

Mineral Rights and Sustainable Development in the Copper Mining Industry on Zambia: A Case Study of Lumwana and Kansanshi Mines

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Abstract: - Sustainable development from mining activities must recognize the finite nature of minerals and hence the needs for the creation of linkages where the benefits from mining continue to be enjoyed long after the natural resources have been depleted. In order to facilitate these linkages, the economic gains from the mining industry should be equitably distributed among all the stakeholders in any project area. Studies show that in Zambia, the economic benefits from the mining projects are not equitably distributed among the stakeholders and that the problem stems from the lack of involvement of all stakeholders in the process of granting mineral exploitation rights to would be investors. So far there is little known about whether indeed there is equitable distribution of economic wealth among stakeholders in the mining projects or whether all the stakeholders are involved in the procedure for granting mineral exploitation rights. The main objective of this research was to evaluate whether the method of granting mineral exploitation rights influences the equitable distribution of economic benefits among the stakeholders from mining projects. A study was carried at Lumwana and Kansanshi Mines of the North-Western Province in Zambia. Specifically the study evaluated: the extent to which the current way of granting mineral exploitation rights affects the equitable distribution of economic benefits among the stakeholders from a mining project; whether a grant of mineral exploitation rights through negotiations by the stakeholders before the commencement of a mining project would be capable of bringing about the equitable distribution of economic benefits from a mining project to all stakeholders; and whether there are other factors which may have impinged on the equitable distribution of economic benefits from the mining projects other than the method of granting mineral exploitation rights. A case study approach was adopted and a qualitative method was employed. The respondents were selected purposively. Six focus group discussions, each consisting of ten respondents were conducted and interview guides were used to collect data from key informants. Data was analysed thematically. The study revealed that the current procedure for granting mineral exploitation does not allow for equitable distribution of economic benefits. The study also revealed that the equitable distribution of economic benefits was achievable through negotiations with all stakeholders before granting mining licences. Furthermore, the study revealed that there are no other factors that affect the equitable distribution of economic benefits. The study concluded by recommending that the procedure for grant of mineral exploitation rights should be revised to include all stakeholders in a negotiation before mining licence is granted. Secondly, that there should be a plan beforehand on how the revenue from mining projects will be expended depending on the needs of all stakeholders involved.

Keywords: Procedure, Stakeholder, Mining licence, Investor, Local Authority, Community,

Introduction

Since 1969 the method of granting mineral exploitation rights has been provided for by statutes (Ndulo, 1986). It can therefore be argued that there has been no equitable distribution of economic benefits from the mining activities in the copper

Mining projects in Zambia. The equitable distribution of economic benefits requires that before a mining project commences, all stakeholders agree on what is expected, from their respective perspectives (Masinja and Simukanga, 2014).

The aim of the study was to examine whether the current method of grant of mineral rights to resource exploitation brings about an equitable distribution of economic benefits among the stakeholders. The research went further to:

- I. To examine whether a grant of mineral exploitation rights through negotiations by the stakeholders before the commencement of a mining project would be capable of bringing about the equitable distribution of economic benefits from a mining project to all stakeholders.
- II. To determine whether there is other factors which may have impinged on the equitable

distribution of economic benefits from the mining projects other than the method of granting mineral exploitation rights.

Scope of the Study

The assessment focused on a case study of Kansanshi and Lumwana copper mines located in North-Western Province of Zambia. The study was extended to all stakeholders in the two communities covering all stakeholders as depicted in Figure 1. These included the mining companies (investors), government agencies, local authorities and the communities (the owners of the land and beneficiaries from the mining projects).

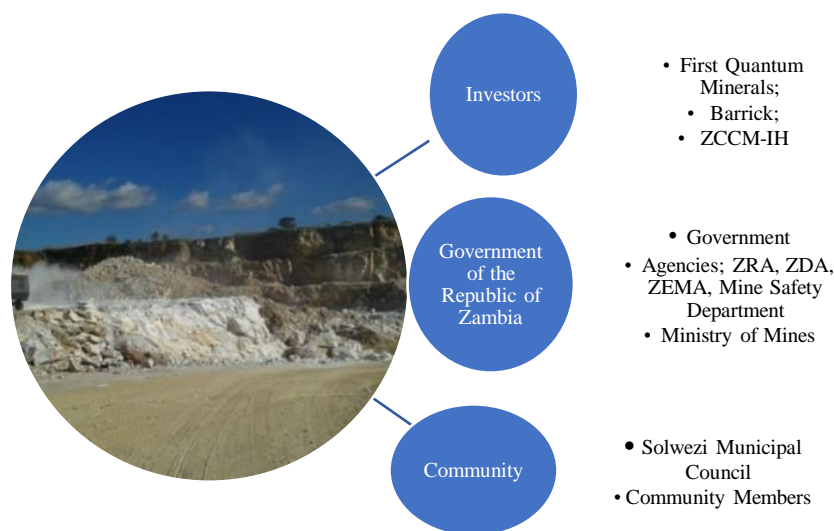


Fig: 1. Scope of the study

Research Methodology

In this research, data collection comprised two parts. The first part was a review of published scholarly writings, especially on the subject of sustainable development in the extractive industry, contract negotiation, and review of laws and other materials on the grant of mineral exploitation procedures. The second part of the research was a case study of Lumwana and Kansanshi Mines. This part involved in-depth interviews and focus group discussions, using the purposive sampling, particularly on the process of grant of mineral exploitation rights. The in-depth interviews were held with government officials at the Ministry of Mines, representatives of mining companies, officials from local municipalities, while focus

group discussions were conducted with representatives of community members

Sustainable Mining Development

Sustainable development is development which takes into consideration economic, social and environmental objectives (Blewit, 2008). It is defined as “meeting the needs of the present generation without compromising the ability of the future generations to meet their own needs” (Hilson and Murck, 2000; Kogel, Trivedi and Herpfer, 2014; Swilling and Annecke, 2015).

