

**UNIVERSITY OF CAPE TOWN
DEPARTMENT OF SOCIOLOGY**

**THE IMPACT OF COAL MINING ON THE LIVING
CONDITIONS OF RURAL COMMUNITIES IN
MOZAMBIQUE:
A CASE STUDY OF CATEME**

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Dedication

I dedicate this project to my sources of inspiration, my fiancée Carmen and our daughter Kikiana. This work is also a tribute to my late uncle Paulo Artur Lissete Bata.

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Acronyms & Abbreviations

AAAJC	<i>Associação de Apoio e Assistência Jurídica as Comunidades</i> [Association for Support and Legal Assistance for Communities]
AfDB	African Development Bank
CIP	<i>Centro de Integridade Pública</i> [Centre for Public Integrity]
CSR	corporate social responsibility
DUAT	<i>Direito de Uso e Aproveitamento de Terra</i> [right of land use permit]
EDM	<i>Electricidade de Moçambique</i> [Electricity of Mozambique]
EITI	Extractive Industry Transparency Initiative
FDI	foreign direct investment
FRELIMO	<i>Frente de Libertação de Moçambique</i> [Mozambique Liberation Front]
GDP	Gross domestic product
GoM	Government of Mozambique
GPA	General Peace Agreement
HRW	Human Rights Watch
ICESCR	International Covenant on Social, Economic and Cultural Rights
IFC	International Financial Corporation
IIED	International Institute for Environment and Development
INE	<i>Instituto Nacional de Estatísticas</i> [National Institute of Statistics]
IRPC	Corporate Income Tax Code
IRR	Impoverishment Risks and Reconstruction
MDF	Mineral Development Fund
MIDR	Mining-Induced Displacement and Resettlement
MIREM	<i>Ministério dos Recursos Minerais</i> [Ministry of Mineral Resources]
RENAMO	<i>Resistência Nacional Moçambicana</i> [National Mozambican Resistance]
RP	Resettlement Plan
SISA	Stated Income / Stated Asset
UDHR	Universal Declaration of Human Rights
UNECA	United Nations Economic Commission for Africa
ZAR	South African Rand

CHAPTER 1: Introduction

1.1 Introduction to the Study

In mineral-rich countries, large-scale extractive industry projects often offer mixed blessings. On one hand, mining royalties and taxes provide funds that amplify state coffers allowing for investments in infrastructure, social services and community development. In addition, jobs are created and local enterprises find new opportunities to provide goods and services to transnational companies spearheading the projects, enhancing livelihoods and contributing towards economic growth. On the other hand, large revenues from the mining sector may create opportunities for corruption, undermining public transparency and accountability from public officials. Furthermore, mining booms may hamper productivity and competitiveness in other industries through real exchange rate appreciation. Mining also has hazardous environmental effects often exposing surrounding communities to long-term health risks.

The fairly recent large-scale extractive industry projects in central and northern Mozambique are not exempt from some the above-mentioned factors, particularly in the booming coal mining town of Moatize. The current study examines the impact of mining operations by Brazilian mining company Vale on the living conditions of resettled communities in the district of Moatize. The study focuses on the period from 2010 to 2013, which corresponds to the first stage of active exploration of coal in Moatize and the first years of integration of the resettled families in their recently built community. The Moatize Coal Reserve in Mozambique is deemed to be the largest reserve of untapped coal in the world (Audu, Ribeiro, Scott, & Taniguchi, 2006). The world's largest mining companies, accompanied by a massive crowd of investors and fortune-seekers, are flooding the country with prospects for astronomical profits in the mining industry. In addition to coal, the country possesses over 100 trillion cubic feet of natural gas (Verma, 2012). Other lucrative natural resources in Mozambique include gold, rubies and tantalum. These latest discoveries undeniably position Mozambique as a resource-rich country.

In 2012, the Mozambican economy maintained real gross domestic product (GDP) growth of 7.4% (Almeida-Santos, Roffarello, & Filipe, 2014). Additionally, “the progressive increases in coal production, the implementation of large infrastructure projects, coupled with credit expansion are expected to continue to drive growth to 8.5% in 2013”; coal production

contributed 0.8% to the GDP growth rate from 2011 to 2012 (Almeida-Santos et al., 2014). It is believed that between 2001 and 2011, Mozambique's investments in the mining sector swelled from US\$ 20 million to US\$ 1 billion making it one of the fastest-growing destinations for foreign direct investment (FDI) (Gerety, 2013, p. 4). These announcements have brought a great deal of hope for improved living conditions for ordinary Mozambicans and potentially millions of dollars for the government in export revenue, which, if well managed, can help Mozambique step out of the aid trap. However, it is uncertain whether local communities are currently benefitting from the exploitation of the country's lucrative natural resources.

Mozambique continues to rank as one of the world's poorest countries. It is plagued by disease, illiteracy, poverty and other ills commonly shared by several African resource-rich countries. In the broader African context, resource wealth has been proven to be a source of fortune in some countries and great misfortune in others, and on some occasions, a generous mixed blessing. In this regard, in Mozambique, government officials insist that coal mining projects will help improve the living conditions of the communities affected by mining operations and the country at large. Conversely, contesting views suggest a negative relationship between mineral wealth and improved living conditions for the population at large, particularly rural communities.

