unexplored virgin ground. This may be territory which has been drilled for other commodities, but with a new exploration concept is considered prospective for commodities not sought there before (Majoribanks 2010).

The success rate of exploration and the return on investment is low because exploration is an inherently risky business (Kiruna Iron n.d.). Greenfields exploration has a low strike rate, because the geology is poorly understood at the conception of an exploration program but the rewards are greater because it is easier to find the biggest deposit in an area earlier, and it is only with more effort that the smaller satellite deposits are found. Brownfields exploration is less

risky, as the geology is better understood and exploration methodology is well known, however since most large deposits are already found the rewards are incrementally less (Kiruna Iron n.d.).

With such a high element of risk, the question may be postulated: why risk any capital on mineral exploration? The answer - the discovery of a commercially viable deposit and the establishment of a successful mining venture can provide much higher profitability than most other commercial ventures. (Moon 2006) The rewards of successful exploration and development can be large, if a mineral deposit is discovered, evaluated, and developed into a mine. For a mining company, successful exploration and development leads to increased profits. For a local community or nation, successful mineral exploration and development can lead to jobs—often well paying—that otherwise would not exist; to new infrastructure, such as roads and electric power supplies, that are catalysts for broader, regional economic development; and to increased government revenues that, in turn, can be invested in social priorities such as education, health care, and poverty alleviation (Eggert 2006).

The relationship between exploration and investment in the mineral industry cannot be underestimated; a 1992 report by the World Bank highlights the fact that countries in Sub-Saharan Africa attract an extremely low level of exploration interest which in turn leads to low levels of mineral production. According to the report annual expenditure on exploration in the range of \$250 to \$500 million per year would lead to the discovery of an average of five to ten viable mineral projects a year (World Bank 2002).

Mineral exploration is an investment and companies spend money in the expectation that potential income will be sufficient to cover all costs and make the company an acceptable profit (Eggert 2006). In the wider economic spectrum investment projects in the mineral sector compete for funds with other investment opportunities, both within and outside the mining sector. Typically, mineral exploration is extremely capital intensive and takes place in particularly remote locations with poor infrastructure (Johnson 2010). Any mining activity is associated with high levels of risk and according to Roderick G Eggert (Eggert 2006); the risk factors can be divided into four categories:

- **Geologic Factors:** these include the existence of a mineral deposit and the quality and quantity of such a deposit. According to Eggert geologic risk can be thought of as the likelihood and degree to which actual mineralization (its quantity and quality) differs from what is anticipated at the point a decision is made to undertake exploration or development (Eggert 2006).
- **Technical Factors:** Can a known resource be extracted and processed with existing or likely future technologies? Technical risk can be thought of as the likelihood and degree to which actual recovery of a mineral during mining and processing differs from what was anticipated (Eggert 2006).
- **Environmental, Social, and Political Factors:** Risks in this category can be thought of as the likelihood and degree to which actual environmental degradation or impacts on local communities differ from what was expected. Or the likelihood and degree to which

public attitudes, public policies, and the overall business environment differ from what was expected at the time of initial investment (Eggert 2006).

- Economic Factors: Eggert regards Economic risk is an overarching type of risk because it incorporates and reflects the three other categories of risk cited above. It incorporates the purely economic risks that actual mineral prices and production costs are different than anticipated at the time of initial investment (Eggert 2006).

A World Bank report by John Strongman predicted as far back as 1994 that by reforming their mining and investment codes African countries could attract exploration investment in the region of \$400 - \$500 million a year by the end of the 1990's (Strongman 1994) and a World Bank technical paper reinforced Strongman's views stating that an African country is capable of attracting as much as \$2.5 billion a year in exploration investment provided initiatives are taken to strengthen mining sectors and overhaul mining codes (World Bank 2002).

A 2011 Pricewaterhouse Coopers report states that after the world economic slowdown expenditure on mineral exploration has slumped with companies spending less than \$6 billion globally, but the writers forecast that the growth in the emerging world is likely to produce an upswing in the demand for energy and minerals. This is bolstered by China's most recent five year plan in which it forecasts an average of 12% growth year on year (Pricewaterhouse Coopers 2011).

A special report by the Metals Economics Group states that the cost of exploration has risen steadily over the last decade and the exploration dollars of yesteryear do not go as far as they used to. The rising costs of everything from fuel to geoscientists have seen the cost of exploration skyrocket (Metals Economics Groups 2009). The paper further confirms that the associated cost of exploration in underdeveloped regions of the world is higher due in part to the lack of developed infrastructure.

Where a destination is considered high risk, which is to say that the mineral deposit is in a remote location with no electric power supply, water supply, poor road and rail infrastructure, or is located in a nation characterized by political instability or that has unfriendly investor or business legislation, the mineral deposit will only be considered an acceptable exploration target if it is of exceptional quality. Anything less will not be mineable under the existing transportation, infrastructure and production costs (Moon 2006).

In their paper O'Regan and Moles state that exploration spending and location are driven by a mixture of push and pull effects, the higher the demand for raw materials the more a company is prepared to invest in the exploration for and the extraction of these products but highlight the fact that mining investment is highly mobile with mining companies concentrating their exploration investment in countries that offer the most attractive investment opportunities (O'Regan 2004).

## Chapter 3

### Legislative Overview

This chapter identifies the process involved in the application for and grant of a mineral prospecting licence in Zambia and Chile and is a precursor to the next chapter where a comparative analysis of the comprehensive rules that govern the allocation of exploration rights will be conducted. In this study Chile was selected because of the fact like Zambia Chile is recognized as having large copper deposits and the fact that in both countries all minerals belong to the state and concessions or licences are granted for the exploration and exploitation of any mineral yet despite these similarities Chile has consistently attracted larger amounts of foreign investment in contrast to Zambia.

#### Zambia

The description below focuses on the Mines and Minerals Development Act Number 7 of 2008 (the Act) which is the primary mining code, placing particular emphasis on the process and procedure of attaining a mineral prospecting permit.

In Zambia, the Ministry of Mines And Minerals Development through the Minister, the Director of Mines or the Director of Geological Survey is responsible for the granting of mining licences which are granted on first-come, first-served or auctioning basis. In cases where there is more than one application for mineral rights over the same area of land, the applications are handled in the order in which they are received, on a first-come-first served basis.

