

Corruption and Its Connection to the Mineral Resources Exploitation in the Economic Development of Mozambique

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Abstract

Mozambique is potentially rich in energetic mineral resources, with emphasis on natural gas and other minerals distributed along all regions of the country. This paper will analyze the contribution of the mining exploitation in process of development of the Mozambican economy over the last 20 years and, more specifically, the way in which the corruption is connected to this process by the evolution of mineral production with the rest of the economy between 2002 and 2012. Achieving this goal means answering the following question: What are the effects of corruption connected to the mineral exploitation in Mozambique? Explaining this relationship will also help us to answer this other question: What is the contribution of mineral exploration to the development of the Mozambican economy? This will contribute to a greater understanding of the importance and dynamics of the mineral sector for the process of economic development of Mozambique.

Keywords

Mining Exploitation, Mineral Resources, Corruption, Economic Development, Mozambique

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1. Introduction

The history of mining in Mozambique begins from the colonial period with the discovery of gold in the province of Manica, however its exploitation remained handmade and on a small scale. In the last two decades of colonization, the mining had an evident historical mark with the discovery of natural gas in the province of Inhambane (South) and the coal mines in Tete (Central region).

After the independence in 1975, the companies that formerly belonged to the colonial power were nationalized by the Mozambican state, however, their production reduced drastically from the 1980s and others came to close completely. Among the reasons for the reduction of

production and company closures are the models of socialist government adopted after independence, a shortage of skilled labor to work in companies, a shortage of financial resources, a civil war between 1976 to 1992. [1]

The model of socialist government was abandoned in 1986 and since then, the economy liberalized and established the multiparty democracy. Political stability, achieved through the general peace agreement with the end of the civil war in 1992, allowing the country to receive much support from outside, which boosted economic and social recovery [1]

Among the inflow of foreign capital to Mozambique, we highlight the FDI, in which the mining sector had a significant participation. The first and largest investment in the mining sector after independence was Mozambique Aluminum (Mozal) in 1997, followed by Sasol Ltd in 2000,

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Kenmare in 2002, Vale in 2007, Riversdale in 2009, Rio Tinto in 2010 and Anadarko in 2010. [2].

Recent investments in mining in Mozambique have not only been favored by political stability, but also by the international scenario of the commodities market. On the international scene, commodity prices rose early in the first decade of the 21st century, especially for minerals, driven by the rapid growth of emerging economies, notably China and India. In response to the increasing demand of minerals in the international market, mining companies sought to increase their supply by exploiting new mineral deposits, where Africa and especially Mozambique were one of their preferred destinations.

Experiences have divided opinions among economic development analysts. Some authors have pointed out that the presence of mineral resources in one country is a springboard for economic development [3, 4]. In addition, others argue that the presence of mineral resources is a curse. [5, 9]. Many of the theories of development are bases for sustenance of each one of these theories and presented arguments. In this study two theories has be chosen to explain the relationship between mineral resources and economic development (developmental pole theory, dependency theory) and the other two approaches are believed to be more related for our study (Circular and cumulative causation of Myrdal, Hirschman chain effects) [47, 48].

2. Literature on Mining and Economic Development

This section has the objective of recovering the literature on economic development and its relation with mineral resources, highlighting its current trends in terms of geographic concentration of reserves, production and consumption.

Mining is an activity of a fundamentally economic nature that consists in extracting minerals from rocks and / or soil [10].

Mineral resources are natural substances formed by geological processes found in the earth's crust. These can be energetic, used for the production of electrical, calorific or mechanical energy; metallic, used for obtaining a certain metallic element that is part of its constitution and not metallic, mainly used in civil construction and in industrial processes of very different nature. [11]

Minerals are unevenly distributed and, unlike agricultural or forestry products, cannot reproduce or be replaced. [12]

In the past few decades, Southern Africa’s mining sector has played a key role in attracting foreign investments into the region. [13, 14]. These investments in mineral resources have evolved into a major source of development in finance, contributing to the economic growth of many Southern African economies [15, 16].