Mining has the ability to impact the environment and other human activities negatively in a project area and in some cases beyond. Sustainable development in the mining industry requires,

among other things, saving and reinvesting in the industry an amount equal to what has been extracted and sold (Kumah, 2006). It also requires that the economic gains from the mining industry are equitably distributed among all the stakeholders in the industry. In order to sustain wealth from mineral resources they have to be transformed into other forms of capital, as well as sustainable means of livelihood opportunities for people affected by such activities (AfDB, 2007). The finite nature of minerals demands the creation of linkages where the benefits from mining activities continue to be enjoyed long after the natural resources have been depleted (Fessehaie and Mike, 2013; Olanya, 2015).

Zambia is a resource rich country, containing the largest known reserves of copper in Africa accounting for 6% of the world's known copper reserves (World Bank 2011). The Frazer Institute survey of mining and exploration companies ranks Zambia's mineral potential 26th out of 79 countries world-wide (World Bank, 2011). It is estimated that Zambia has 2.8 billion tonnes of ore ranging from 0.6 to 4% copper (World Bank, 2011). Global demand for copper is estimated to grow at 3% annually to 25 million tonnes by 2020 (World Bank, 2011). The mineral resource potential coupled with the big demand for copper on the global market provides Zambia with a good prospect of growth in the copper mining industry (World Bank, 2011). Zambia has been in the business of mining and exporting copper for about a century now. Copper contributes about 9.5% of GDP and makes up 75% of Zambia's total export earnings (AfDB 2016).

Although mineral resources have the potential to generate economic wealth (Azapagic, 2004; UNECA, 2011; ICM, 2012), mining does not in itself accord a mineral resource rich nation an outright benefit (Manley, 2013). The minerals are part of Zambia's capital wealth much like farms, factories and roads. It takes good management and distribution of both the mineral wealth and revenues in order for any of the benefits to be realised (Azapagic, 2004; Kumah, 2006; World Bank, 2011; Manley, 2013). The most challenging

task that the mining sector faces is to show that it is contributing to the welfare and wellbeing of the present generation without negatively impacting the quality of life of the future generations (Azapagic, 2004).

It has been pointed out that in Zambia, the economic benefits from the mining projects are not equitably distributed among the stakeholders. This has been majorly attributed to the way mineral exploitation rights are granted (Masinja and Simukanga, 2014). The authors argue that negotiations for mining contracts are often cumbered with complications and qualms by both investors and respective governments. It is observed that the investor will normally do their due diligence covering critical areas such as:

- Knowledge about the host government and its political landscape
- Resource base being targeted
- Better understanding of the product
- Market processes and strategies
- Conversant with the host countries' operational industries code as well as any past mining contracts.

The host government on the other hand would be ill equipped with little or no knowledge about the investor and may in certain instances not fully understand the resource and may not have prepared their demands and expectations beforehand. The only tool the host governments normally have is the regulatory framework guideline without working out any possible short term or long-term impact of any possible negotiated outcome on the local or national economies.

In order to maximise benefits from a mining project, it is important for the host country and the investor from the onset to identify their principles, priorities and objectives they wish to achieve from that project (Mensa, 2016). The terms of the agreement should be those which maximise opportunities for achieving the most benefits for both the government of the host country and the investor alike. The current method of grant of mineral exploitation rights is provided for by the Mines and Minerals Development Act No.11 of

2015 as read with the Mines and Mineral Development (General) Regulations, 2016, Statutory Instrument No.7 of 2016.

The concept of sustainable development envisages human activities, inclusive of mining being conducted in a way that the activity and the outcome of that activity brings about a long-term contribution to the livelihood of mankind (Blewit, 2008). Sustainable development has been defined by the Brundtland Commission in the report entitled “Our Future” as “meeting the needs of the present without compromising the ability of future

generations to meet their own needs” (Hilson and Murck, 2000; Kogel, Trivedi and Herpfer, 2014; Swilling and Annecke, 2015).

Sustainable development has further been defined as “the balancing of economic, social, environmental objectives, integrating them through mutually supportive policies, and practices, and trade-offs” (Kumah, 2006). The emphasis here is on the integration of the three pillars of sustainability, that is, the environment, economic and social, into development policymaking. One popular way of depicting the three pillars is shown in Figure 2.