In Zambia a prospecting licence will be granted to:

- i. a person who is not under the age of eighteen years (MMDA 2008)<sup>1</sup>;
- ii. a person who is not an undischarged bankrupt, having been adjudged or otherwise declared bankrupt under any written law, or entered into any agreement or scheme of composition with creditors, or taken advantage of any legal process for the relief of bankrupt or insolvent debtors (MMDA 2008)<sup>2</sup>; or
- iii. a person who has not been convicted, within the previous ten years, of an offence involving fraud or dishonesty, or of any offence under this Act or any other law within or outside Zambia, and been sentenced to imprisonment without the option of a fine or to a fine exceeding fifty thousand penalty units (MMDA 2008)<sup>3</sup>; or
- iv. a corporate entity that is not in liquidation, other than liquidation which forms part of a scheme for the reconstruction of the company or for its amalgamation with another company (MMDA 2008)<sup>4</sup>;
- v. the entity is incorporated under the Companies Act (MMDA 2008)<sup>5</sup>.
- vi. the entity has an established office in Zambia to which communications may be sent and shall give notice to the Director, the Director of Mines Safety and the Director of Geological Survey of that address and of any changes of that address (MMDA 2008)<sup>6</sup>;
- vii. the entity does not have among its directors or shareholders any person who would be disqualified under the provisions of the Act (MMDA 2008)<sup>7</sup>.

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<sup>1</sup> Section 7 (2) (a) (i) of the Mines and Minerals Development Act 7 of 2008

<sup>2</sup> Section 7 (2) (a) (ii) of the Mines and Minerals Development Act 7 of 2008

<sup>3</sup> Section 7 (2) (a) (iii) of the Mines and Minerals Development Act 7 of 2008

<sup>4</sup> Section 7 (2) (b) (i) of the Mines and Minerals Development Act 7 of 2008

<sup>5</sup> Section 7 (2) (b) (ii) of the Mines and Minerals Development Act 7 of 2008

<sup>6</sup> Section 7 (2) (b) (iii) of the Mines and Minerals Development Act 7 of 2008

Provided that the application for a licence meets the requirements of the Act, the Director of Geological Survey is expected to grant the licence within sixty (60) days of receipt of the application (MMDA 2008)<sup>8</sup>. In the event that the Director rejects an application he must give the reasons for this to the applicant (MMDA 2008)<sup>9</sup>.

Facts and figures relating to a Prospecting Licence:

- Maximum size (ha): Area must not exceeding twenty-nine thousand, nine hundred and forty (29, 940) cadastre units, and represented by complete and not partial cadastre units;
- Duration: valid for 2 years (24 months) (MMDA 2008)<sup>10</sup>
- Renewal (months): It can be renewed for a further two year period but the total maximum period shall not exceed seven years. Application for renewal must be made not later than three months before the expiry of the prospecting licence. (MMDA 2008)<sup>11</sup>
- Relinquish areas: It is required that at least 50% of the initial prospecting area is relinquished on the first renewal and at least 50% of the balance, on the second renewal (MMDA 2008)<sup>12</sup>.
- The submitted proposed programme of prospecting operations must be adhered to (MMDA 2008)<sup>13</sup>.

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<sup>7</sup> Section 7 (2) (b) (iv) of the Mines and Minerals Development Act 7 of 2008

<sup>8</sup> Section 16 (1) of the Mines and Minerals Development Act 7 of 2008

<sup>9</sup> Section 15 (4) of the Mines and Minerals Development Act 7 of 2008

<sup>10</sup> Section 17 (1) of the Mines and Minerals Development Act 7 of 2008

<sup>11</sup> Section 17 (2) of the Mines and Minerals Development Act 7 of 2008 read with Section 24 (1) of the Mines and Minerals Development Act 7 of 2008

<sup>12</sup> Section 24 (2) (c) of the Mines and Minerals Development Act 7 of 2008

<sup>13</sup> Section 19 (1) (d) of the Mines and Minerals Development Act 7 of 2008

- An environmental management plan must be submitted and complied with (MMDA 2008)<sup>14</sup>.
- In conducting of operations, purchases, construction and installation of facilities, must give preference to materials and products made in Zambia (MMDA 2008)<sup>15</sup>; service agencies located in Zambia and citizen-owned companies. In terms of employment and training, preference must be given to citizens of Zambia, to enable them qualify for advancement (MMDA 2008)<sup>16</sup>.
- Reports are to be submitted to the Director of Geological Survey (MMDA 2008)<sup>17</sup>.

The licence holder is obligated to commence prospecting operations within exceed ninety days from the date of the grant of the licence<sup>18</sup> and has exclusive rights to prospect over the size of area covered by the license for the minerals specified in it (MMDA 2008)<sup>19</sup>, other than gemstones, and to reasonably carry out activities incidental to the prospecting operations.

An exploration licence is transferable (MMDA 2008)<sup>20</sup> but can only be transferred after notifying the Minister not less than thirty days, giving such details of the transferee as would be required in the case of an application for a prospecting license (MMDA 2008)<sup>21</sup>. In the course of exercising any rights under a prospecting licence, if the holder discovers any mineral not

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<sup>14</sup> Section 14 (2) (c) of the Mines and Minerals Development Act 7 of 2008

<sup>15</sup> Section 13 of the Mines and Minerals Development Act 7 of 2008

<sup>16</sup> Section 14 (2) (e) of the Mines and Minerals Development Act 7 of 2008

<sup>17</sup> Section 19 (1) (k) of the Mines and Minerals Development Act 7 of 2008

<sup>18</sup> Section 19 (1) (a) of the Mines and Minerals Development Act 7 of 2008

<sup>19</sup> Section 14 (2) (b) of the Mines and Minerals Development Act 7 of 2008

<sup>20</sup> Section 21 of the Mines and Minerals Development Act 7 of 2008

<sup>21</sup> Section 21 (2) of the Mines and Minerals Development Act 7 of 2008

included in the prospecting license, he may apply to the Director of Geological Survey for an amendment of his licence to include the discovered mineral (MMDA 2008)<sup>22</sup>.