This case study examines the impact of large mineral wealth on local communities, focusing on coal mining and resettled communities located on the outskirts of the mining town of Moatize in Mozambique's northwestern province of Tete. In Moatize, there are various coal mining projects, including but not limited to: Companhias do Revubòè, Nkondezi Coal Company, Minas Moatize and Midwest. The largest companies operating in the mining sector in Moatize are Vale, Rio Tinto and Jindal Steel and Power Limited, which export coal to India, Eastern Asia and the Americas. This study focuses on a specific company—Vale—and the impact of its mining operations on communities surrounding Moatize, in particular the resettled communities. As of 2010, Vale and Rio Tinto were the second and third most valuable mining companies on earth—worth US\$ 169 billion and US \$83 billion, respectively (Kabemba & Nhancale, 2013).

For these large mining companies to operate, many families from various villages located in the outskirts of Moatize where the coal is extracted were relocated to distant areas. The Vale

and Rio Tinto projects were responsible for the resettlement of more than 2000 families to make room for mining activities. Vale resettled 720 families from four villages in the Moatize area to a new resettlement called Cateme, 40 kilometres away from Moatize. Over 200 families from the same four villages were relocated to another Vale resettlement, *25 de Setembro*, located closer to Moatize. Vale employs low wage workers from *25 de Setembro*, hence its proximity to Moatize; and Cateme largely comprises subsistence farmers.

This study focuses on Cateme, Vale's most controversial resettlement. In their former villages—Mithete, Bagamoyo, Malabwe and Chipanga—the resettled population of Cateme had easy access to natural resources such as land, water and flora. The soil was fertile and suitable for their daily agricultural activities. In addition, the original location of the four resettled villages was considerably closer to the centre of Moatize, which guaranteed a market for farmers to sell their products. The former villages were near the Revuboè and Moatize rivers, which facilitated irrigation and served as a common space for domestic, leisure and cultural activities. In the resettlement—Cateme—the population is 40 kilometres away from Moatize. There is no natural source of water, and the land is dry and rocky. Ever since the first wave of families was resettled, there has been much disgruntlement among Cateme community members.

The problems in Cateme reached the public eye and international media. As a result, government institutions were pressured to attend to the community's grievances. Since then, Vale has also been very attentive to issues affecting the population in Cateme. Furthermore, in August of 2012, the Council of Ministers in the Government of Mozambique (GoM) quickly drafted and approved a previously non-existent Resettlement Regulation Act for all development projects involving resettlement.

In spite of these interventions, it is still questionable whether the presence of Vale in Moatize has improved the living conditions of the people resettled in Cateme. In this context, this study interrogates and, through qualitative research, thoroughly investigates whether the living conditions of resettled families have improved since the beginning of coal mining operations in Moatize using five indicators: health, education, housing, access to electricity and water, and food and farmland. This study finds that—withstanding some improvements in the spheres of health and education—the living conditions of the resettled population have deteriorated. The

study concludes that with the relocation to Cateme, the resettled families have been deprived of their most basic necessities, mainly food, water and appropriate shelter due to unproductive farmland, power shortages and poor housing conditions in the community. This research relies on information from Cateme community members and crucial stakeholders, including the government, the mining company, civil society and local academic experts. The study seeks to contribute to existing knowledge on the role of extractive industries in improving the living conditions of local communities, focusing on the Cateme community in Mozambique.

1.2 Objectives of the Study

This study is concerned with the living conditions of the resettled families in light of the profitable activities occurring in Moatize. The study aims at finding out whether the government and Vale are investing resources into the community of Cateme for the well-being of the resettled families. In addition, one of the key objectives of this research is to understand and report Cateme community members' perceptions of their living conditions prior to mining activities by Vale, as well as their impressions about their current state of affairs. The study also seeks to explore how Vale and the government are engaging with the Cateme community. In light of these questions, the study presents a thorough analysis of theoretical material on the topic of extractive industries and their impact on nearby communities. It also draws on information acquired from relevant primary sources to present factual evidence on the effect of large extractive projects on resettled communities in the Mozambican context to contribute to knowledge in this particular area of study.

1.3 Research Questions

The aim of the current study is to find out whether the presence of the coal mining project has improved the living conditions of the families resettled in Cateme. In this vein, the following questions are considered:

1. Has revenue from coal mining taxation been invested into the Cateme community?
How so?
2. How were the Cateme villagers' living conditions before coal exploration? How are they currently?
3. Are Vale and the government engaging in developing infrastructure (e.g., schools, hospitals, housing and water sources) in Cateme?

1.4 Significance of the Study

This study explores a highly contentious, contemporary topic with huge relevance in Mozambique. There is uncertainty about whether the mining boom in Moatize is enhancing the social and economic condition of local communities as claimed by the government, on one hand, or worsening local living conditions in light of the communities' displacement from the outskirts of Moatize to distant areas. Mining has both risks and opportunities for communities surrounding mining plants. Optimistically, the central and local governments can use revenue from taxes to finance social development programmes with the potential to improve the living conditions of the local population. Further, mining provides jobs that were previously non-existent, which can generate income for the surrounding communities. Mining operations may also contribute to local social and economic development by ensuring the provision of public goods and services such as clean water, transport, schools, hospitals, electricity and improved government institutions.