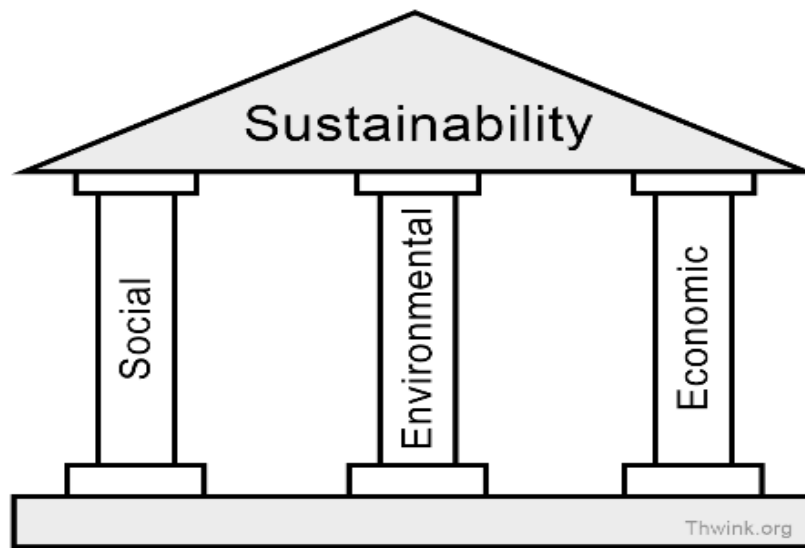


Figure2. Sustainability pillars

Should any pillar be weak, then the system as a whole is unsustainable. It therefore, requires the industry to come up with strategies which recognize and embrace the responsibility to the society, environment in the region and the world at large (Angelakoglou and Gaidajis, 2013).

Human activities not only consume the natural capital by relying on the ecosystem services to support the standard and quality of life, but also frequently impair the environmental services through productive activities (Blewit, 2008). These activities include the consumption of mineral and energy resources that cannot be renewed or regenerated (Blewit, 2008).

Mining by its nature has the capacity to cause serious negative impacts on the environment (Hilson and Nayee, 2002) as well as on other human activities; depletion of non-renewable resources, alteration of landscape, chronic soil erosion, heavy metals overloading, acid mine drainage (Hilson and Nayee, 2002; Azapagic, 2004; Franks, Boger, Cote and Mulligan, 2011) and thus affecting the quality of water for drinking and other uses; agriculture and displacement of local communities; generally threatens the health and safety of both workers and the inhabitants of the project areas (Azapagic, 2004; Hilson and Murck, 2000; Tutu, 2013). The economic, environmental and social issues that arise in mining are summarized in the Table 1.

Table1. Summary of the key sustainability issues for the mining and minerals sector

Economic issues	Environmental issues	Social issues
Contribution to GDP	Biodiversity loss	Bribery and corruption
Costs, sales and profits	Emissions to air	Creation of employment
Distribution of revenues and wealth	Energy use	Employee education and skills development
Investments (capital, employees, communities, pollution prevention and mine closure)	Global warming and other environmental impacts	Equal opportunities and non-discrimination
Communities, pollution prevention and mine closure	Land use, management and rehabilitation	Health and safety
Shareholder value	Nuisance	Human rights and business ethics
Value added	Product toxicity	Labour/management relationship
	Resource use and availability	Relationship with local communities
	Water use, effluents and leachates (including acid mine drainage)	Stakeholder involvement
		Wealth distribution

Source: Azapagic, 2004

There is no blue print for achieving sustainable development, even in the mining sector. Various schools of thoughts have come up with different interpretations and different ways of attaining sustainable development in the mines (Hilson &

Table2. Sustainable development principles

1.	Implement and maintain ethical business practices and sound systems of corporate governance
2.	Integrate sustainable development considerations within the corporate governance
3.	Uphold fundamental human rights and respect cultures, customs and values in dealings with employees and others who are affected by our activities
4.	Implement risk management strategies based on valid data and sound science
5.	Seek continual improvement of our health and safety performance
6.	Seek continual improvement of our environment performance
7.	Contribute to conservation of biodiversity and integrated approaches to land use planning
8.	Facilitate and encourage responsible product design, use, re-use, recycling and disposal of our products
9.	Contribute to the social, economic and institutional development of the communities in which we operate
10.	Implement effective and transparent engagement, communication and independently verified reporting arrangements with our stakeholders

Source: Kogel, Trivedi and Herpfer (2014) of sustainable development concept across the industry (Kogel, Trivedi and Herpfer, 2014).

Against this backdrop a challenge is posed on demonstrating how mining can contribute “to the welfare and well-being of the current generation without compromising the quality of future generations” (Azapagic, 2004). There is need for an economic output to the mining activities in order

Murck, 2000). However, the international mineral community came up with the sustainable development principles outlined in Table 2 in 2003 as a guideline for the equal application

for the rehabilitation of the damage caused to the environment by the mining activity to be possible.

According to Tutu, sustainable development is paramount when dealing with non-renewable resources like mineral resources (Tutu, 2013). An evaluation of the contribution of an economic activity to GDP takes into account not just the revenues that are generated but also linkages that

the activity generates. The forward and backward linkages are what contribute mostly to GDP.

Mineral resources should provide positive linkages to economic growth (World Bank, 2006). According to the Africa Mining Vision 2030 (AMV) proposals for exploiting the mineral resources and collecting and managing the revenues are not enough. It is just one of the issues that should be considered in formulating a policy. It is proposed that development corridors, clusters of industrialization and sharing infrastructure should be created. This proposal is the opening up the mining industries to linkages with local, national and regional economies.

It is claimed that the African mining paradox lies in the deficiencies in historical structures. This is mainly from the practice of time immemorial of direct export of minerals to industrialized countries at the expense of African development, in particular the policy of isolating the mining activities from the rest of the local economies. A wrong impression is generally created that African countries benefit from mining because mining makes up the major source of public revenue through taxation.