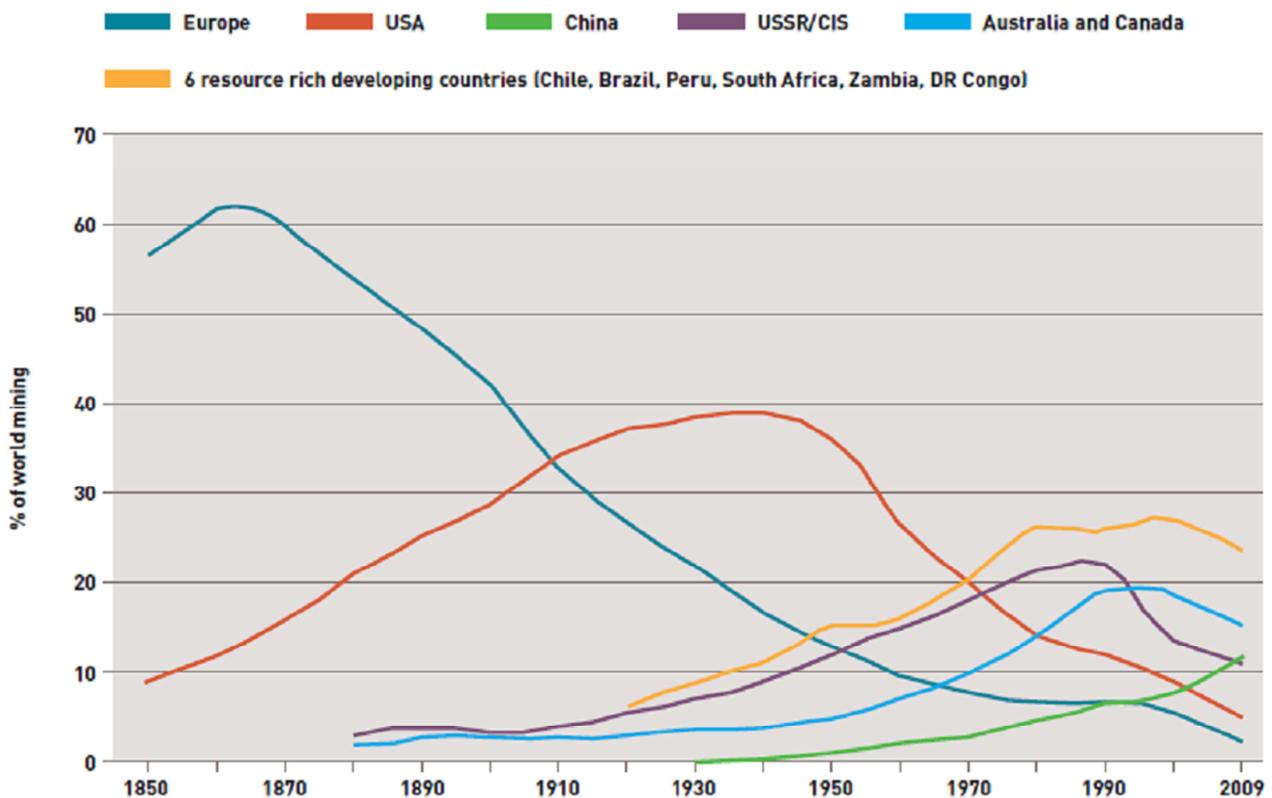


Figure 1. Global distribution of minerals from regions since 1850s. Source [17]

2.1. Mining Industry in the World

The history of mining shows how gradually the center of the world mineral industry have moved. First, it was in Europe, but with the growth of the USA economy in the 19th century the world's mining center crossed the Atlantic. Then, from the second half of the 20th century mining took place in the south of the equator, where Latin America and Africa have stood out [17].

Some estimates indicated that the global supply of minerals is distributed as follows: Africa, 11.5%; Asia, 28.8%; Europe (excluding Russia, Belarus, Armenia, Ukraine and Georgia), 2.6%; Commonwealth Independent States, 8.1%, Latin America, 23.7%; North America, 11.3%; and Oceania, 14% (Figure 1). [17]

The world's largest producers of mineral goods are the United States, Canada, Australia, Russia, Brazil, South Africa, China and the European Union [17].

2.2. Mining and Development

Countries rich in resources have a responsibility to manage these resources for the benefit of present and future generations. A country is rich in mineral resources if it meets one of the following criteria: (i) the tax collection of mineral resources accounts for at least 25% of the total tax revenue or (ii) the export revenue from mineral resources accounts for at least 25% of total export revenue on average. [18]

When incomes from resource extraction are well managed, it can help to alleviate poverty, generate economic development, and thus provide a more prosperous future. To understand the meaning of this vision, it is required to the governments in resource rich countries to formulate detailed policies in a number of areas, including financial and fiscal leasing schemes, social and environmental regulation, as well as national development plans [19].

Resource management and policy formulation should be guided by the principle of ensuring the greatest social and economic benefits for present and future citizens, including equitable distribution of resource wealth [19].

Many studies were carried to understand the relationship between the wealth of natural resources and the economic performance of the respective countries. And most results showed that there is an inverse relationship between economic growth and wealth in mineral resources. [20]

Doubts were raised about the robustness of Sachs and Warner's findings. Their argument is that natural resources can make a significant contribution to long-term economic growth in case where the exploitation of natural resources is combined with appropriate policies and institutions. [21]

Studies show that the curse of natural resources is inevitable: a number of countries such as Botswana, Canada, Chile and Norway have been able to take advantage of the richness of natural resources through the adoption of prudent and transparent management practices.

The fundamental question for a large number of countries is how to ensure that their abundance of resources is always a blessing. In addition to that, a possible negative impact on growth, wealth of resources is also seen in many cases as an important factor contributing to corruption and disruption of the social order.

In some countries, oil, diamond and other minerals are associated with the incitement and financing of civil wars, with implications in terms of social and economic costs. [19]

If we take Botswana and Sierra Leone, both diamond producers, as an example to show that the existence of natural resources can be either a boon or a curse to economic growth and development. In general, Botswana secured income from its main natural resource in a way that contributed to impressive economic growth since independence in 1966. Meanwhile, Sierra Leone remained plunged in poverty, aggravated by the civil war that began in 1991 and ended in 2002, prompted by the control of the diamond trade. [22]

3. Mining Activity in Mozambique

The mining activity refers to all operations consisting in the development (jointly or in isolation) of actions such as the recognition, prospection, research, processing and treatment of mining products. In Mozambique, the mining activity must be presided by an authorization granted by the competent authority. [23]

In the scope of the mining activity vis-à-vis to the mining entitlement, the mining products are allowed to be marketed; otherwise, the commercialization can only be done under a license for that purpose, which has its own regulations defined by the Decree 31/95 of June 25, BR No. 29, I Serie - 3rd Supplement of Tuesday, June 25, 1995, pag. 134 [23].