On the other hand, if not managed appropriately, a large mining sector may lead to governmental idleness with regard to investments, savings and innovation, as well as hamper productivity and competitiveness in non-mining sectors. In addition, mining activities can deprive local families of access to resources such as land and water, and destroy agricultural land. Politically, exploitation of natural resources can result in bad governance, corruption and lack of transparency, as funds from the mining industry may be undeclared or diverted from state coffers by politicians for personal or political gains. The diversion of funds from state coffers further weakens local institutions and limits the government's ability to help provide goods and services to its constituents.

Cateme was chosen for this case study because it is the largest and most controversial of the resettlements built by any of the mining companies operating in Moatize. Disputes about Cateme stem from the fact that a majority of the population faced tremendous difficulties in adjusting to the site given its serious problems: inappropriate housing, lack of access to fertile land and food, and distance from natural water sources and vegetation. Cateme community members led the protests that resulted in the enactment of resettlement policies for companies involved in development projects in Mozambique. Therefore, these issues call for close

attention and thorough analyses to better understand the impact of the coal mining operations on resettled communities in Mozambique and to contribute to existing literature on the topic.

1.5 Background of the Study Area

Between 2009 and 2010, Vale resettled 1,365 households from the mining area to two newly constructed communities. The two communities are Cateme, a rural community, and *25 de Setembro*, a more urban community located closer to Moatize and the Vale coal mining plant. The latter community is primarily comprised of low-skilled labourers who work in construction projects linked to Vale mining operations. The population of Cateme, the community of focus for this case study, is mainly subsistence farmers. Vale resettled 720 families from the villages of Chipanga, Mithete, Malabwe and Bagamoyo to Cateme to make room for its mining projects (Kabemba & Nhancale, 2013). The names of the villages were kept and transformed into four neighbourhoods within the resettlement of Cateme.

Cateme is 40 kilometres away from the mining town of Moatize and its markets, and 60 kilometres from Tete city, the capital of the province of Tete. Before the resettlement and Vale mining activities in Moatize, the population currently residing in Cateme lived a few kilometres away from Moatize, in the outskirts of town (HRW, 2013). Figure 1 shows the original location of the four villages prior to the relocation and the location of the Cateme resettlement, where the population from the villages of Chipanga, Mithete, Malabwe and Bagamoyo were relocated.

SITES OF ORIGINAL AND RESETTLED VILLAGES IN TETE PROVINCE



Figure 1: Sites of original and resettled villages in Tete Province (HRW, 2013)

In terms of demographics, according to a 2006 study by Diagonal, the Brazilian consultancy firm that conducted feasibility studies for the resettlement, 5,182 people were resettled in Cateme. The resettlement has an average of 4.8 persons per household, while notably 12.8% of the households have 6 people and 10.1% have 7 people (Diagonal, 2006, p. 52). The resettlement has a male population of 50.8% and a female population of 49.2% (Diagonal, 2006, p. 34). In the community, males head 83.2% of the households, with the remaining 16.8% of households headed by females (Diagonal, 2006, p. 34). The majority of the women heading households are widows, and the remainder is separated from their partner. The population of Cateme is relatively young, with 51.8% of the population between the ages of 0 and 17. The economically active portion of the population (aged 18-65) makes up 35.5% of the total population. In terms of ethnicity, 98.3% of the population is considered Nyungwe. The primary languages spoken are Nyungwe, among the majority, and Portuguese, among individuals with some level of schooling.

The majority of the people who were relocated to Cateme are subsistence farmers. Although some men are involved in agriculture, women tend to go more frequently to the farms to produce food for their families. The men mostly engage in herding and hunting. Children do house chores such as fetching water, cleaning the house and keeping the yards tidy. Prior to being resettled, some residents, particularly the young male population, used to make bricks and ceramic objects from the mud in their villages. For many of the young people relocated to Cateme, pottery was a source of income. In Cateme, they no longer engage in such activities given the lack of physical materials for production; therefore, a significant chunk of the young male population of Cateme is economically inactive. As an alternative, Vale initiated vocational training initiatives for the population.

Cateme is located in a dry tropical climate. The average temperature is 30 degrees Celsius (Diagonal, 2006, p. 74). According to available climate data from Tete, in the Cateme area, rainfall is low and erratic, with frequent droughts. The productivity of crops and natural vegetation is low due to the predominantly rocky soil. From a climate perspective, the region is considered only marginally suitable for agriculture, although its productivity can be improved by applying specific technologies to increase water retention in the soil, thus reducing the risk of loss in crops. Cateme is far from the main bodies of water in the Moatize district, including the Revobuè River, the Zambezi River and the Moatize River.