The Role of Mineral Resources in Development

The conventional view on natural resource wealth is that it is a catalyst for development. The revenues from the extractive sector are meant to translate into capital for education, infrastructure and some other stock from which the nation should benefit and improve its economy (Olanya, 2015; Venables, 2016). It is generally believed that the availability of natural resources would provide an advantage for rapid growth; examples for this have been drawn from such countries as Britain, Australia, Canada, Japan, the United States and Sweden (Joya, 2015; McMahon and Moreira, 2014). Natural resources should generate funds for investment and demand through market linkages (Joya, 2015; McMahon and Moreira, 2014; Olanya, 2015; Fessehaie, 2012).

Sustainability could be attained for mineral reserves by saving and reinvesting in the industry an amount equal to what has been extracted and sold on an annual basis (Kumah 2006). Some positive impacts can be seen from mining activities, amid a lot of

controversy in trying to link sustainable development to mining, mainly because mineral resources are finite and non-renewable and therefore there is a high chance of reducing the future generation's access to the resources (Vintro, Sanmiquel and Freijo, 2014).

However, it has been observed that natural resource endowment does not in itself warrant automatic economic growth; in fact, modern literature suggests that it can have an adverse effect on growth and development (Joya, 2015). Since the 1980s skepticism from most economists as to whether natural resource abundance does induce good economic output has ensued (Joya, 2015; Kumah, 2006; Olanya, 2015). The reasons for failure to extract economic growth from mineral resources range from lack of capital to invest in mining projects, inefficient institutions to poor management of resources (Kumah, 2006) and weak governance (Swilling, 2012). Mineral endowment is considered an implicit form of capital with potential to bring about socio-economic growth where there is equitable distribution and management of wealth and where the revenues from mining activities are invested in infrastructure, facilities and social services especially for communities around the mining areas (Tutu, 2013).

Many theories have followed this skepticism, one of which is the resource curse (Olanya, 2015). Resource curse is a theory that political systems in natural resource endowed countries are the least likely to attain development when the natural resources take centre stage of the economy (Collier, 2010). Closely related to the resource curse theory is another theory which suggests that mineral economies dependency on a single resource for development, mainly through income from its export, is a reason for lack of economic growth, the Dutch disease. The reason advanced for this is that dependency on a single dominant commodity causes other sectors of the economy to be neglected by the resource rich countries (Venables, 2016; Gilberthorpe and Papyrakis, 2015; Collier, 2007).

Other reasons for failure by mineral dependent economies to make economic strides have been attributed to failure to put in place the right growth

promotion policies and strong institutions to manage the development process (AfDB, 2007; Gilberthorpe and Papyrakis, 2015; Swilling, 2012).

According to this theory the discovery of mineral has been seen as a paradox in relation to the prevalence of poverty (Collier, 2007). This view is that there is an adverse relationship between mineral resource endowment and economic development (Gilberthorpe and Papyrakis, 2015). There are many explanations given to support this view. Problems cited include rent seeking as propounded by Jeffrey Sachs (Collier, 2007), which in turn leads to a balance of payments crisis (Pereira, 2010). The conclusion is that governance is at the core of this problem (Collier, 2007; Venables, 2016; Sebastian and Rave, 2016). It has been contended, on the other hand, that mineral wealth can bring about opportunities and develop social relationships. What is highlighted in some research is how intertwined the political process is in resource extraction at a local level and underlines inequalities, social dislocation and conflict that can lead to a resource curse (Gilberthorpe and Papyrakis, 2015).

According to Collier, normally the discovery of mineral resource should be a catalyst for development which sometimes it is but there are some exceptions to this (Collier, 2007). He further notes that countries with discovery of mineral resources end up poor and that the most that the resource rich countries can get to is the middle-income status (Collier, 2007). Growth is said to be facilitated by specific primary products which are connected to the export markets. This growth is explained by using linkages, which are either backward and forward or outside and inside (Fessehaie and Mike, 2013; Olanya, 2015). The fiscal linkages are outside linkages which stand for state participation in the income generated from the exports; forward linkages have the capacity for economic development; inside linkages occur when the state has moved to a state of entrepreneurship away from the status quo, while outside linkages diffuse the concentration of economic power and wealth by introducing other players on the scene (Ramdoo, 2013; Olanya, 2015). Variations in the

economies only come about with policies, institutions, state building and political inclusiveness (Olanya, 2015). It is important to harness growth in order to overcome stagnation with only occasional booms and busts (Collier, 2007; Pereira, 2010).

Collier argues that it is difficult to manage volatile revenues because when there is a boom the governments spend excessively. This kind of behaviour, it is argued, does not allow for public investments and also it is difficult for governments to adjust their spending pattern during the time of a bust (Collier, 2007).

The Resource Curse

The term “resource curse” was coined by Gelb (World Bank Group, 2006; Fessehaie and Morris, 2013). It ‘describes the inverse relationship between resource abundance and economic growth (Sebastian and Raveh, 2016; Gilberthorpe and Papyrakis, 2015; Collier, 2007; Collier, 2010; Swilling, 2012). The resource curse thesis was first proposed by Sachs and Warner and later improved on by Collier (Swilling, 2012).

The Dutch Disease

Related to the resource curse is a situation known as the “Dutch disease”. The situation arises where the exploitation of the mineral resources is properly managed to a level where exchange rates appreciate through the export of the minerals. The damaging aspect of this situation comes about when there is over reliance on this single source while other sectors of the economy are neglected and hence destabilises the macroeconomics (Venables, 2016).