The holder of an exploration permit is compelled to:

- a. notify to the Director of Geological Survey of the discovery of the mineral to which the prospecting licence relates or any mineral deposit of possible commercial value within thirty (30) days of the discovery (MMDA 2008)<sup>23</sup>;
- b. spend on prospecting operations not less than the amount prescribed or required by the terms and conditions of the prospecting licence to be so expended (MMDA 2008)<sup>24</sup>;
- c. carry on prospecting operations in accordance with the programme of prospecting operations (MMDA 2008)<sup>25</sup>;
- d. backfill or otherwise make safe any excavation made during the course of the prospecting operations, as the Director Geological of Survey may specify (MMDA 2008)<sup>26</sup>;
- e. permanently preserve or otherwise make safe any borehole in the manner directed by the Director of Geological Survey and surrender to Government, without compensation, the drill cores, other mineral samples, the boreholes and any water rights in respect thereof, on termination (MMDA 2008)<sup>27</sup>;
- f. unless the Director of Geological Survey otherwise stipulates, remove, within sixty (60) days of the expiry or termination of the prospecting licence, any camp, temporary

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<sup>22</sup> Section 23 (3) of the Mines and Minerals Development Act 7 of 2008

<sup>23</sup> Section 19 (1) (e) of the Mines and Minerals Development Act 7 of 2008

<sup>24</sup> Section 19 (1) (c) of the Mines and Minerals Development Act 7 of 2008

<sup>25</sup> Section 19 (1) (d) of the Mines and Minerals Development Act 7 of 2008

<sup>26</sup> Section 19 (1) (f) of the Mines and Minerals Development Act 7 of 2008

<sup>27</sup> Section 19 (1) (g) of the Mines and Minerals Development Act 7 of 2008

- buildings or machinery erected or installed and repair or otherwise make good any damage to the surface of the ground occasioned by the removal, in the manner specified by the Director of Geological Survey (MMDA 2008)<sup>28</sup>;
- g. keep and preserve such records as the Minister may prescribe, relating to the protection of the environment (MMDA 2008)<sup>29</sup>;
  - h. keep full and accurate records at the holder's office, of the prospecting operations and shall present them with mineral samples and other reports containing the information required under the licence and the Act, at least once in every three (3) months, digital and hard copies of the records to the Director, Director of Geological Survey and Director of Mines Safety (MMDA 2008)<sup>30</sup>.

An application for a prospecting licence must be made to the Director of Geological Survey in the prescribed form upon payment of the prescribed fee and must include the following stated below, and upon compliance thereof, ensures the grant of the licence:

- a. a full description, with geographical coordinates, of the area of land over which the licence is sought, but not exceeding the maximum area size allowable; or in the case where more than one license is held by a single entity, the number of licences must be such that the accumulated total area covered is not more than one hundred and forty-nine thousand, seven hundred (149, 700) cadastre units (MMDA 2008)<sup>31</sup>

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<sup>28</sup> Section 19 (1) (h) of the Mines and Minerals Development Act 7 of 2008

<sup>29</sup> Section 19 (1) (i) of the Mines and Minerals Development Act 7 of 2008

<sup>30</sup> Section 19 (2) of the Mines and Minerals Development Act 7 of 2008

<sup>31</sup> Section 14 (2) (a) of the Mines and Minerals Development Act 7 of 2008

- b. a statement of the minerals to be searched for (MMDA 2008)<sup>32</sup>;
- c. an environmental management plan including the applicant's proposals for the prevention of pollution, the treatment of waste, the protection and reclamation of land and water resources, and for eliminating or minimizing the adverse effects on the environment of prospecting operations (MMDA 2008)<sup>33</sup>;
- d. *the proposed programme of prospecting operations and an indication of the investment commitment in the proposed prospecting operations (MMDA 2008)<sup>34</sup>*;
- e. the applicant's proposals with respect to the employment and training of citizens of Zambia (MMDA 2008)<sup>35</sup>;
- f. the applicant's proposals for the promotion of local business development (MMDA 2008)<sup>36</sup>;
- g. a tax clearance certificate issued under the Income Tax Act (MMDA 2008)<sup>37</sup>; and
- h. such further information as may be prescribed by the Minister by statutory instrument. l

In making the decision to grant the licence or not, the Director of Geological of Survey assesses the application criteria also in light of the following:

- a. the applicant is the holder of another mining right and is in breach of any condition of that right or any provision of the Act (MMDA 2008)<sup>38</sup>;

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<sup>32</sup> Section 14 (2) (b) of the Mines and Minerals Development Act 7 of 2008

<sup>33</sup> Section 14 (2) (c) of the Mines and Minerals Development Act 7 of 2008

<sup>34</sup> Section 14 (2) (d) of the Mines and Minerals Development Act 7 of 2008

<sup>35</sup> Section 14 (2) (e) of the Mines and Minerals Development Act 7 of 2008

<sup>36</sup> Section 14 (2) (f) of the Mines and Minerals Development Act 7 of 2008

<sup>37</sup> Section 14 (2) (g) of the Mines and Minerals Development Act 7 of 2008

<sup>38</sup> Section 13 (b) of the Mines and Minerals Development Act 7 of 2008

- b. the area of land for which the applicant has made the application, or a part of it, is subject to another mining right and the holder thereof has not consented to the exercise of the right in respect of which the application is made; or it extends to or is included in, an area in respect of which the Director of Geological Survey has granted preliminary investigation rights on conditions which impose work or expenditure obligations, unless the applicant is the holder of that right (MMDA 2008)<sup>39</sup>; or
- c. the area of land for which the application is made covers or includes an area of land for which an application has been made by another person who has priority over the applicant (MMDA 2008)<sup>40</sup>.

In cases where an application for a prospecting licence is made in respect of an area over which a previous prospecting licence has been held for seven (7) years, a new prospecting licence cannot be granted before a period of two (2) months has elapsed since the expiry of the previous licence (MMDA 2008)<sup>41</sup>.

## Chile

In Chile mining concessions are established by judicial decree (Mining Code 1983)<sup>42</sup>, this means that an application is made to the courts for the grant of a concession and allocation of concessions is on a first in time basis (Mining Code 1983)<sup>43</sup>. An application for a concession to explore must state (Mining Code 1983)<sup>44</sup>:

- The name, nationality and address of the applicant;

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<sup>39</sup> Section 13 (c) of the Mines and Minerals Development Act 7 of 2008

<sup>40</sup> Section 13 (d) of the Mines and Minerals Development Act 7 of 2008

<sup>41</sup> Section 15 (5) of the Mines and Minerals Development Act 7 of 2008

<sup>42</sup> Article 34 of the Chilean Mining Code

<sup>43</sup> Article 41 of the Chilean Mining Code

<sup>44</sup> Article 43 of the Chilean Mining Code

- The geographical coordinates of the central point of the surface of the concession;
- Designation or name of the concession; and
- The area, expressed in hectares, which area cannot exceed five thousand hectares.

A decision regarding an application for an exploration concession must be made within ninety days from date of application (Mining Code 1983)<sup>45</sup> and if no decision is forthcoming the applicant or applicants as the case may be are entitled to request a decision.

As to the legal nature of mineral rights, the state has absolute, inalienable, imprescriptible ownership of all minerals (Mining Code 1983)<sup>46</sup> and the right to explore or exploit the mines is granted by way of concessions. Mining concessions are considered independent and distinctive from property (surface) rights even if they have the same owner. Exploitation licenses have all the traits of real property rights and so, they are freely transferable and mortgagable, and are protected by constitutional guarantees against taking without adequate compensation.