For the mining activity, we have the following entitlements and authorizations:

- i. Recognition license;
- ii. Prospecting and research license;
- iii. Mining concession (exploitation of mineral resources);
- iv. Mining certificate (exploitation of small-scale mineral resources);

v. Mining seal (artisanal mining activity).

The recognition license, the mining certificate and the mining seal shall be granted at the request. The prospecting and research license and the mining concession are granted at the request of the holder or through a public tender [23].

The practice of mining activity without any title or authorization constitutes an offense punishable by a fine varying from 5 to 100 million USD depending on the gravity of the particular case, seizure of the product extracted and confiscation of the all equipment used.

The competent authority responsible for issuing the titles and authorizations is presented as the following:

- i. Minister who oversees the mineral resources sector- for the License of recognition, prospecting, research and mining concession. The application submitted to the National Directorate of Mines or Provincial Directorate of Mineral Resources and Energy.
- ii. National Mining Director - for the Mining Certificate: application submitted to the National Directorate of Mines or to the Provincial Directorate of Mineral Resources and Energy.
- iii. Provincial Director of Mineral Resources – for the Mining Seal. The authorization is made in the designated areas of mining prospectation.

In some regions where the institutions are not structured for these kind of activities, there are offices –Single Counters, supporting the implementation of new enterprises, providing services, information and technical assistance, in addition to the registration and licensing procedures with the competent public entities [23].

A legal person, national or foreign with legal capacity intending to carry out the operations permitted by the authorities can hold a License of Recognition, Prospecting and Research for mining activity. Any mining company or company established and registered in Mozambique may hold the Mining Concession. A company based in the country, with legal capacity, and any cooperative or family capable of carrying out the operations authorized by the mining title may be the holder of the Mining Certificate. Any person with Mozambican nationality who has the legal capacity to carry out the operations permitted by the mining seal can be a Mining seal holder [23].

There are different phases during the mineral resources exploration in Mozambique:

- i. For the Mining Exploitation
 - a. Prospecting and Research
 - b. Development / deployment phase

c. Operation and Management phase

ii. For the Exploitation of gas and oil

- a. Pre-offer;
- b. Prospecting, Research and Exploration- the prospecting activities, exploration, development and production of oil are only carried out after a concessionary license resulting from public tender
- c. Development and Production Period - to develop the exploration project through the Declaration of Commerciality of the oil / gas reservoir found.
- d. Demobilization – it's a plan which involve the removal of facilities and restoration of project sites or other measures appropriate to the next planned use of the site. [24]

3.1. Legal Framework of the Mining Industry in Mozambique

The growth of the extractive industry has pressured the Government to review, improve and develop regulatory instruments such as laws, resolutions, decrees, ministerial degrees, policies and strategies, as well as master plans. In addition, Mozambique is a signatory to the African Mine Vision 2009 and the 1997 SADC Mine Protocol [25].

In terms of legislation, the following instruments of regulations are highlighted:

- i. Law n° 20 / 2014, of August 18 - Mining Law;
- ii. Law n° 21/2014, of August 18 –Law of Oils;
- iii. Law n° 25/2014, of September 23 - Legislative Authorization Law for the Liquefaction Projects of Natural Gas of Areas 1 and 4 of the Rovuma Basin;
- iv. Law 27/2014, of September 23 - establishes the Specific Taxation and Fiscal Benefits Regime of Petroleum Operations;
- v. Law no. 28/2014, of 23 September - establishes the specific regime of taxation and fiscal benefits of mining activity;
- vi. Law no. 11/2007, of 27 June - Law on Taxes on Mining Activity;
- vii. Law 23/2007, of 1 August - Labor Law;
- viii. Decree n° 55/2008 of 30 December - approves the Regulation on Mechanisms and Procedures for the Employment of Citizens with Foreign Nationality and Expats;
- ix. Decree n° 63/2011 of 7 December - approves the Regulation on Contracts and Employment of Citizens with Foreign Nationality in the Oil and Mines Sector;
- x. Decree-Law No. 2/2014, of December 2 - Establishes the Special Juridical and Contractual Regime applicable to

the Liquefied Natural Gas Project in Areas 1 and 4 of the Rovuma Basin;

- xi. Decree 31/2012, of 1 August - Approves the regulation on the resettlement process resulting from economic activities.

These instruments aim to monitor the developments in the extractive industry in order to attract more investment into the sector, to ensure the competitiveness, transparency and protection of holders of mining concessions and areas for the exploitation of hydrocarbons and, above all, to safeguard the national interest and benefits of the local communities [25].

3.2. Mining Law

The Mining Law defines the requirements for mining rights of entitlement, and summarizes the mining agreement regime, which establishes the obligation of the Government participation in mining projects that include local employment, training plan, corporate social responsibility and the signing of memoranda of understanding between the Government, the company and the local communities. Likewise, the law makes it compulsory for the affected communities to be involved in order to benefit from the projects. Companies should continually consult and inform communities about the processes, especially those related to resettlement, the payment of a fair compensation, and prioritize the local workforce [25].