1.6 Limitations of the Study

The scale of this research project, particularly in what concerns the acquisition of information from all stakeholders directly or indirectly involved in this resettlement process, required substantial financial resources and time. The interviews were conducted in Maputo and Tete from November 2013 to January 2014. More time could have been spent in Tete to observe the economic and social dynamics of not only the Cateme community members but also the people living near the areas cleared for coal mining operations. In addition, visiting the area where the population was relocated from would have been useful to confirm the descriptions provided by the reports and the community members who were resettled in Cateme. However, financial limitations, time, poor infrastructure and limited transportation in the region worked against these attempts to collect this important primary data and observe the land, flora and the rivers surrounding the original villages where the resettled population lived. Internal reports and

feasibility studies from Vale, including interviews, observations, photographs and social indicators, were employed to compensate for this lacuna. The limited time in Moatize also impeded relevant interviews with local government officials. As an alternative, desk research was carried out to find the information needed through government websites and relevant documents.

1.7 Organisation of the Study

This thesis is structured as follows:

CHAPTER 1: This chapter introduces the study, presenting its objectives, research questions, significance, background and limitations. This chapter provides an overview of the demographics and the geographical background of the study area.

CHAPTER 2: This section outlines the existing literature and debates on the impact of the extractive industries on social and economic development in resource-rich countries. Further, this chapter delves into previous research on mining, rural communities and resettlement. It also includes a brief account of the political and economic dynamics, and coal mining in Mozambique.

CHAPTER 3: This chapter describes the methods through which the data was collected and analysed. It presents the data sources and highlights some of the challenges of data collection in the field.

CHAPTER 4: This section provides an overview of Mozambique's policies and regulatory instruments for the mining sector and resettlement. This chapter also gives insight into the mining company—Vale—and its principal tools and initiatives related to resettlement.

CHAPTER 5: This chapter examines the living conditions of Cateme community members before and after resettlement.

CHAPTER 6: The conclusion to the study offers an assessment of the effect of coal mining on Cateme residents. This chapter also presents the main research findings.

CHAPTER 2: Literature Review

There are several debates on the impact of the extractive industry on social and economic development in resource-rich countries. This chapter provides an overview of previous research on the topic at hand. Further, it explores existing literature on mining, rural communities, and resettlement in mineral-rich countries in sub-Saharan Africa and provides a synopsis of the history of coal mining in Mozambique.

2.1 Mineral Resource Dependency and the Resource Curse

There are studies defending the idea that economies that largely depend on mineral exports are more susceptible to the volatility of mineral prices, as international prices for mineral commodities are usually more unstable than that of manufactured articles (Grilli & Yang, 1988). This volatility causes such economies to face shocks (Ross, 2003, p. 6), which may negatively affect the poor, who are less able to protect themselves against these shocks, especially if their governments do not have stabilisation funds from export taxes to help cushion the impact of price volatility on the poor. In the same vein—to the detriment of ordinary people in mineral-rich societies—rents from coal mining, for instance, may benefit government officials and investors, while employing few local workers, which can lead to income inequalities that negatively affect the poor (Ross, 2003).

High dependence and inflow of revenue on mineral exports often results in real exchange appreciation, which can make it difficult for states to diversify their productive base, undermining the competitiveness of other sectors, such as agriculture and the manufacturing industry, in the international market. This phenomenon, known as the “Dutch Disease” (Collier, 2007; Corden & Neary, 1982), can severely harm the poor as they usually depend on agriculture and low-skilled employment in the manufacturing industry (Ross, 2003). Dutch Disease has socioeconomic repercussions related to income distribution, particularly in regions where natural resources are extracted. Mozambique’s increasing focus on its extractive industry in Tete may be producing such effects, especially in the communities surrounding the coal mining projects in Moatize.

Sachs and Warner (1997) note that resource-poor countries tend to outperform resource-rich countries. They explain the negative association between resource abundance and growth by

stating that “easy riches lead to sloth”—those who have the riches and the abundance in resources are less inventive and industrious than those who are forced to innovate out of necessity. Economic literature often points at investments as a catalyst of economic development (Barro, 1991; Grier & Tullock, 1989; Sachs & Warner, 1997); however, the volatile nature of primary commodities in world markets may cause uncertainty for investors (Herbertsson, Skuladottir, & Zoega, 1999). Furthermore, resource wealth can devalue incentives for investment and savings for capital accumulation because large resource revenues give an impression that they will produce long-term wealth with no need for intervention by the state or financial institutions (Papyrakis & Gerlagh, 2004).

High dependence on natural resources can also lead to policy failures. In this regard, Bucuane and Mulder (2007) mention that easily acquired wealth leads to clumsy economic policies and unproductive behaviour. Some resource-rich countries do not direct policies towards the amelioration of their education systems, which restricts the population to low-skilled labour (Gylfason, 2001). Institutions play a critical role in fostering economic development (Acemoglu, Johnson, & Robinson, 2001). The quality of institutions in a country mirrors the enactment and implementation of laws, levels of corruption and transparency, and administrative efficiency (Bucuane & Mulder, 2007). Weak institutions may also constrain the use of natural resource revenue for the improvement of living conditions for local communities surrounding extractive projects.

Another argument for the negative linkage between resource abundance and growth that helps lift people out of poverty is the “Prebisch-Singer Hypothesis”, which emphasises that there is a “secular decline” in the terms of trade for primary commodities at the world level (Prebisch, 1950). Therefore, the hypothesis states that growth based on natural resources will be gradually blocked by the declining price of primary commodities. It is also widely argued that resource wealth leads to grand corruption and inefficient bureaucracies; high rents distract governments from engaging in the provision of public services for the overall population (Sachs & Warner, 1997).