Exploration and exploitation concessions share the following characteristics:

- a. They entitle concession holders to property rights that are different to those held by owners of the surface lot of land. Thus, two owners of a given tract of land may exist (one in the case of the surface lot of land and the other in the case of the mining concession) (Mining Code 1983)<sup>47</sup>;

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<sup>45</sup> Article 45 of the Chilean mining code

<sup>46</sup> Article 1 of the Chilean Mining Code

<sup>47</sup> Article 2 of the Chilean Mining Code 1983

- b. They entitle concession grantees to an easement in the surface land in order to permit prospecting and mining activities in connection with the concession, as well as the operation of facilities for processing minerals (Mining Code 1983)<sup>48</sup>;
- c. They are subject to a licensing system, payable to the national Treasury. Failure to comply with this obligation may entail loss of the concession (Mining Code 1983)<sup>49</sup>;
- d. They grant the right to hold title to any waters found during the mining activities provided that these are necessary for the performance of such activities (Mining Code 1983)<sup>50</sup>; and
- e. They can be waived, notwithstanding the right of third parties to oppose such action to the extent that they are affected by it.

Chilean mining legislation does not include special causes for the cancellation of concessions, like the failure to comply with an investment plan and abandonment with the exception of cases where the application fees are not paid or annual mining licence fees are in arrears, as private property rights are protected by the Constitution. If the annual mining concession fees are in arrears, the designated Court can put up the mining concession for auction (Bastida, Mining, Investments and Policy Developments Argentina, Chile and Peru 2005).

The licence confers on its holder the legal rights to explore for mineral substances in a specified area. The holder also has the exclusive right to:

- a. make trial boreholes and generally undertake prospecting activities (Mining Code 1983)<sup>51</sup>;

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<sup>48</sup> Article 19 of the Chilean Mining Code 1983

<sup>49</sup> Article 18 of the Chilean Mining Code 1983

<sup>50</sup> Article 30 of the Chilean Mining Code 1983

- b. initiate the procedure for obtaining a mining concession within the boundaries and during the time period of the exploration concession, as it deemed as a legal continuity to the process for filing for a mining concession (Prieto 2001);
- c. use the minerals that are the subject of the concession for the purposes of exploration and investigation (Mining Code 1983);
- d. be indemnified in the event of an expropriation (Mining Code 1983); and
- e. oppose mining activities that third parties may attempt to conduct within the boundaries of the concession (Mining Code 1983).

The holder of an exploration licence has the legal right to explore and extract mineral substances that are the subject of the concession. A mining concession is a real property right which is transferable, transmittable to another eligible holder without the prior written consent of the granting authority, and defensible against the State or whatever individual and in general is subject to the same civil laws applying to real property. The concession can also be used as collateral to secure loans taken to finance the project (Ortuzar 2006).

Its holder is entitled to:

- i. hold title to all extracted mineral substances that are the subject of the concession (Mining Code 1983); and
- ii. be indemnified in the event of an expropriation (Mining Code 1983).
- iii. request for mining easements for access over surface real estates, which can be either negotiated and agreed with the surface land's owner or granted by the judicial courts in

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<sup>51</sup> Article 14 of the Chilean Mining Code 1983

case of lack of understanding between parties, for the full term of the mining project (Mining Code 1983).

The process of applying for a Mining Concession requires an exhaustive and technically demanding survey, but it is not required that the existence of a commercial deposit be proven nor is prior review by the state of the applicant's technical and financial qualifications is required (Minesite 2012).

## Chapter 4

### Analysis and Comparison

Set against the backdrop of the ongoing global economic slowdown and in the midst of warnings over the state of the global economy there are some predictions that the mining industry will continue its upward trajectory bolstered by the increased demand in the emerging economies (Pricewaterhouse Coopers 2011) lead by China; whose economy the Organisation for Economic Co-operation and Development expects to grow at a rate of 8.5% in 2012 (Pricewaterhouse Coopers 2011). The world continues to demand more resources but in spite of the positive predictions for the mining industry, Price Waterhouse Coopers forecasts that mining companies will be holding on tightly to the purse strings when it comes to exploration investment.

Africa has to date not attracted mining investment commensurate with its natural resources while Latin America has successfully attracted millions of dollars in investment (Pepukaye Bardouille 2011). A comparison of the different systems will be conducted in this chapter with the structure chosen being to detail the activities and rights necessary for the exploration of minerals. In this respect, the comparison is from the point of view of the miner or developer, particularly given the different kinds of obligations and restrictions placed on their activities. The comparison is built on the legislative analysis in chapter's three and four. The aim here is to present an overview of the similarities and differences based on the country's mining codes. The comparison is loosely shaped around the framework created by Otto and Cordes (James Otto 2002) with the core issues addressed being:

1. The application and allocation of mineral rights;
2. Rights and obligations of holders of mineral rights; and
3. Transferability and cancellation.

There are generally two main systems that regulate mineral ownership across the globe, private ownership systems and state owned or concessionary systems and in both Zambia and Chile all minerals belong to the state and concessions or licences are granted for the exploration and exploitation of any mineral.

The basic principle in a private ownership system is that any minerals belong to the owner of the land where the minerals are found (Johnson 2010) The minerals are accessories to the land, this is an extension of the principle of property law *cuius est solum, eius est usque ad coelum et ad inferos* (*for whoever owns the soil, [it] is theirs all the way up to Heaven and down to Hell*) (Andres Bonifacio College 2011) Under a system of private ownership mineral rights are capable of being privately owned and the rights are fully transferable, saleable and can be mortgaged. In some private ownership systems minerals belong to the land owner and cannot be severed from the land, in other systems mineral ownership exists separate to the land and mineral rights can be individually owned and traded, acquisition of mineral rights can occur between individuals without government intervention. Notable countries that have a private ownership system include Australia, USA and until recently South Africa. Blackstone's Commentaries (Blackstone 1765) capture succinctly the essence of private mineral ownership:

*“Land hath also, in its legal signification, an indefinite extent, upwards as well as downwards. Cuius est solum, ejus est usque ad coelum, is the maxim of the law, upwards; therefore no man may erect any building, or the like, to overhang another's land: and, downwards, whatever is in a direct line between the surface of any land, and the center of the earth, belongs to the owner of*

*the surface; as is every day's experience in the mining countries. So that the word "land" includes not only the face of the earth, but everything under it, or over it. And therefore if a man grants all his lands, he grants thereby all his mines of metal and other fossils, his woods, his waters, and his houses, as well as his fields and meadows."*

In a state owned or concessionary system the rights to minerals vest in the state and mineral rights are detached from ownership of the land. Governments grant mining and exploration rights to specified areas by means of concessions, leases, licences or agreements (World Bank 2011). The core principles integrated into a state owned or nationalist ownership system are:

- Mineral resources belong to the state;
- The right to explore and exploit these mineral resources may be temporarily transferred to an individual or corporate entity through a written document, normally called a license or lease;
- The mineral rights granted through such a license or lease is considered real estate properties, but is independent from surface or land ownership rights;
- The granted license or lease usually does not provide for visible physical boundaries (such as fencing); instead, the area is usually delimited by geographic references or coordinates;
- The holders of the granted license or lease must fulfill pre-established conditions to maintain their rights over the area; and
- When the validity of the granted license or lease ends, the rights return to the state.