The compensation payment includes, but is not limited to; construction of decent housing, payment for the improvement, support for the development of activities on which life, food and nutritional security depend, as well as preservation of the heritage with historical, cultural and symbolic meaning to the local communities. The Government takes responsibility for organizing communities and ensuring fairness in the payment of compensation. For this, companies are required to submit plans of social development, which should include the channeling of part of revenues for the development of areas where mining enterprises are located through the Government budget. In addition, companies must present environmental management tools such as environmental impact study, simplified environmental impact study and environmental management program [25].

The law also allows the Government through the Ministry of Mineral Resources and Energy to inspect the mining activity and establish taxes and duties on mining activity, as well as defining the role of the Government. It is up to the Government to conclude contracts, protect communities, regulate mining activities, protect and manage the national heritage of mineral resources, among other responsibilities. State revenues from the mining industry come from mining tax, surface tax, resource income tax, IRPC and IRPS [25].

However, it is important to mention that the tax regime establishes tax benefits for mining enterprises that comply with the specific conditions (Law n° 28/2014, of August 23). The tax benefits consist of the reduction or exemption of the amount payable from the regime of taxes in place. The basis of incentives is to stimulate mining activity for economic and social development. However, the law does not clearly define the "specific conditions" on which tax benefits are based, which may open the door to speculative interpretations [25].

3.3. Oil Law

The Petroleum Law regulates oil operations, any related infrastructure and the use or consumption of oil, thus allowing control of all petroleum operations by the State, through inspection and fiscal actions. The petroleum law is similar to mining law, especially with regard to taxes and duties, entitlements, social development, resettlement, and the role of government. [26]

The tax for the oil production is 10%, compared to 6% of the rate on natural gas production. The rate may be reduced by 50% if production is intended for the development of the local industry. The Law 27/2014, of September 23, which establishes the Specific Taxation and Tax Benefits System of Petroleum Operations, establishes this regime. [27, 28]

3.4. Resettlement Process

There is also Decree 31/2012, of 1 August, which approved the resettlement process resulting from economic activities. In substance, this decree establishes basic rules and principles on the resettlement of public and private initiative, carried out by legal persons, national or foreign. [28]

The Decree was approved with the intention of promoting the quality of life of the communities directly affected by the projects and protecting the environment. Within this framework, the resettlement process in Mozambique must comply with the principles of social cohesion, equality and equity, as well as directly benefit the communities affected by some economic activity during the mining activities. This implies that the resettlement process should not cause a negative change in the level of income and should be participatory and environmentally responsible. The affected have by the normative obligation established in the Decree, the right to have an income and living standard equal or superior to the one before the resettlement, to have a place to practice their subsistence activities, give opinions and have information throughout the resettlement process. [28]

Resettlement areas must contain minimally acceptable agro-ecological and housing conditions or living environments. Therefore, prior to resettlement of communities, it is legally obligatory to perform the geophysical analysis to determine

soil permeability, groundwater level, slope, water drainage and soil fertility. It is envisaged that a technical monitoring and supervision committee must be set to ensure transparency and compliance with the rules throughout the resettlement process. The technical committee should be composed of experts from the provincial and district governments, an institution responsible for land-use planning, local administration, public works and housing, agriculture and other area related to the process.

The precept of Decree 31/2012 was legislated for the Corporate Social Responsibility Policy in the Mineral Resources Extractive Industry. The Resolution No. 21 /2014 of May 16th approved this document. The policy aims to ensure the involvement, participation and coordination of all interested parties in the mining industry's investments and ventures, from exploration, research, development and production. [28]

This policy guideline also defines the mechanisms for monitoring and evaluating corporate social responsibility activities, as well as mechanisms for complaints, appeals and conflict or dispute resolution. The objective is to make the extractive mineral resource industry a tool to combat poverty and a driving force for sustainable local development based on the principles of human dignity, social stability and the right to progress; law, transparency and accountability; environmental responsibility; culture, symbols and local customs.

Thus, the Government through its Corporate Social Responsibility Policy for the Mineral Resources Extractive Industry directs mining companies to contribute to local development with part of their income. This implies that companies must contribute in a participatory way to the socio-political, socio-economic and institutional change of the local communities affected by any mining activity, to guarantee them in an equitable and continuous way, the satisfaction of the basic needs, without prejudice of culture and local social values or the environment for the benefit of future generations. Thus, it is understood that the Government is responsible for the licensing of research, prospecting, commercialization and inspection of mining activities and petroleum operations, in order to ensure their sustainable exploitation [29].

4. The Dynamic in the Current Situation of Minerals in Mozambique

This chapter will seek to incorporate the mineral production as part of the process of economic development in all regions of minerals occurrence and the country in general.

The exploitation of hydrocarbons in Mozambique is dated

back to the early 1900s with the discovery of sedimentary basins in the mainland. From 1948, several foreign companies began the prospection on hydrocarbons research in the onshore (mainland). These prospectations resulted in the discovery of gas in region of Pande, Buzi and Temane in 1960 [24].

In 1980, the research on this field were prioritized after and interruption because of the liberation war since 1972. The Secretariat for Coal and Hydrocarbons was created with a mission to define strategies for the mining activities. And one year later, the first Petroleum Law was approved -Law 3/81 with creation of a State Hydrocarbons Company - ENH [30].

Between 1991 and 2001, Gas do Pande project was developed to use the natural gas in the production of electric power for households consumption and small-scale industries [24].