Englebert and Ron argue that resource wealth in developing countries can cause a resource curse as a result of “poor governance and irresponsible economic behaviour” (2004, p. 61). They further make the case that a dependency on primary commodities can instigate armed

rebellion, which leads to the destruction of infrastructure and thwarts economic development. Two examples of resource-cursed countries are the Democratic Republic of Congo (DRC) and Sierra Leone where oil and diamonds, respectively, have been used to purchase arms, fund wars and decimate vast chunks of the population. Angola is another resource-rich country where the curse is evident. From 1997 to 2002, US\$ 4 billion in resource revenues vanished (Barros, 2012). According to Transparency International, in 2010, Angola ranked 168th out of 182 countries with regards to corruption. These countries present clear examples of how resource wealth may hinder poverty reduction.

Moreover, although economies in sub-Saharan Africa that substantially export natural resources have experienced fast economic growth, there have been notable incongruences between growth and social indicators (IMF, 2012). GDP growth is not the best indicator of poverty reduction or well-being in a society. In their study on natural resource curse, Bucuane and Mulder confirm this notion after plotting the relationship between natural resource wealth and the Human Development Index (HDI) using a sample of 85 countries (2007). Their findings indicate that, “there is no significant relationship between resource wealth and well-being in 1975 and in 2000” (Bucuane & Mulder, 2007, p. 4) They go on to assert that resource-rich African countries like Gabon, Zambia, Congo and Nigeria were not able to end absolute poverty after 25 years of active exploitation of natural resources. Therefore, the issue of the natural resource curse is worthy of attention in the context of coal mining in Tete.

2.2 Mining and its Impact on Surrounding Communities in an African context

2.2.1 Mining in Africa

Since 2002, there has been a mining boom in mineral-rich African countries. Fully conscious of the increasing world demand for minerals, mining companies find themselves in fierce competition to develop new mines in mineral-rich countries. Although primary commodity prices have fallen over the past few years, mineral-rich countries continue to be preferred destinations for FDI, particularly in countries where corporate taxes and royalties are relatively low. Nonetheless, what remains uncertain is to what extent the presence of foreign mining companies has benefitted local communities. Equally important is the extent to which governments ensure that investments in the mineral sector contribute towards social development and environmental protection (Cowell, Wehrmeyer, Argust, Graham, & Robertson, 1999). Environment sustainability is of great importance to such communities given

the long-term health risks and natural hazards associated with the extractive industry (Cottrell & Rankin, 2000; Hilson & Murck, 2001; Mitchell, 1999). However, the environmental question goes beyond the scope of the current study. Appropriate taxation policies—accompanied by responsive governance in the distribution of the wealth generated from the mining sector—and a clearly defined, community-sensitive corporate social responsibility (CSR)¹ policy are essential for long-term social development in mining communities.

In Africa, the adequacy and distribution of wealth obtained from the mineral sector tend to be issues of much contention and controversy for governments and their respective constituencies (UNECA, 2011, p. 92) as these issues relate to governance and corruption. Despite the presence of instruments such as the Extractive Industry Transparency Initiative (EITI)² to address these issues, many African governments continue to have pockets of irregularities and secrecy in this regard. Diverted or misused monies from the mineral sector have and continue to hamper development projects that could improve the living conditions of local communities. It is not uncommon to hear that in many mineral-rich countries, multinationals make astronomical profits while nearby communities live in dire conditions, hence the relevance of responsive governance and sound CSR policies to guarantee that governments and companies use their generated revenue for long-term development and to improve the livelihoods of the local communities (Epps, 1996). The government has a responsibility to tax mineral companies and ensure that revenue from that particular industry leads to social development³ in local communities. Governments that engage in serious negotiations with mining companies and allocate revenue obtained from taxation and royalties into community development projects often witness positive results with regard to social development in nearby communities. For example, countries like Bolivia, Mongolia and Ecuador have a model where some of the revenue from extractive industries is distributed in the form of pensions, child benefits and family grants. Further, the state of Alaska in the United States has legally established that minerals belong to the people of Alaska; in this reasoning, every year some of the oil revenue

¹ Although there is no universally agreed definition of corporate social responsibility, the term refers to the value that businesses add to employees, customers, governments and the wider community. For more information, see the OECD Observer: http://www.oecdobserver.org/news/archivestory.php/aid/3132/Corporate_responsibility_and_paying_tax.html.

² Launched by the former UK Minister Tony Blair, the Extractive Industry Transparency Initiative is an international standard that aims at ensuring transparency around government revenues for countries rich in oil, gas and mineral resources.

³ Social development here refers to: health and education; housing; access to food and farmland; and access to electricity and water.

is distributed to every resident in the form of a cash transfer. Although similar cases exist in Africa in the form of development funds, they are far less prevalent.