More specifically the term is derived from the discovery of large gas deposits in the Netherlands which had a negative effect on Dutch manufacturing in the nineteen sixties (Corden, 1984; Poncela, Senra & Sierra, 2017). The sudden increase of the country’s wealth due to in flow of unprecedented capital reduced the competitiveness of other sectors (Poncela, Senra & Sierra, 2017).

The natural resource curse and the Dutch disease constitute economic and political and institutional problems (Pereira, 2017). The Dutch disease has

been seen to be an obstacle to industrialisation (Pereira, 2017). On the other hand, it has been argued that the natural resource boom can be a catalyst for growth and development while the resource curse can be avoided by employing the right knowledge, institutions and policies (AfDB, 2007).

The reason for the underperformance of mineral economies, notwithstanding the theories explained above is over spending, spending on wrong things and under-investing (Collier, 2007; Venables, 2016). To leverage this, some suggestions have been given to let private sector create sustainable jobs and economic growth and therefore resource management should be centred on supporting private sector investment (Venables, 2016). The distribution stage of mineral exploitation, where resources are distributed among the investors, government and others is seen as a critical stage in the exploitation of mineral resources. This is in reference to the investments which will flow from the revenues generated which make some investment suggestions and among them investments that ultimately support the private sector investments (Venables 2016).

The limitations in the various studies is that all the suggestions, such as, emphasising on linkages (Fessehaie and Morris, 2013; Olanya, 2015; World Bank, 2006; Ramdoo, 2013); providing checks and balances in governance to avoid corruption; the governments' prioritising its expenditure and investment (Collier, 2007); decentralisation of the fiscal economies where local governments of remote areas were not efficient in handling fiscal policies and prevalence of corruption (Venables, 2016), are all theoretical. A more practical solution is required such as the proposed model, where all the foregoing suggestions can be factored including the interpretation of all the linkages in form of a formula into which all the income and expenditure from a mining project should feed.

Bruckner (2009) argues that resource curse is a symptom of societies infested with corruption and lack sufficient checks and balances on political decisions. Politicians are at the core of economic development in resource rich countries (Bruckner

2009). In his finding, Bruckner (2009) identifies that corruption is usually facilitated by many steps and procedures to export the resources. The many steps and procedures present loopholes for government officials to be offered bribes as an incentive to circumvent the process for impatient exporters. This reduces on the much-needed revenue.

As well as identifying the causes of lack of economic development in resource-rich countries, different scholars have come up with different solutions. Another challenge associated with the lack of economic development in mineral economies, which is also linked to a nation's policies is the 'lopsided trading' (Tutu, 2013). This is the kind of trading where natural resources are exported cheaply, as no value is added and later imported as finished products at a much higher price (Tutu, 2013).

In order to address this seemingly multi-dimensional problem, it is suggested that a multi-faceted approach should be employed, that is, legal, institutional, and administrative involving all stakeholders and obtain co-operation all stakeholders (Dolphyne, 2013).

Dolphyne (2013) agrees with Bruckner (2009) that the resource curse or Dutch disease are not conditions shrewd in mysteries, they are realistic outcomes of mismanagement of resources including the revenues from the exploitation of the mineral resources.

The success stories of mineral resources spurring into development in countries like Canada, Australia are attributed to not just the availability of resources but also the transformation in business and financial organisation, education, research and knowledge development, human capital accumulation and infrastructure expansion. They point to stable political institutions that had respect for the rule of law and a good business environment (Dolphyne, 2013). Natural resources are essential for countries to attain addition financial development and consequently there is need to manage, through policy, the resources and the wealth that is produced for future development

(AfDB, 2007). Table 3 shows proposed policy options

Table 3: Policy option proposals

1.	Creating a viable, integrated and diversified mining industry throughout the value chain, and sustaining mineral wealth without compromising environmental, social and cultural considerations and ensuring a regulatory framework that encourages mineral creation.
2.	Investing transitory mineral revenues to ensure lasting wealth and deciding how much ought to be saved and how much should be invested and in what.
3.	Distributing benefits from mining equitably, balancing and managing conflicting local and national level concerns and interests and deciding what form the allocation should take to promote pro-poor growth.
4.	Ensuring sound systems of governance and a stable macroeconomic policy, which curbs rent seeking and corruption; addresses issues such as Dutch disease and externalities such as unstable commodity prices and enhances public interest in wealth conservation.

Source: (Dolphyne 2013).

It has also been proposed that in order to judiciously exploit mineral resources, high corporate, social and environmental standards be engaged through policy, legal framework, a good fiscal regime and creation of employment. Table 4 presents a summary of strategies that can be employed in the exploitation of mineral resources.

Table 4: Proposed strategies for judicious exploitation of mineral resources

1.	Achieving better allocation of revenues from mineral resource and redistribution of the benefits of mineral wealth through improvements in the governance and management of revenue flows derived from mining and through decentralisation of decision-making and resource allocation.
2.	Promoting a calculated, well informed spending, saving and investment (in other assets) strategy which prioritises human, social and physical capital creation and transformation of mineral wealth into financial assets that yield returns.
3.	Promoting the stabilisation of mineral resources revenue and reducing fiscal imbalances through greater fiscal discipline, a certain level of fiscal conservatism and increased capacity for forecasting and managing mineral revenues with a view of reducing uncertainties about their magnitude, mitigating market externalities and minimising adverse macro-economic impacts associated with commodity price fluctuations.
4.	Enhancing governance systems, organisational and institutional capacity, particularly in the ministries of finance and planning, and in local government.
5.	Forging tri-sector partnerships and creating coalitions of change among public, private (mining companies) and stakeholders to improve community livelihoods and to maximise other socioeconomic and development outcomes.
6.	Empowering communities in mining regions so that they are able to make informed decisions and better participation in their own development.
7.	Unbundling the sector and promoting a strategy that encourages local procurement and outsourcing of goods and service, value addition and local beneficiation from minerals, and that also optimises business multipliers and enhances linkages between mining and other sectors of the economy including at the local community level.
8.	Encouraging mining companies have in a more social and corporate responsibility manner with a view to improving the social relevance of mining.