Currently, the country produces natural gas and coal at large scales; ilmenite, zirconium and rutile (building materials) in medium scale; gold, bauxite, bentonite, graphite, garnes, marine waters, tourmalines, and small scale sea salt [31].

Looking at the regional trends, the exploitation of mineral resources in Mozambique might have differentiated effects between regions. In the south, the mineral of greater economic importance is natural gas. In the central region of the country, the mineral of greater economic importance is the coal mining extracted in the province of Tete. In the meantime, the northern region is dominated by the natural gas production in the Rovuma basin.

The present situation of the reserves and production of the main minerals, in particular those considered of economic importance for the country as natural gas, coal, ilmenite, rutile, zirconium, bauxite, bentonite, garnes, and graphite are presented in the next section.

Individual and associated groups (locally called *garimpeiros*) divide the extractive sector in Mozambique between industrial production, dominated by large multinational corporations and artisanal production. It is estimated that there are more than 57 craft associations throughout the country. The debates on the extractive industry in Mozambique center around industrial activities carried out by multinational corporations [25].

4.1. Contribution of Mineral Production to Economic Development in Mozambique

The contribution of mineral production is analyzed with focus to the national economy level.

The overall mineral production has been growing since the 1990s and mineral sector contribution in GDP has increased from 0.5% in 2002 to 1.6% in 2012 (see table 1). The Mozambican economy as a whole increased its GDP from

USD 4.5 billion in 2002 to USD 10.5 billion in 2012 on annual average.

Table 1. Volume of mineral production in the period from 2002 to 2012 (billions of MZN).

Year	GDP	Mineral Production	Contribution of Minerals to GDP (%)
2002	106	0,6	0,5%
2003	114	0,7	0,6%
2004	130	1	0,9%
2005	141	1	0,9%
2006	158	1,5	1,0%
2007	166	1,7	1,1%
2008	181	1,9	1,1%
2009	177	1,9	1,1%
2010	182	2	1,1%
2011	203	2,4	1,2%
2012	220	3,5	1,6%

Source: GDP by activity sector of 2000-2013 [32]

From the data available on the World Bank and UN Comtrade commodity export website, it was possible to calculate the share of mineral resources from the total volume of exports over the past 10 years. It was excluded the export of aluminum because this resource is not part of the Mozambican minerals; its raw material is fully imported from Australia.

The Table 2 shows that the exports grew from 23.7% of GDP

in 2002 to 40.7% in 2012. It is clear to note that in term of volume the mineral exports increased from 20 million USD in 2002 to 88 million in 2004 and 983 million in 2012.

The predictions indicate that this percentage will continue to increase in the coming years, as the two largest coal companies operating in the country are investing in the construction of railways and in addition to the Rovuma gas planned to start the exploitation in 2018 [33].

Table 2. Export of minerals in the period 2002-2012 (excluding Aluminum).

Year	GDP (in 10 ⁶ US\$)	Total Exports (in 10 ⁶ US\$)	Total Exports (% of GDP)	Mineral Export (in 10 ⁶ US\$)	Mineral Export (% of Total Exports)
2002	5249	1244	23,7	20	1,6
2004	6054	1964	32,5	88	4,5
2005	6579	2087	31,7	120	5,7
2006	6994	2381	34,0	176	7,4
2007	7504	2716	36,2	159	5,9
2008	8016	2725	34,0	208	7,6
2009	8524	2787	32,7	171	6,1
2010	9128	2993	32,8	386	12,9
2011	9796	3604	36,8	475	13,2
2012	10521	4281	40,7	983	23,0

Source: Author (based on UN & data from <http://data.worldbank.org/>; <http://comtrade.un.org/db/default.aspx> [50])

The contribution of wealth produced by the mining megaprojects in the economy is also connected to the degree of retention and absorption of this wealth in the country's economy and not only by the amount of wealth produced [34]. According to the law of mines used in Mozambique until 2012, the government has the ownership of all mineral resources. The exploitation of these minerals is done by concessional regime, for periods of up to 30 years.

In Mozambique, mining companies pay 32% of tax on profits; a surface tax ranging from \$ 10 to \$ 100/Km² and in

terms of royalties a percentage that vary by type of mineral. For oil exploitation, royalties of 10% are charged; 6% for gemstones and natural gas; 10% for diamond, gold and precious stones; 5% for base metals, coal and other minerals are 3% for royalties.

The table 3 shows the contribution of the mining taxes payment in the total fiscal revenues of the government for the years 2008 to 2010. It is clear to see that mining contributes little to fiscal revenue (the choice of this period was conditioned by the availability of data).

Table 3. Contribution of Taxes Payment in mining to the Total Revenues (in 10⁶ US\$).

	2008	2009	2010
Total tax revenue	1267	1459	1989
Reported mining revenues	9	40	59
Contribution	1%	3%	3%

Source: Author based on the Report and The National General Account [35]

From 1993 to 2011, approximately 3170 investment projects were approved by the Mozambican government, which generated about 387000 new jobs. In addition, about 26% of the total investment was absorbed in the mineral resources sector. [36]

The Table 4 shows number of jobs generated for Mozambicans in the mining sector reported in 2012 from the five largest mining companies. Assuming that this is a total number of the permanent jobs accumulated from the past years, it can be emphasized that the sector created below of 6000 jobs, which represents less than 1% of the total employment generated in that period and less than 0.2% of

the potential workforce estimated at 10 million, according to the World Bank.