2.2.2 Mining Revenue and Community Development in Botswana and Ghana

Botswana conspicuously stands as a success story of an African government that has managed to use revenue from the mining sector to cater to its communities. Botswana has deposits of diamonds, coal, copper-nickel and other lucrative minerals. Its export revenue comes mainly from diamonds. In a 2012 study on Botswana's mining path to poverty alleviation, Gwebu shows how minerals help reduce poverty in Botswana mining towns:

Mining corporations are expected to make welfare provisions for their employees and hence mines have a distributive effect on national welfare through public spending that is directed at the provision of services and infrastructure mainly for the Botswana people. Many mines provide healthcare to their surrounding rural areas. Mine doctors and nurses visit nearby village clinics regularly and seriously ill rural patients receive specialised treatment at mine hospitals (2012, p. 616).

Further, according to Gwebu, the state has advanced rural development using revenue from the mining industry through initiatives such as the Accelerated Rural Development Programme, investing large amounts into schools, clinics, credit extension, roads and water facilities (2012, p. 623). In addition, Botswana's Arable Lands Development Programme, financed by diamond monies, has supported agricultural projects and improved services such as police stations, banks, customs facilities and housing (Gwebu, 2012, p. 623).

Ghana has also managed, or at least attempted, to use its resources to improve the lives of its population. Mining companies in Ghana produce gold, diamonds, manganese and bauxite. They pay the government both a corporate tax (at 35%) and royalties that range from 3% to 12%, depending on profitability in a given year. Ghana has 110 districts, four of which have mining activities and poverty levels are 'generally' lower than any other district in the mining regions (Mitchell, 2006, p. 57). As is the case in Botswana, Ghana has a Mineral Development Fund (MDF) in which mining revenue is used to provide special assistance to mining communities. Even so, in a comprehensive study, the International Institute for Environment and Development (IIED) reported that, monies from Ghana's MDF earmarked for the

community tend to be delayed, the objectives of the funds in the community are not clearly defined, and traditional authorities do not necessarily use the money for the benefit of the communities, which affects budget planning for mining sector institutions and the well-being of the community at large (2002, p. 210). The idea of using mineral development funds to support the communities nearby mining plants implemented in Botswana and Ghana presents lessons of great relevance for government approaches in Mozambique to ensure that the surrounding mining projects in Moatize reap palpable benefits.

2.2.3 The Kansanshi Mine in Zambia

A community-company assessment of the copper mining in the Solwezi region of Zambia led by Ngosa and Alstine (2011) shows that rural communities surrounding copper mines in Zambia also have their share of shortcomings. In the last decade, there have been substantial investments in the copper mining industry in Zambia as a result of copper price hikes due to high demand from emerging markets. In Zambia's Solwezi region, the Kansanshi mining company holds the world's eighth largest copper mine, which is the largest copper mine in Africa. In 2010, the mine produced about US\$ 1.65 billion in revenue; an expansion project is now underway to expand annual copper production capacity from the current 250,000 tonnes to 400,000 tonnes of copper in 2015 (First Quantum Minerals, 2012). Despite the high level of profits, according to the community-company assessment, community members at Mushitala, a community located west of the Kansanshi mining area, face issues such as poor health infrastructure and sanitation, and limited housing (Ngosa & Alstine, 2011, p. 14). The company only addressed the demands of the community when community members vandalised the fence that separates the mining plant from the Mushitala community. According to the same assessment, there is also a lack of accountability and transparency from the local government concerning the management of resources from the mines. As part of its CSR initiative, Kansanshi engaged with the community through several projects, including: fish and vegetable farming, and poultry rearing (Alstine & Afionis, 2013). Whilst the community welcomed the initiatives, it has asked Kansanshi to engage in more palpable projects such as building transport infrastructure, housing, wells, schools, and clinics (Alstine & Afionis, 2013). The communities affected by mining operations in Moatize have experienced similar dynamics in terms of the engagement of the mining companies.

2.2.4 Mining and Rural Communities in South Africa

South Africa's highly lucrative mining sector also has similar challenges with regard to mining-led social development in its rural communities. The South African economy benefits tremendously from its mining industry, especially the extraction of platinum and gold. Considering the legacy of apartheid and the various discernible social needs that come along with it in predominantly black rural communities surrounding mines, South Africa's poorest could benefit much more from their mining sector (Hamann, 2003, p. 238). In this context, there have been accusations that South African companies have been:

...neglecting their mining producing communities during the apartheid regime. The mining communities lacked electricity, housing, potable water, and their farmland was destroyed by the mining activities. Even though they claimed to have done many things to correct the wrongdoing of the past, they have not done anything to improve the lives of people living in the mining areas (Eweje, 2006, p. 111).

Gold mining companies and platinum producers enjoy low tax rates and accumulate enormous profits. In 2007, collectively, South Africa's gold mining companies made pre-tax profits of US\$ 672 million, of which only US\$ 127 million went to the state as taxation, while in 2006, Anglo-Platinum made US\$ 1.6 billion after tax in 2006 (Curtis, 2009). Despite conflict over land and pollution, historically, mining companies have maintained that the profits from the industry outweighed the social and environmental damages they produced (Jenkins, 2004, p. 24). This idea was reversed in the aftermath of the 1976 riots in Soweto, which had a heavy economic impact on the extractive industry given that most of the labour involved in the industry had been, and continues to be, drawn from local and migrant low-skilled workers. The pressure from the riots in the 1970s signalled the beginning of CSR initiatives for the communities. The Urban Foundation, established in 1977, is one example of an early CSR initiative; its projects include the improvement of infrastructure and schools in townships and rural communities (Hamman, 2004, p. 279).