Source: (Dolphyne 2013).

Dolphyne (2013) observes that the above strategies are general and therefore, there is a need to apply them in a contextual way and in a specific country. Furthermore, for the policies to be effective they should form part of the whole programme of poverty reduction and growth strategy and should be mainstreamed in other development plans. The writer proposes for a people as opposed to a profit-

oriented mining, which is a partnership between the government, local communities and other stakeholders facilitated through policies, legal and regulatory frameworks.

Conceptual Contract Model for Mineral Resource Negotiation

The model proposed by Masinja and Simukanga (2014) for equitable distribution of economic benefits among stakeholders from any mining project requires interface among the stakeholders. The model applies to the entire extractive industry

but for the purposes of this study, the application is restricted to the copper mining industry in Zambia. The model identifies three stakeholders in a negotiation, that is, the government, investor and host community. All these have different and specific interests which must be taken into account in order to have a sustainable operation (Azapagic 2004; Masinja and Simukanga, 2014).

Figure 3 best summarises the operational tripartite structure in terms of the interests of the respective stakeholder.

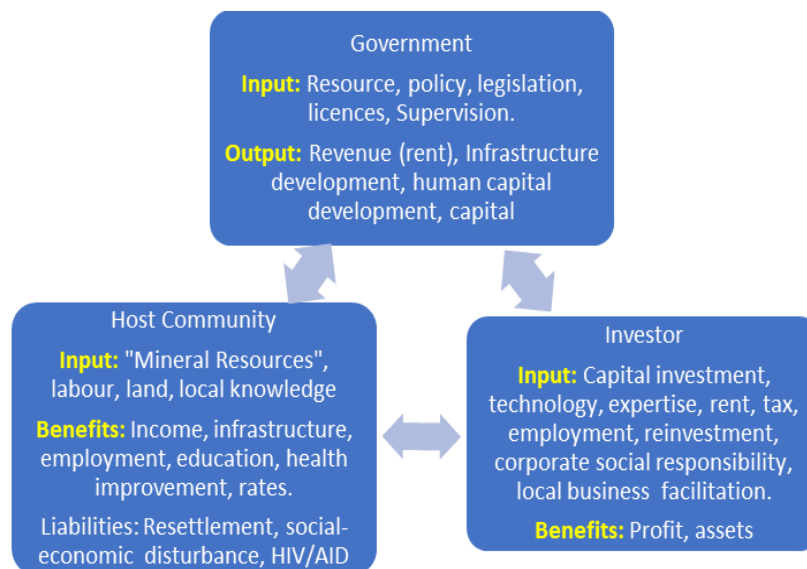


Figure1. Tripartite relationship between Government, Host Community and Investors in the operations of Extractive Industries, Source: adapted from (Masinja JH, 2013).

The stakeholders each contribute to the operation of the sector and as such expect a return on their investment. The figure clearly indicates that the benefits arising for each of the stakeholders is highly symbiotic in that, the government collects taxes, creates employment and business opportunities because of the integration of investment into the economy and industrialization. On the other hand, the investor benefits through having access to resources without much encumbrances and profits from the investment. Finally, the community benefits from jobs, business opportunities and corporate social responsibility.

The proposed model suggests that the total revenue generated by the exploitation of the natural resource

must equal to the total expenditure and this should be planned by the government at the point of negotiating for the mining contract (Masinja and Simukanga, 2014). The principle objectives of the proposed model are to, firstly, contribute to the improved governance of the mining sector by defining clear responsibilities and roles in any given project for the key stakeholders. Secondly, to propose a method of monitoring the movement of revenue between the key stakeholders so as to make each of the stakeholders accountable. Thirdly, develop a mathematical framework for defining the key considerations in the negotiation of extractive industries contracts in order to attain the most favourable outcome.

The conceptual model envisages that Government at the national level as owner of the resources and chooses to licence it out for exploitation; the investor seeks a permit to exploit the natural resources at its cost and the host community who are the owners of the resource and live within or around the area to be exploited; and each of these stakeholders make a contribution to the operations of the project and ultimately make a profit (Masinja and Simukanga, 2014).

The proponents of the model acknowledge the factors that have been attributed to the failure of natural resources contributing to economic development in Africa. They note that the main reason given is that of governance. This is as a result of the lack of growth promotion policies and secondly, lack of strong institutions to manage the development process. The other reasons given for failure of natural resource wealth to lead to economic development, generally, are identified as the following:

- The Dutch disease, which is explained as the condition of rising real exchange rates and wages from exploitation of mineral resources driving out exports and imports of other sectors of the economy ([Hernandez, I 2006](#)).
- Rent seeking by the elites; and
- The volatile nature of prices and the disproportionateness effect it has on public expenditure (Masinja and Simukanga, 2014).