Table 4. Job creation in the 5 largest mining companies in Mozambique (2012).

Company	Jobs created
Kenmare plc.	1014
Vale	900
Rio Tinto	600
Sasol Ltd	740
State Hydrocarbons Company- ENH	285
Total	3539

Source: [37]

Table 5. Contribution of mining sector to GDP growth in Mozambique, 2002-2012.

Year	GDP (10 ⁶ MZN)	GDP Growth Rate	Mineral GDP (10 ⁶ MZN)	Growth Rate of Mineral GDP	Contribution of Mining in GDP Growth
2002	105944	9,4%	566	28,7%	0,6%
2003	113839	7,5%	657	16,1%	0,6%
2004	124561	9,4%	1128	71,6%	1,0%
2005	133276	7,0%	1135	0,7%	0,9%
2006	145516	9,2%	1452	27,8%	1,1%
2007	155918	7,1%	1731	19,3%	1,2%
2008	166553	6,8%	1855	7,2%	1,2%
2009	177249	6,4%	1910	3,0%	1,1%
2010	182442	2,9%	2007	5,1%	1,1%
2011	203161	11,4%	2386	18,9%	1,3%
2012	219160	7,9%	3516,23	47,4%	1,7%
Mean		7,73%		22,35%	1,0%

Source: Author based on the National statistics [32]

The Government receives 5% of the gas sold to the State Hydrocarbons Company -ENH, then, the company will distribute to the south region of the country¹.

In the table 5, we can see that the mineral sector has grown on average about 22.35% from 2002 to 2012, while the national economy growth was 7.73%, but it only contributed in the GDP growth with 1% of real growth of the economy.

From 2002 to 2003, the mining sector faced a decrease in growth; but in 2004 it registered a high growth rate (71%). In 2005 the sector suffered some oscillation and it was stabilized with a fluctuated growth between 2006 to 2011.

4.2. Corruption in the Mining Sector Exploitation of Mozambique

4.2.1. Mining as a Harmful Activity for the Economy

The curse of natural resources, also known as the paradox of plenty refers to the paradox in which countries and regions with an abundance of natural resources specifically non-renewable resources such as minerals tend to have less economic growth and worse social development compared to

countries with fewer natural resources. This hypothesis can happen for several reasons, such as the loss of competitiveness of other economic sectors of the economy, caused by the appreciation of the exchange rate with the revenues of the resources; the volatility of natural resource revenues due to exposure to commodity oscillations in the international market; poor governance of resources; and corruption [5].

The Asian tigers (Korea, Taiwan, Hong Kong and Singapore) are all poor in natural resources, while losers of economic development (Nigeria, Zambia, Sierra Leone, Angola, Saudi Arabia and Venezuela) are all rich in natural resources. [7]

The resource-dependent countries have a large portion of their population living under poverty, consequently a low score of the Human Development Indicator. [6]

The highlight is pointed of Iraq, where the oil sector dominates the economy, accounting for 74% of GDP, and a share of about 93% in exports, but is one of the countries with high prevalence of poverty, inequalities unemployment, and armed conflict. [9]

Other causes related to the mineral sector that has reinforced the hypothesis of the curse of natural resources, are: existence of differential income from the quality of the deposits; low participation of wages in value added; large

¹ http://www.cmh.co.mz/index.php?option=com_content&view=article&id=11&Itemid=59

portion of the mineral income goes to multinational companies or to the government, which generates problems of financial intermediation and savings allocation. For this author, the indicators of mineral-based economies reveal poor income distribution, little economic diversification, export earnings concentrated only on primary products, and growth rates of the non-mineral economic sectors are lower than those of other non-mining economies. [38]

The adverse developmental characteristics of resource-rich economies tends to be more pronounced in smaller countries, justified by the weight of natural resources in the economies of these countries. [39] In developing countries, natural resources are relatively more prevalent. To some extent, the modest size of the modern sector makes agriculture and other economic activities based on natural resources relatively more important to the economy. [22]

A classic experience happened in Holland and it became known as "Dutch disease". The term "Dutch disease" was inspired by the Dutch natural gas production experience in the North Sea in the 1970s. The disease occurred due to the high profitability of the mineral segment, made possible by differential income from mining, which caused excessive appreciation of the exchange rate and reduced the competitiveness of non-mineral activities. [40]

Therefore, the wages of the mining sector also tend to grow and this inflation of wages spreads to other sectors of the economy that in turn lose most of the skilled workforce for the mineral sector. The remaining sectors will need to pay wages equivalent to those of the mineral industry in order not to lose skilled labor, which results in a decline in the competitiveness of non-mineral sectors in the international market [5]. However, the labor-transfer effect of the less competitive export sectors (in this case, the manufacturing sector) to the mineral sector may actually be insignificant, since the extractive industries generally employ few people.

The second mechanism of transmission of wage inflation from the mining sector to the other sectors of the economy is by income. The additional income generated by the abundant resource for the benefit of the various economic agents makes the demand for goods of the non-exporting sectors (such as retail trade, personal services and housing construction, also called non-tradable goods), causing a general price hike in the country. Thus, some of the resources are earmarked to produce non-tradable goods. As a result, the manufacturing sector loses some of the resources that are allocated in the mineral sector and in the sector of non-tradable goods, and will still have to pay for more expensive inputs (capital and labor) due to the general price increase, losing international competitiveness [41].