In Zambia no exploration activities may be conducted without an exploration licence and application for exploration rights may be made by any person not disqualified (MMDA 2008), the process of allocation is characterized by a strict, governmentcentric system.

This is dissimilar to Chile where a person may, with the consent of the land owner, explore any land without a licence provided that the land is not subject to a concession. This is not to imply that all exploration in Chile is undertaken without a licence, an exploration concession may be granted to the first person who applies in respect of that land and the applicant is required to give only his name and the location of the land over which the concession is sought, it must be noted that any exploration activities must be conducted in accordance with the environmental laws.

In Zambia the process of attaining a prospecting licence is highly regulated and requires that the applicant deliver an environmental impact assessment, a program of works and proposals in respect of the applicants' plans inter alia for employment and training of Zambians, additionally the applicant must have a valid tax clearance certificate and a registered office in Zambia (MMDA 2008).

The Zambian code also demands that the holder of an exploration licence report regularly and conduct any exploration activities in accordance with the submitted program and any exploration may only be conducted in respect of the mineral named in the application.

The mineral ownership system in Zambia falls squarely in the realm of the state or concessionary system with the mineral code (MMDA 2008) pronouncing explicitly; all rights of ownership in,

searching for, mining and disposing of, minerals, wheresoever located in the Republic are hereby vested in the President on behalf of the Republic. This form of ownership extends beyond the realm of base metals into the the petroleum and natural gas arena as confirmed in the Petroleum (Exploration and Production) Act which states that the entire property in and control over petroleum and accompanying substances in whatever physical state, located in any land in Zambia vests exclusively in the President on behalf of the state.

An exploration permit may be issued to a person who is not disqualified under the Act. In order to obtain an exploration permit the applicant must make a formal application to the Director of Geological Survey (the Director). The total area over which a prospecting licence may be issued is limited and all applications must include; a full description with geographical coordinates of the area over which the licence is sought, a statement of the minerals to be searched for, an environmental management plan – which must be approved by the Zambia Environmental Management Authority, an indication of the investment commitment in the proposed prospecting operations, proposals with respect to the employment and training of citizens of Zambia, a proposal for the promotion of local business development, a tax clearance certificate and any other information as may be required by the minister.

The Act states that a mining right shall not be granted or held by a company unless the company is incorporated and has an established office in Zambia. Further, none of its directors may be under eighteen and no licence will be granted to a company with a director who has been convicted of an offence involving fraud or dishonesty additionally, a tax clearance certificate under the Income Tax Act is required. Essentially this requires the applicant to have a presence

on the ground on the ground so to speak and expend substantial capital prior to their application for a prospecting licence being processed.

The application process is technical, complex and tightly wrapped in proverbial red tape. Government intervention is prominent throughout the entire process and the applicant is required to jump through hoops before they can even submit their application.

The Act places applicants at the mercy of the Director who, when considering applications for exploration licenses, is mandated to take into account the financial resources, technical competence and experience of the applicant as well as whether the proposed programme of prospecting operations is adequate and makes proper provisions for environmental protection. If the land is in a National Park, game management area, National or local forest or is a bird sanctuary the Director must be satisfied that the necessary permission has been obtained from the relevant government authority (MMDA 2008).

Provided the applicant meets the requirements as set out in the Act the Director is meant to grant a prospecting licence within sixty days from date of receipt of application. The licence is issued for a period of two years renewable on expiry for a further two years up to a maximum of seven years. The Act provides for the right to renew but such renewal is at the discretion of the regulatory agency (MMDA 2008).

Where a renewal is sought the applicant must prove that it is not in breach of any of the original conditions set out in the original prospecting licence and must undertake to carry out an adequate

programme of prospecting operations. With each renewal the holder of the licence must relinquish at least half of the area designated prospecting area. The licence gives the holder exclusive right to carry out prospective operations in the prospecting area for the minerals specified in the licence (MMDA 2008).

This exclusive right should not be interpreted to mean that the holder is the only person authorized to carry out any activity on the prospecting area. The Act allows for a mining right to be granted over an area that is subject to another mining right provided the applicant obtains consent from the holder of the right, which consent may not be unreasonable withheld. While the concept of reasonableness is worthy of a paper on its own, the Act does demand that the holder of a mining right over an area which an application for a second mining right is made give their consent within ninety days where the minerals applied for are different, the geological position of the minerals are different or the minerals applied for are industrial minerals (a rock or minerals other than gemstones, base metals, energy minerals or precious metals used either in their natural state or after physical or chemical transformation and includes but is not limited to barites, dolomite, feldspar, fluorspar, graphite, gypsum, ironstone when used as a fluxing agent, kyanite, limestone, phyllite, magnesite, mica, nitrate, phosphate, pyrophyllite, salt, sands, clay, talc, gravel and any other minerals so used) and the holder is not eligible under the Act. In the event that the holder withholds consent the applicant may apply to the Mining Advisory Committee (MMDA 2008).

In Zambia the holder of a prospecting licence is obligated to commence prospecting operations within ninety days from date of grant of licence and must conduct the prospecting operations in

accordance with the programme submitted with the application and the Act demands that the amount spent on the prospecting operations be no less than the amount set out in the conditions under which the licence was granted (MMDA 2008).

The holder is obliged to keep records of any work done on the prospecting area, such as details of boreholes drilled, minerals discovered, number of persons employed, the strata penetrated, results of any data analysis and any matter prescribed by the minister and must furnish the Director, Director of Mines and the Director of Mines Safety with digital and hard copies of the records at least once every three months (MMDA 2008).

The Director has extensive power in respect of the obligations of the licence holder and may issue directions regarding backfill or evacuation, order that the licence holder permanently preserve any borehole drilled and surrender it to government without any compensation and he may direct that on expiry the licence holder within sixty days remove any camp, buildings or machinery and repair or make good any damage to the ground occasioned by the removal (MMDA 2008).