It has been observed that the revenues from exports of the natural resources exploitation are volatile as the price constantly fluctuates on the global market. Since the revenues are unpredictable, there is need to put in place sound fiscal policies to ensure that they are invested in human capital development and the development of long-term production capacity. It is noted that this has proved to be a major challenge, especially on how to transform the revenues from natural resource exploitation into productive capital that could induce and sustain growth over the long term. Furthermore, the challenge of transparency and accountability is seen

to remain crucial in the harnessing of natural resource wealth for economic growth. Without adequate checks, resource revenues have induced rent seeking and wide spread corruption. This is said to hamper the quality of institutions and good governance of resources (Masinja and Simukanga, 2014).

Transparency can be identified at two levels; first at the point of grant of exploitation rights and secondly, at the point of controlling and spending revenues from exploitation of natural resources. It is further noted that policy makers and development practitioners have been grappling with the gap between the exploitation of natural resources and sustainable increases in socioeconomic development in a good number of resource-rich countries; this is contrary to rational economic expectations (Masinja and Simukanga, 2014).

The aim of the proposed extractive industry contract negotiation model is said to be “the support of the development of strong public institutions that would ensure transparency and accountability in revenue management”. It has been contended that the model has the potential to help arm and protect the government negotiator from being lured into concessions that are unhealthy for the economy by a more experienced private sector negotiating counterpart (Masinja and Simukanga, 2014). It is further contended that the model can be used as a means of monitoring and tracking revenue movement for both the government and the general public. It would also help minimise dishonesty on the part of those in charge of public resources whether in public offices or in the private sector (Masinja and Simukanga, 2014).

The model has not been subjected to any empirical evidence. It was therefore not the aim of this study to explore the model. The study, instead, focused on whether the current method of grant of mineral exploitation rights, in Zambia, does, in fact, have an effect on the equitable distribution of economic benefits among the stakeholders from the mining industry

Contract Negotiation

A mutual contract is attained when parties have equal bargaining power. In this case parties are entitled to express their expectations out of a project. It is important for the parties to get what they consider fair and beneficial out of every

project. According to Edwards, Toohey and Mwidon, it is important for a party to set its clear objectives before engaging in any contract negotiation as outlined in Table 5 (Edwards, Toohey and Mwidon, 2014).

Table 5: Points for consideration before engaging contract negotiation

1.	The value of resources (value of the offer)
2.	A clear mandate from all stakeholders for pursuing the project
3.	Current capacity gaps (training resources, equipment)
4.	Expectations and what the real need is for the partnership
5.	Internal policies, government policies, principles, values ad priorities and an evaluation of the impact on all stakeholders.

Source: (Edwards, Toohey and Mwidon, 2014).

Contract negotiation does not start with the contract document; it starts with preparation and development of policy objectives (Mensa, 2016) which takes into account long term sustainable development (Ramdoo, 2013). What the host government needs to understand first and foremost is the value of the resource in terms of the revenues, including foreign exchange earnings that can be derived therefrom, as well as its role in environmental stewardship (Mensa, 2016; Ramdoo, 2013). The government can then come up with goals that centre on, for instance, downstream opportunities, solid industrial base, infrastructure development, education, training, high quality employment and business prospects for local enterprises (Mensa, 2016; Ramdoo, 2013).

Mineral Exploitation Rights in Zambia

Before independence the mineral rights were obtained as concessions from African Chiefs (Ndulo, 1986). With the coming of the British South African Company (BSAC) in 1912 a statute regulating the mining in Northern Rhodesia, present Zambia was passed. The statute entrusted the BSAC with the mechanism for regulating mining. Under this statute anyone could acquire a prospecting licence upon payment of a minimal fee to BSAC (Ndulo, 1986). On the eve of Zambia's independence, the BSAC surrendered its mining rights to the Zambian government for a payment of a sum of Two Million pounds. The sum was to be

paid by both the Zambian and British governments (Ndulo, 1986).

At independence the Anglo-American and Roan Select Trust, the two companies that had acquired mineral rights through the BSAC were still in possession of those rights. The Zambian government later nationalized the mining industry in 1969. This was pursuant to the Mines and Minerals Acct of 1969, which authorized the government to terminate the undeveloped concessions and special grants owned by the Anglo-American and Roan Select Trust Companies and releasing the areas in which the companies were not carrying out their mining operations. The Act also authorized the government to negotiate for a 51% takeover of equity in existing mines. Through negotiations the government was able to buy the majority shares with dividends within a period of twelve years (Ndulo, 1986).

The Act provided for the grant of licences to individual and mining companies. The terms of the licence, the interpretation of those terms, the definition of rights and their scope, and the reciprocal obligations, between the licence holder and the government, were absolutely fixed by the Act. This has been the case for Zambia to date. An exception is under the repealed Mines and Minerals Act of 2008, which provided for the government to enter into mining agreements with holders of large-scale mining licences. The agreements contained terms that were negotiated between the government

and the respective investors. The Act was repealed in 2008 which saw the cancellation of the Development Agreements. Mineral resource exploitation is currently governed by the Mines and Mineral Development Act, No. 11 of 2015, the Mineral Resource Policy (2013) and the Mines and Minerals (General) Regulations 2016.

For resource development agreements, most countries like Zambia rely on independently enacted laws which govern the mining sector for investments which allow investors to decide whether or not to invest based on those existing laws (Mensa, 2016). In some developing countries, there is no detailed sector specific framework (Mensa, 2016).

The current Mines and Minerals Development Act, No. 11 of the 2015 sets out the procedure, which any person who wishes to engage in mineral exploitation should follow. It is the principal guideline on the exploitation of minerals in Zambia, including the acquisition of mining rights as stated in Part III (three) of the Act.