4.2.2. Corruption as a Curse for the Mineral Resources Exploitation in Mozambique

It is a consensus, at least among civil society organizations in African countries where the exploitation of natural resources takes place, with special emphasis on minerals that are far from a blessing - mineral resources explored behind corruption schemes and lack of transparency blending - are turning into a curse. In addition to reducing poverty, they are enriching political elites and marginalizing the population, which is the legitimate owner of resources [42].

During the "3rd International Conference of the Exchange of Experience on Monitoring and Advocacy for Good Governance", panelists from three countries (Mozambique, Sierra Leone and Ghana), argued that "secrecy" is a way in which most of the contracts for mineral resource exploitation are managed. This is one of the major problems that heightens the mistrust of governments in this regard, and in the case of Mozambique, it is even an unconstitutional issue because the Constitution of the Republic defends that sovereignty resides in the people [23].

Likewise, the Mozambican Minister of Mineral Resources and Energy, Leticia Klemens, admitted that there was evidence of corruption within the ministry. During the opening of the III Coordinating Council of MIREM, the minister considered a big concern the indications of corruption in this sector. She went on saying; "We are particularly concerned with the signs of misuse and non-compliance with the duty of good administration in some areas of our sector. Such indications revealed mainly through acts of corruption that represents the abuse and use of public power to make personal gains or to satisfy private interests." [43, 51].

In the other hand, the International Conference on Governance of the Extractive Economy, whose theme was "Natural Resources: Blessing or Curse" organized by the Public Integrity Center (CIP), criticized the secrecy in concluding contracts between multinationals and the Mozambican government. According to the CIP claims, the Mozambican state does not have half of what is known about the revenues of the natural gas production of the South African petrochemical company SASOL. It means that "the disproportion is so great that these companies are prepared not only to benefit from overly generous contractual clauses, but also all the schemes they are into, making sure they do not pay the fair or adequate taxes to the revenue authorities " [44].

In Africa, multinationals have been exploiting resources for over decades, but the countries remain poor and reliant on foreign aid. According to Anne Hoff of IBIS, a Danish NGO,

the situation is inexplicable that "in some African countries, the existence and exploitation of mineral resources have not translated into economic growth neither converted into human development, although these resources have now been explored for over 10 years " [44].

Talking about the same issues, the Swedish ambassador to Mozambique, Ulla Andrén, said that what is most important in order for resources not to be a curse is the existence of an effective and clear legal framework. Ulla also warned of a long-term sustainable vision: "Good governance is essential so that people can benefit to achieve the desired social, economic and environmental development. Not only today but also tomorrow "[44]

A well-known politician and one of the founders of the Mozambican ruling party (Sergio Vieira) criticized the multinationals, by agonizing that they only want to take everything without benefiting Africans; *"What is given to them in return? A house about ten miles away when they never asked for a house? A farm when they already owned it? A pasture site when they were already herding? What the investor earns; tens or hundreds of millions of dollars?"* The criticism focused on the resettlement of a group of indigenous and potters in an arid region of Tete province where the population do not have the minimum living conditions because they had to give up their lands unwillingly for a mining company exploiting coal mine [44].

In addition, Human Rights Watch (HRW) published a report entitled *"What is a house without food?"* on this subject, in which it recommends that the Government should work closely with the multinationals like Vale and Rio Tinto, so that the population must be resettled in fertile lands or to places where minimum living conditions are set prior. [49] The HRW report also denounce that the communities are experiencing periods of food uncertainty and are directly dependent on food-aid supply from Vale and Rio Tinto, the two companies with the largest mining concessions in the Moatize district. This problem is affecting 1,429 residents in Tete, a province estimated to be able to extract 23 billion tonnes of coal, according to government information released in 2012 [44].

Nisha Varia, an HRW researcher, in her founding, pointed that potters depended on no-one for their survival. She went on commenting; *"It was a self-sustaining community. These communities also lived in other professions, such as the extraction of gold and agriculture. There were market-places nearby for them to sell or buy their products. Now they have to travel 40 kilometers to find markets in Moatize."* Nisha Varia also stated that the population should have fertile land to continue producing food. For that, the Government must assume these responsibilities in the resettlement: *"When the*

Government published a decree in 2012, to remove the population, it was not consulted, nor were some non-governmental organizations heard" [44].

There are doubts on how the resettlement process was triggered and the HRW researcher emphasized that: *"There was no transparency and when the population is transferred it should not wait long for the conditions of their life to improve."* However, the Brazilian company (Vale) reacted to this criticism, saying that it respected the human rights and international standards, but instead the Mozambican government is superficially far from it [44].

Meanwhile, the Public Integrity Center, an institution dedicated in monitoring the management of public funds in Mozambique was concerned about the new laws for debate in the National Parliament under which do not oblige the publication of contracts signed between the Government and foreign companies to exploit the riches in mineral resources of the country. Although this institution acknowledged some improvements in the sector, it continues pointing that corruption levels are still very high and criticizes the Public Prosecutor's dormancy in the fight against corruption. This reality will not prevent foreign investments in Mozambique in the light of what is happening worldwide [45].