Where the holder of a prospecting licence fails to adhere to the prescribed rules and regulations such person commits an offence under the Act and such person is liable, on conviction, to a fine or imprisonment (MMDA 2008).

Any amendments to the programme of prospecting operations can be made only on approval of the Director who may approve the amendments with or without modification and on terms and

conditions as he so prescribes. A prospecting licence may be transferred to any other person provided that the holder notifies the Minister of Mines no less than thirty days before the intended transfer and that the Minister is satisfied that the intended transferee is not disqualified from holding the prospecting licence and may approve the transfer. The final right of approval rests with the Minister. The Act also allows for the alteration of the prospecting area on the approval of the Director and on such terms as decided by him. Abandonment of land subject to a licence may also only be done on application to the minister and shall only be effective from date on which a certificate of abandonment is issued. A mining licence generally, including a prospecting licence may be terminated or suspended on terms and conditions as may be determined by the Director of Mines or the Director of Geological Survey (MMDA 2008).

Where a mining licence is terminated or suspended the holder of the licence must surrender to the Director of Mines, the Director of Geological Survey or the Director of Mine Security all records, plans and maps of the area and any other documents any of the above mentioned Directors so order (MMDA 2008).

Obtaining a licence does not bestow onto the to the holder immediate right of entry to the area to which the licence applies, and the holder must obtain consent from the relevant body, which body means inter alia the owner/occupier of the land, the chief, railway administration and local government authorities. The licence holder is obligated to enter into a lease agreement with the owner of the land prior to exercising any of the rights contained in the licence (MMDA 2008). Additionally once access is granted, any development to the land can only be done once authorisation under the Town and Country Planning Act has been obtained.

In Zambia all land vests absolutely in the President and is to be held for and on behalf of the people of Zambia (Land, Conversion of Titles Act 1975). The current statutory system does not recognise freehold title and all land is leased from the state for a maximum period of one hundred years at prescribed rent and on terms and conditions and with covenants as may be prescribed. In this paper reference to ownership of land is not distinguished from statutory lease of land, unless the context so indicates.

Zambian law provides that no person shall sell, subdivide, transfer, assign, sub-let, mortgage, charge or in any manner whatsoever encumber or part with possession of his land or any part thereof or interest therein without the prior consent in writing of the President. Which consent may be subject to terms and conditions as The President may see fit and which terms and conditions shall then be binding and shall not be questioned in any court or tribunal (Lands Act n.d.).

Land may be owned by any Zambian and the Lands Act (Lands Act n.d.) allows the President to alienate land to a non-Zambian in the following circumstances:

- (a) where the non-Zambian is a permanent resident in the Republic of Zambia;
  
- (b) where the non-Zambian is an investor within the meaning of the Investment Act or any other law relating to the promotion of investment in Zambia;

- (c) where the non-Zambian has obtained the President's consent in writing under his hand;
- (d) where the non-Zambian is a company registered under the Companies Act, and less than twenty-five per centum of the issued shares are owned by non-Zambians;
- (e) where the non-Zambian is a statutory corporation created by an Act of Parliament;
- (f) where the non-Zambian is a co-operative society registered under the Co-operative Societies Act and less than twenty-five per centum of the members are non-Zambians;
- (g) where the non-Zambian is a body registered under the Land Act and is a non-profit making, charitable, religious, educational or philanthropic organisation or institution which is registered and is approved by the Minister for the purpose of this section;
- (h) where the interest or right in land is being inherited upon death or is being transferred under a right of survivorship or by operation of law;
- (i) where the interest or right in question arises out of a lease, sub-lease, or under-lease for a period not exceeding five years, or a tenancy agreement;
- (j) where the non-Zambian is a Commercial Bank registered under the Companies Act and the Banking and Financial Services Act;

(k) where the non-Zambian is granted a concession or right under the National Parks and Wildlife Act.

As already mentioned above, mineral ownership in Zambia is separate from Land ownership with both vesting in the President, this means that a person may own his land but the President still owns any mineral resources that may exist under it.

The question then arises what happens when the state grants a mineral licence and the land is not owned by the person to whom the licence is granted. In this regard the mining codes are of some assistance, all be it prohibitive assistance. Both the petroleum and mining codes prohibit a licence holder from exercising their rights under the licence so granted without the consent of the land owner or the chief (if the land is situated in a village). Even where permission is granted by the land owner, he or she still retains a right to use water on the land or graze their livestock (Petroleum (Exploration & Productions) Act 2008). Further both codes require the licence holder to *on demand promptly* pay the owner or occupier compensation for any disturbance of the rights of the owner or occupier and for any damage done to the surface of the land (Petroleum (Exploration & Productions) Act 2008). While the demand will not prevent the holder of the licence from ultimately exercising his rights (MMDA 2008) it emphasises the weaker status of mineral licence holders against that of land owners.

Dale describes security of tenure as the length of time that a company will have a mineral right. He goes on to identify key tenure issues identified in mineral operations as being (Mo 1996):

- duration of licence;
- ability to renew;
- cancelation of licence;
- minimum work commitments;
- minimum expenditure commitments;
- obligatory relinquishments;
- filing of work plans and budgets;
- reporting requirements;
- linkage between the right to prospect and the right to mine; and
- Transfer of rights.

In concessionary systems where mineral rights vest with the state, the state tries to achieve optimal exploitation of mineral resources for the benefit of the people of the country (Mo 1996). They do this by placing checks and balances – licence holders must report regularly; file in records; state the minimum capital they intend to spend; show how the investment is a benefit to the Zambian people; present an environmental impact report prior to the grant of a licence.

In a concessionary system like Zambia, the level of security afforded to licence holders' vests in the licence granted. Dale states that in an effort to improve the security of tenure offered under a mining licence or a concession that the rules of play must be transparent and specifically that ministerial intervention is minimized (Mo 1996). Further he states, that the methods of obtaining, securing, maintaining and terminating a licence need to be transparent and free from state intervention (Mo 1996).

Security of tenure has been identified as the single most important decision making factor by international investors (World Bank 2005). Otto with particular reference to security of tenure during the exploration period, states that companies granted exploration rights will want the rights to be secure for a time period appropriate to ascertain whether the allotted ground contains commercially viable ore bodies (James Otto 2002). Otto is of the view that this often in conflict with the strategy of most governments who are interested in seeing timely exploration of the land and in an event where the progress is not in accordance with the timeframe designated by the state the ground should be made available to alternate exploration companies as soon as possible and therefore many governments establish time limits (James Otto 2002). Otto estimates that on average the period from initial surveying to first rock break takes a minimum of 8 years (Otto, A Global Survey of Mineral Company Investment Preferences 1992).