Although these CSR initiatives were important advancements, in terms of fiscal management and transparency, the industry continues to face challenges up to the present day. For instance, Lonmin—one of the world's largest platinum producers—is accused of having falsified its profits, thus owing the Bapo Ba Mogale community up to ZAR 100 million in royalties (Swart,

2012). According to the same report, “The Bapo people are supposed to receive 12% in royalties from the taxable income on the mining activities on their land” (2012, p. 1). Such events deeply affect the social development of communities surrounding mining plants.

2.3 Mozambique – Politics & Economy

After five centuries under Portuguese rule, Mozambique gained its independence in 1975. Freedom from colonial rule was incontrovertibly attributed to FRELIMO—*Frente de Libertação de Moçambique* [Mozambique Liberation Front]—a Marxist-Leninist-influenced liberation movement. Under the charismatic leadership of Samora Machel, in 1977, FRELIMO transitioned into a political party. In the same year, Mozambique began a sixteen-year civil war. In 1992, the war ended after a General Peace Agreement (GPA) was signed between the FRELIMO government and the main opposition RENAMO—*Resistência Nacional Moçambicana* [National Mozambican Resistance]—a guerrilla movement turned political party. The civil war destroyed fundamental pillars of development, such as schools and hospitals, roads and rail networks, profoundly affecting the country’s economy.

In the late 1980s, with the help of financial institutions such as the World Bank and the International Monetary Fund, Mozambique embarked on a series of macroeconomic reforms in order to stabilise the economy. Under President Joaquim Chissano, these reforms coupled with donor assistance and political stability in the aftermath of the civil war led to dramatic social and economic improvements in the 1990s. As part of the economic recovery programme launched in 1987 after the death of Samora Machel, the privatisation of state enterprises paved the way for a new market economy, which guaranteed aid from Western donors and the Bretton Woods institutions. Nevertheless, the market economy, privatisation and liberalisation discourse did not develop a national bourgeoisie; instead, the FRELIMO-controlled state remained the main player (Cumbi, Weimer, & Macuane, 2012). In this vein, Mozambique has often been referred to as a “party-state”, meaning that there is an almost non-existent line between the ruling party and the state. In fact, since independence, the president of Mozambique has always been the president of FRELIMO, and vice versa. According to Cumbi and others:

The economic and political liberalization and privatization, as well as a high dependence on foreign aid were accompanied by an increasingly pervasive rent-seeking behaviour, epitomized

by saying “o cabrito come onde está amarrado” (‘the goat eats where it is tied’), the popular code for corruption. This ranges from petty corruption of the public servant to ‘grand corruption’ of the top of the political and administrative hierarchy involving procurement and large scale public contracts, public concessions, natural resources concessions, etc. (2012, p. 15).

Top-level officials from the government and FRELIMO own shares and occupy chairs on the boards of large companies in Mozambique, including the mining sector (Gerety, 2013). In the same way, Armando Emilio Guebuza⁴, the current president of Mozambique, strategically used his position of power in the party and the state to use both entities to satisfy his business interests. It is no secret in Mozambique that the Guebuza family and their allies have a strong stake in key sectors including telecommunications, fisheries, transport and harbours, manufacturing, construction, real estate, tourism, consultancy companies, petrol stations, electrical energy and natural/mineral resources (Cumbi et al., 2012; Hanlon & Mosse, 2010). In 2010, the well-known Guebuza business behaviour, coupled with increases in food and fuel prices deeply affecting the population at large, led to violent protests where pictures of Guebuza were burned in public. Ironically, Guebuza’s presidential campaign slogan claims to spearhead “a luta contra a pobreza absoluta” [‘the fight against absolute poverty’].

Data from the National Institute of Statistics (INE) shows that, as of 2009, Mozambique’s primary sector accounts for 26.3% of the GNP (including extractive industries); the country is low on industrialization with manufactures accounting for 12.8% of the GNP; and there is a notable increase in growth of the tertiary sector (services, commerce, banking, etc.), contributing more than 40% (National Institute of Statistics, 2009). Considering coal production and exports since 2011, there may have been a slight increase in growth due to the contribution of the extractive industries to the economy. The exploitation of Mozambique’s mineral resources has resulted into the administration of massive injections of FDI into the country. Nonetheless, economic growth in Mozambique is concentrated in a few sectors, mainly the extractive industries and services (Castel-Branco & Ossemame, 2010; Cumbi et al., 2012). Cumbi and others elucidate that the extractive nature of the economy creates a situation in which:

⁴ Guebuza was formerly the Minister of Transportation and Communication.

The domestic capitalist classes' accumulation is based on the rents of this sector and the economy is heavily dependent on external capital inflows with the tendency to generate negative net capital flows (exported capital is higher than imported capital) (2012, p. 17).

According to Castel-Branco and Ossemame (2010), the present accumulation paradigm causes capital flight and structural inequalities in the capitalist development across different regions of the country.