The real owners of these companies benefiting from mineral resource licenses hide behind corporate shares, most of which are registered as Ltd corporations. Their identities are hidden behind the so-called "iron-foreheads" of who they assume to be the true licensees, when in fact they represent "publicly exposed peoples"(well-known and public figures in the government). The opacity around the identity of real business owners exploiting mineral resources can contribute to corruption, money laundering and tax evasion in the extractive sector [46].

5. Conclusions

Minerals resources and hydrocarbons exploitation can represent a real opportunity as a complementary source of financing to achieve the development objectives of many countries

The mineral reserves are unevenly distributed among countries and regions. Over time, some regions are losing their reserves while others are discovering new ones and stand out. In this regard, some governments have harnessed the mineral resources for the economic and social development of their countries while others have remained in the misery.

In Mozambique, mineral production began with the occupation of the Portuguese when they exploited gold on a small scale, and it gained its importance with the discovery

of coal and natural gas in the 1960s. In the 1980s, mineral exploration was almost interrupted due to the civil war (1976-1992). After the civil war, the country gained political stability that favored the entry of a lot of foreign direct investment, where the mining sector was one of the biggest beneficiaries. In 2004, the production of natural gas went from small scale to industrial production. The production and export of some minerals (e.g. ilmenite, rutile, zirconium) started in 2007, and the one of coal mining started in 2011, which has boosted a new dynamics in the sector. These new investments have given a significant impact in the national economy which made that the share of the mining sector rose from 0.9% of GDP in 2004 to 1.6% of GDP in 2012.

In the past ten years, the mineral sector has been growing more than the national economy and of all regions. However, its contribution to the tax revenue is only 3% and employs less than 0.1% of the national labour force. This fact indicate that mining sector contributes and does little to increase the productivity of the local labor force and for the national income.

Projections indicate that, in the near future, the mining sector shall gain more weight of its contribution in the country's economy, particularly with the beginning of the exploitation of natural gas in the Rovuma basin- in the Northern region.

Although the mining sector has been partially contributing in the Mozambican economy in the recent years, its share in the world mining in term of reserves and production is only 0.1%, with the exception of heavy sands, which have their share ranging from 1 to 9%.

From the results, we can conclude that the extractive industry has been growing since the year 2000 and was marked by the concession of the contract of production sharing between the Government of Mozambique, State Hydrocarbons Company (ENH) and Sasol Petroleum Mozambique Limited (SASOL) in 2001. After this contract, the Government of Mozambique accelerated the signing of contract deals with other companies.

Mozambique has a great potential in natural resources, therefore, it is in the public interest to know to what extent the exploitation of these mineral resources affects economic development in the lives of its citizens.

It should be noted that mining activity is a broad process; the activity does not only refer to the production and commercialization of mining resources, but also to a series of useful infrastructures. It is about transport, human capital, or, in other words, the different economic links around the process of exploration, production and commercialization of mining products.

If less attention is paid, mineral resources can lead to the

increased inequalities mostly when the revenue generated by these resources is left in the hands of small elite. Thus, it can negatively influence the growth of the economy in several channels or value chains, and may be detrimental to the quality of institutions and lead to local conflicts vis-a-vis to an unrest.

In order to contribute to the government's revenues, the mining activity is supposed to guarantee the creation of direct and induced employment in the country and contributing to the communities where mining exploitation takes place. It should boost other sectors of the economy such as: road development; housing construction; production and supply of energy, alleviating the pressure on forest products; provision of other services such as water supply, school construction, clinics and sanitation units, but these instruments still do not translate into defending the national interest and the benefits of communities.

From 2008 to 2014, the Mozambican Government reviewed, improved and developed regulatory instruments such as laws, resolutions, decrees, ministerial diplomas, policies and strategies, as well as master plans. These instruments aim to monitor developments in the extractive industry in order to attract more investment into the sector, ensuring the competitiveness, transparency and protection of the mining concessions holders.

However, in the legal terms, the integration of representatives of the affected communities is forsaken. Representatives of the affected population, together with the civil society, the private sector and community leaders are only spectators in the process. Trade unions have no influence on the drafting or review of extractive industry policies. More of the extractive industry's activities are being controlled by non-performing entities, and their managers accused of establishing clientelistic relationships with business management in return for favors.

The mining mega-projects in northern and central regions were implanted with many preventable proceeding errors. The Government lack of transparency and not engaging in a dialogue with the miners and affected communities. This situation is compounded by the fact that the mining companies are not complying with the promises made to the communities during the project implementation.

Some economists are drawing a bleak future for the population affected by these mega-projects. The concern is about the real benefits to the local communities in projects of mineral resources exploitations. It is considered that the undertakings will lead to the impoverishment of the rural environment, degradation of the whole set of natural resources and consequently the life of the populations. [1]

The first negative effects of the implementation of these projects are already being felt. This study showed that in the Northern region some affected communities are treated as mere objects of resettlement and must therefore comply with the standards that companies dictate. Those who try to oppose or question the terms and mechanisms of compensation are accused of being against development. The document concluded that imposition of resettlement locations, lack of dialogue, unfruitful negotiations on compensation and promises are unfulfilled.

Other concerns are related to the purchasing power of the population that has been aggravated given the great demand for products and services. In addition, the evidences show that the best jobs in these mining companies are not for Mozambicans due to their lack of skills required in the sectors, the marginalization of national companies in this provision of services to multinationals, among other aspects.

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