Like most concessionary systems, Zambia has legislated time frames in which the different phases of mining must be done. A prospecting licence is granted under the mining code for an initial period of two years renewable for a further period of two years to a maximum of seven years (MMDA 2008)<sup>52</sup>. Both the mining and petroleum codes also prescribe that prospecting operations commence within ninety days from grant of licence (MMDA 2008)<sup>53</sup> and must be conducted in accordance with a prospecting program that the licence holder is obligated to provide on application for a licence. Where an extension to the licence is granted, this extension is granted on the condition that the licence holder relinquishes at least half of the ground over

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<sup>52</sup> The mines and minerals development act section 17

<sup>53</sup> Section 19(1)(a) of the mines and minerals development act

which the original licence was granted (MMDA 2008)<sup>54</sup>. While this seems like a reasonable proposition, this time frame and mandatory relinquishment on renewal must be measured against the minimum average exploration time frame.

There is usually a lengthy period between the discovery of the deposit and the exploitation of the deposit, this is often required so as to allow the mining company to conduct assessments, feasibility studies, and market research, arrange funding, and assess the commercial viability of the deposit (Otto, A Global Survey of Mineral Company Investment Preferences 1992) In Zambia once a deposit is found separate application must be made for the right to develop and exploit it. Of crucial concern is protection of the rights of the licence holder between the grant of the exploration licence and the grant of the exploitation licence. Neither of the primary mining and exploration codes provides for a retention, transition or linkage licence. The only licences available are an exploration or exploitation licence. In a government centric system like Zambia where the granting of licences is an administrative task begs the question “how safe is my discovery?”

Pritchard states that it is important for investors to take into account a potential host countries adherence to the rule of law, going further to state *“if a host country does not provide adequate security and stability, a foreign investor will balk at making an investment”*. (Pritchard 1995)

The Mines and Minerals Development Act nullified any development agreements that were in existence in Zambia and prohibits the state from entering into any new development agreements. Neither of the exploration codes promotes the alternative methods of dispute resolution, such as

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<sup>54</sup> Section 22(4)(d) of the petroleum (exploration and production act) & section 24(1)(c) of the Mines and Minerals Act

arbitration and mediation, therefore in Zambia the primary method of dispute resolution, particularly relating to disputes arising out of the mining codes is litigation in Zambian Courts. Whilst alternative dispute resolution clauses may be written into other commercial contracts the final governing forum will always be a court of law.

Latin America has over the better part of the last decade undergone legal reform in relation to its mining and investment codes; this has resulted in an unparalleled surge of investment into the region. Strengthening private mining rights and security of tenure, streamlining procedures and a minimization of State intervention are features that have been at the core of reform efforts (Bastida, Mining, Investments and Policy Developments Argentina, Chile and Peru 2005).

Chile set up the basis for the reform of the mining sector in the early 1980's with a strong focus on private investment. The design of their mining policy was intended to establish the conditions for attracting foreign investment, namely a free market economy, a mining law establishing sound and transparent rules and minimizing State intervention, and free access to mineral resources (Bastida, Mining, Investments and Policy Developments Argentina, Chile and Peru 2005).

Chilean reform has placed a particular emphasis upon the establishment of a straightforward system for granting titles, removing the burden of approvals, negotiations and discretionary powers of public employees, and also on the elimination of outdated legal institutions founded in anachronistic technical and economic criteria (Bastida, Mining, Investments and Policy Developments Argentina, Chile and Peru 2005). The essence of the Chilean Code is the

reduction of discretion in the exercise of government authority, with the limitation of technical intervention at the core of its legitimacy, and the provision of security of tenure and stability. It is thought that "the simpler the process for acquiring and maintaining mineral rights and the more limited the amount of government discretion in processing and issuing mineral titles, the greater the level of security of the holder of such rights". (Bastida, Mining, Investments and Policy Developments Argentina, Chile and Peru 2005)

A concession granted under the code allows the holder to explore and exploit any minerals found under the area to which the concession is subject except for hydrocarbons and lithium (MMDA 2008). Under the code any person, not only the holder of a concession, is entitled to conduct exploration activities on any land (except land which is subject to a concession) with written permission of the land owner. A person conducting such exploration is obligated to compensate the owner of the land for any damage caused.

A decision regarding an application for an exploration concession must be made within ninety days from date of application (Mining Code 1983) and if no decision is forthcoming the applicant or applicants as the case may be are entitled to request a decision.

As to the legal nature of mineral rights, the state has absolute, inalienable, imprescriptible ownership of all mines (Mining Code 1983) and the right to explore or exploit the mines is granted by way of concessions. Mining concessions are considered independent and distinctive from property (surface) rights even if they have the same owner. exploitation licenses have all the incidents of real property rights and so, they are freely transferable and mortgagable, and are

protected by constitutional guarantees against taking without adequate compensation. This system has enabled the creation of a market in mineral rights. Such rights may be freely accessed, used, transferred and mortgaged with almost no other limitation than health, safety and environmental regulations.

The Chilean laws have gone further and have left to the investor the decision as to whether, when and how to start mining operations, without any further requirements than a gradual increase in the annual rental fee. Chile has fully implemented the concept of security of tenure as involving the minimisation of uncertainties encompassed in carrying out large-scale minerals development profitably.

The World Bank in its mining policy guidelines in which it proposed the Chilean Mining Code as a model for the reform of mining laws throughout the Latin American region adopted Otto's wide definition that security of tenure means the stability of rights granted to implement different phases of the mining sequence. This wide interpretation comprises not only the transition from discovery to mining but expands to cover all phases of the regulation of mining from exploration through to development (Bastida, *A Review of the Concept of Security of Mineral Tenure Issues and Challenges* 2000) and has proposed that a regime of secured tenure ensures that a right once granted cannot be suspended or revoked except on specific grounds which must be clearly set out by the law, fundamental to security of tenure is the right must be able to be transferred or mortgaged (Otto, *The Changing Regulatory Framework for Mining Ventures* 1996). This effectively means that security of tenure is treated as top priority and allows a holder of a concession to transfer it or leverage it as security for financing.

Under the Chilean Code the only requirement to keep an exploitation concession is payment of the annual exploration fee; there are no work or reporting obligations placed on the holder of the concession. Basically, once a person has been granted a concession over an area what they do in that area is up to them, subject of course to the environmental and other laws. Of particular significance is the fact that the Chilean mining code provides for dispute resolution by arbitration before an independent arbitrator (Mining Code 1983)

A Global Development Network paper highlights the fact that less than one hundred years ago Chile and Zambia produced comparable amounts of copper and at one point Zambia's production exceeded that of Chile. The authors of the GDN paper also highlight the similarities between the countries as regards the ownership of copper over the years; in a nutshell both countries have gone through a process of private ownership and state ownership then back to private ownership. Subsequent to the return of privatized mines the differences between the two economies became more apparent. In 2008 Chile was producing on average ten times more copper year annum than Zambia. In the same period investment in Chile's mining industry was over four billion dollars (Meller 2011).