The guiding policy for the amendment of the Mines and Minerals Development Act is the Mineral Resources Development Policy (MRDP) put in place to govern the direction of the government in the mining sector. The policy was issued in July, 2013 following a review of the 1995 policy. The purpose of the review is said to be the creation of lasting benefits for the people of Zambia (MRDP, 2013).

The policy acknowledges that despite the improvements in the mining sector, facilitated by the MRDP 1995, leading to increased production, there are still a number of challenges. The challenges noted in this study include the following:

- Inefficiency in the administration of mining rights;
- Low revenues from the mining sector;
- Poor infrastructure development in host communities;
- Poor linkages leading to lack of value adding to the products (MRDP, 2013).

The policy projects an increase in the GDP contribution from the current 9% to 20% by 2030 (MRDP, 2013). Among the guiding principles in the current policy is the government's commitment to ensure sustainable exploitation of mineral resources for the maximum benefit of the Zambian people. This has been incorporated under Section 4 of the current Mines and Minerals Development Act, No. 11 of the 2015, (the Act). The section reads as follows:

“The following principles shall apply to the mining and development of minerals:

- a) Mineral resources are a non-renewable resource and shall be conserved, developed and used prudently, taking into account the needs of the present and future generations;
- b) Mineral resources shall be explored and developed in a manner that promotes and contributes to socioeconomic development and in accordance with international conventions to which Zambia is a party;
- c) The exploitation of minerals shall ensure safety, health and environmental protection;
- d) Wasteful mining practices shall be avoided so as to promote sustainable development and prevent adverse environmental effects;
- e) Citizens shall have equitable access to mineral resources and benefit from mineral resources development; and
- f) Development of local communities in areas surrounding the mining area based on prioritisation of community needs, health and safety.”

The grant of mineral exploitation rights is provided for under Part III of the Act. In particular, Division 3 deals with mining licences.

Section 30(1) provides that:

1. A holder of an exploration licence may, not later than six months before the expiry of the exploration licence, apply for a mining licence for the mining of minerals within the exploration area.

2. An application for a mining licence shall be made to the Director of Mining Cadastre in the prescribed manner and form upon payment of the prescribed fee....”

Section 31 lists the things to be taken into consideration when considering an application. Furthermore, section 32(1) provides that:

“Subject to the provisions of this Act, the Committee shall, within ninety days of receipt of an application under section thirty, grant the applicant a mining licence, in the prescribed form, if the application meets the requirements of this Act.”

The Committee in the preceding paragraphs refers to the Mining Licensing Committee, established under section 6 of the Act. The functions of the Committee are listed in that section as:

- a) Considering applications for mining rights and non-mining rights and grant or renew or refuse to grant or renew mining rights and non-mining rights;
- b) Terminating, suspending or cancelling mining rights and non-mining rights;
- c) Amending the terms and conditions of mining rights and non-mining rights; and
- d) Advising the Minister on matters relating to its functions under this Act.

The composition of the Committee is stated under subsection (2) of section 6. It comprises the Directors of Mines, Geological Survey, Mines Safety, Mining Cadastre, as Secretary; one representative from the Ministry of Environment, Land, Finance and Labour; as well as a representative from the Attorney General, the Zambia Development Agency and the Engineering Institution of Zambia.

From the foregoing discussion, it is evident that no literature was found on assessing the impact of the current method of grant of mineral exploitation rights on the equitable distribution of economic benefits among stakeholders from the mining industry.

Study Outcomes

The findings from the focus group discussions revealed that the government, the local authorities

and the investors derived some benefits from the mining projects, although more benefits were attributed to the investors, a little bit to the government and very little to the local authorities. On the part of the community, the findings revealed that they never derived any benefit the mining project.

With regard to the procedure of obtaining mineral rights, the findings revealed that almost all the participants expressed ignorance on the procedure involved in obtaining a mining license.

Furthermore, the findings from the study revealed that all the participants indicated that the community was not engaged before the issuance of the mining license. Most participants were also not aware of any conditions that are imposed when granting the mining rights while a few were aware.

The study from the focus group also revealed that the best procedure for granting mining license was that the mining investors should first of all consult the local people.

The study further revealed that there was lack of checks and balances in terms of distribution of economic benefits. In this regard, one participant said that government has more power than the investors and therefore, they should be able to direct the investors in a way that could favor the locals

Conclusions

The study investigated on whether the method of granting mineral rights influences the equitable distribution of economic benefits among the stakeholders from any mining project. The choice of the stakeholders consisting of government, the investor and the host community comprising of the local authorities and the local community, was validated by the stakeholder theory. The theory postulates that for an individual of institution to be considered as a stakeholder worth considering, they must have three attributes which are power, legitimacy and urgency. The analysis of the theory in the context of this research shows that the government, investor, and host community are the salient stakeholders in the evaluation of the

procedure for the grant of mineral rights and the equitable distribution of economic benefits from the study. In addition, the stakeholders' entitlement to the economic benefits from the mining projects was analysed in the light of the theory of access, the ability to benefit from resources based on rights ascribed by law, custom or convention.

Results from the case study based on Lumwana and Kansanshi Mines, demonstrated that the current method of granting mineral rights does influence the equitable distribution of economic benefits among the stakeholders to a great extent. The current procedure shows that there is an opportunity for government and other stakeholders, other than the investor to fully understand the resource for which the licence is issued.

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