As earlier alluded to foreign investors play a crucial role in the developing the natural resources of a nation; these companies are the ones who explore, discover and exploit mineral deposits. The link between untapped deposits and foreign investment cannot be overstated.

According to the Behre Dolbear Group Incorporated Report (Behre Dolbear 2012) Chile (with a score of 51 out of 70) is still one of the best countries to invest in behind only Canada and Australia while Zambia (with a score of 26 out of 70) is not the worst it ranks very low down the scale of surveyed countries. The study is based on the below criteria rated on a scale of 1 to 10 with 1 being the worst and 10 being the best:

- The country's economic system;
- The country's political system;
- The degree of social issues affecting mining in the country;
- Delays in receiving permits due to bureaucratic and others issues;
- The degree of corruption prevalent in the country;
- The stability of the country's currency;
- Competitiveness of the country's tax system.

The economic rating is concerned primarily with the amount of government interference in trade; the report states that 'protectionist sentiments impede trade, acquisitions and investment. Chile, Australia and Canada scored 9 reflecting Chiles continuing to implement policies that advocate mining investment. Zambia with its score of 5 was not amongst the bottom five {Russia (1), Bolivia (2), D.R.C., Kazakhstan and South Africa (3)} but its failure to rank in the top three is, in this writers opinion, almost as bad. By failing to rank highly the perceived view is that the Government is considerably involved in trade, and it is solely the perception of a country that is sold to investors.

The Political system criteria dealt with security of tenure based on a country's mining law and its prior history of nationalization of mines as well as environmental, land, water or other economic claims that thwart, delay or kill mining projects. Notably Chile ranked highest tied on 9 with Canada, ahead of the United States and Australia, Zambia scored 4 again placing it not in the bottom three but floating somewhere in the lower middle range.

Interestingly Chile was not the highest ranked in the delays in receiving permits due to bureaucratic and others issues category, and once again Zambia was not in the bottom with the United States and Papua New Guinea. In this category Chile scored 6 and Zambia 5 once again placing Zambia below Chile in the rankings as an investment destination.

While not directly related to the regulatory framework, the impact of corruption cannot be removed as a factor to be considered when assessing the attractiveness of an investment destination. Corruption extends from the highest levels of government to lower level government officials (Behre Dolbear 2012). It goes without saying that the more closely entwined mining and government are the more potential there is for corruption. Zambia scored a lowly 3 in this year's rankings.

The two country's Chile and Zambia are similar in both the untapped mineral potential as well as their mining regulatory codes. The major difference in the codes being the treatment of mineral rights; the Chilean code recognizes mining rights as real rights whilst under Zambian law the holder of a mineral right has limited ownership of the right – the holder cannot freely transfer or otherwise encumber the licence.

The obvious question therefore is what can Zambia do to raise its game, how does she get back onto the top of the log and compete with Chile, Australia and Canada for the millions of investment dollars.

## Chapter Five

### Conclusion

The aim of this paper is not to go into the merits of which country has the better legal system but rather seeks to analyse the impact each policy has on the inward flow of foreign direct investment to that country. It is accepted that mineral policy alone is not the sole contributory factor to a country's attractiveness as an investment destination however, a survey by the World Bank (Otto, A Global Survey of Mineral Company Investment Preferences 1992) identified that mineral rights, more particularly ownership and control of these rights were second only to mineral potential in the ranking of mining company's investment decision factors.

The goal of a mineral policy is to achieve good governance and transparency in the management of natural resources in order to enhance their contribution to national and regional economic development (Sa n.d.). To achieve these aims a country must attract investment from foreign players, mining is a global industry and countries must compete to attract capital from mining companies who have the technical, financial and managerial capabilities to develop new mining operations (World Bank 2011).

Foreign Direct Investment Projects are exposed to high levels of risk and uncertainty and there is no blueprint or guide to ascertain what constitutes the perfect investment destination. Investors require stability and predictable rules of play; this is especially true with mineral exploration and development investment decisions. Mining Companies tend to carry out exploration investment decision making in three parts (Pritchard 1995);

- Evaluation of the commercial prospects and potential profitability of the project,
- Assessment of the risks involved, and
- If the rewards outweigh the risks, the investors may opt to proceed.

While the geological potential of a destination is the single most important factor in determining the attractiveness of a country (Eggert 2006), the legal regime is of equal if not paramount importance. Potential host country legislation is always closely reviewed to establish the legal rules of play. On the whole, the legal regimes of Zambia and Chile as regards mineral exploration are almost mirror images of each other. The fundamental difference between the two is the manner in which the mining right is granted as well as the nature of the right granted.

The application process in Zambia is technical, complex and tightly wrapped in proverbial red tape. Government intervention is prominent throughout the entire process and the applicant has many administrative channels to navigate before they can even submit their application. Applicants at the mercy of the Director who, when considering applications for exploration licenses, is mandated to take into account the financial resources, technical competence and experience of the applicant as well as whether the proposed programme of prospecting operations is adequate and makes proper provisions for environmental protection. The holder of a mining licence is mandated to keep detailed records of any work done on the prospecting area, and must furnish the Director, Director of Mines and the Director of Mines Safety with digital and hard copies of the records at least once every three months.

In contrast the process of obtaining a prospecting licence in Chile is separate to the administrative functions of the government department tasked with ensuring compliance. Interested parties make an application to the courts for the grant of the required licences, which, provided all the required documentation is supplied, are issued unconditionally thus reducing the potential for corruption.

In Chile the right is a private property right which grants the holder thereof the right to transfer, transmit and mortgage the right without any prior authorization but subject to the obligations under which the right was granted (Mutemeri 2011). In Zambia however, an exploration right is personal to holder – in essence the right always belongs to the state and the holder is simply granted permission to exercise the right. The right may not be transferred without Government approval; proponents of this approach argue that this authorization ensures that the transferee is a fit and proper person to hold mineral rights in accordance with local legislation (Mutemeri 2011).

As evidenced above Chile has seen and continues to see a surge in popularity as a mineral exploration (and ultimately exploitation) destination and while investment into Zambia continues to grow it is still perceived as a high risk destination. Regarding the question raised in Chapter One as to whether Chile's regulatory environment makes it a more attractive destination appears to be answered in the affirmative by this study.

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