2.4 Coal Mining in Mozambique

Mozambique is rich in natural resources, including coal, natural gas, gold, rubies, tantalum, hydropower, bauxite and phosphates. In this list of natural resources, coal alone represents 61% of the country's mineral commodities. Globally, coal remains an important fossil fuel and is the largest source of electric power in the world. It is estimated that approximately 40% of the world's electricity is powered by coal, and in the worldwide production chain of coal, 65% is exported to electricity producers (Audu et al., 2006). After electricity generation, coal is largely used to support industrial sectors, particularly in emerging markets in Asia and Latin America.

Mozambique's coal reserves are concentrated in the northern province of Tete, primarily in the district of Moatize. According to FIAN International (2010), the district of Moatize is believed to have the world's largest reserves of untapped coal in the world, estimated at more than 23 billion tonnes of coal. There has been much research (Afonso, 1978; Real, 1966; Vasconcelos, 1995) on coal discoveries and exploration in Mozambique. According to these studies, Belgian academics pioneered discoveries in coal in the Moatize basin in the 1920s. According to an interview with a mining engineer at the Mozambique Ministry of Natural Resources (MIREM), the first known instance of coal extraction in Moatize dates back to the same decade and was conducted by the Belgian mining group, *Société Minière et Géologique du Zambeze*. The Belgian group passed its mining rights to *Companhia Carbonífera de Moçambique*, led by Portugal and South Africa. Under Portuguese rule, coal extraction in Mozambique served the economic interests of Portugal in Europe. The construction of a railway connecting Moatize to the Beira seaport revolutionised coal mining in Moatize. Coal mining activities in Moatize began to gain momentum in the 1940s, with an annual production of 10,000 tonnes, followed by an annual production of 25,000 tonnes in the 1950s (MIREM mining engineer, personal interview, November 2013).

For Mozambique, coal has historically been the most important mineral in terms of production and exports. After independence in 1975, Carbomoc, a state-owned company, carried out coal mining operations (Mosca & Selemane, 2011). In 1976, Carbomoc produced 560,000 tonnes of coal from Moatize (Selemane, 2009). In the same period, 60% of Mozambique's total mineral production and 3.5% of its total exports came from coal mining (Jourdan, 1986, p. 33).

In the late 1970s, the civil war led to the destruction of parts of the Sena railway, which hampered the movement of coal from Moatize to the Beira seaport for exports. As a result, coal mining operations were suspended in 1983. By 1984, mineral production had dropped steeply to 21% and exports had fallen to 0.5% (Jourdan, 1986, p. 33). Due to the destruction of the Sena railway and the poor conditions of the rail line connecting Moatize to the Nacala seaport, the coal mining industry in Mozambique became dormant until the beginning of the new millennium.

In 2003, despite Mozambique's fragile infrastructure, the world's largest mining companies demonstrated an interest in investing in the Moatize coal reserves. In the mid-2004, the GoM signed a contract with Vale through which it conceded 24,000 hectares for the company to conduct coal mining operations in Moatize. In the same period, other large mining companies such as Rio Tinto and Jindal Steel and Power Limited were also granted concessions by the government to explore the Moatize Coal Reserves. It is estimated that, at its peak, the Moatize coal project will likely produce ten million tonnes per year (HRW, 2013). At present, most of the coal is being exported to East Asia (mainly China), India, Brazil and Europe, and the rest will be used to sustain a new coal-fired power plant that will be constructed in the Tete region in the future (Coal International, 2005). In September 2011, the first trainloads transporting coal from the mines to the Beira port left Moatize, and currently, the mine built by Vale produces more coal in two months than Carbomoc did in one year at peak production in the 1970s (Gerety, 2013). With rising demand for coal from China, India and Brazil for the generation of electricity, in the last ten years, several foreign companies have invested billions of dollars in coal mining and infrastructure development in Moatize and along the routes leading to the Nacala and Beira seaports.

Mozambique is the second largest exporter of coal on the continent after South Africa. There is a potential for huge profits in the Moatize coal reserve; even so, academic experts and civil society organisations question the social and economic benefits of these operations for local communities and the country at large. In the region, coal mining operations by Vale and other mining companies have led to the displacement and involuntary resettlement of more than 2000 families from their villages near the town of Moatize to areas such as Cateme, *25 de Setembro* and Mwaladze (Matos & Medeiros, 2012).

In terms of literature related to this case study, there are three seminal studies on the impact of coal mining, and specifically the Vale and Rio Tinto projects, on the communities surrounding the plants, namely: “What is a House without Food? Mozambique’s Coal Mining Boom and Resettlements” (HRW, 2013); “Coal Versus Communities: Exposing poor practices by Vale and Rio Tinto in Mozambique” (Kabemba & Nhancala, 2013); and “*Questões à volta da mineração em Moçambique: relatório de monitoria das actividades mineiras em Moma, Moarize, Manica e Sussundenga*” [Issues Surrounding Mining in Mozambique: Monitoring Report from Mining Activities in Moma, Moarize, Manica and Sussendenga] (Selemane, 2010). The above-mentioned studies highlight dissatisfaction among Cateme community members with regard to the new housing provided by Vale, as well as the poor conditions for food production in the resettlement community, including land infertility and limited access to water. The studies also mention that before Vale started operating in Moatize, the Cateme population lived in villages close to the Revuboè and Moatize Rivers, which served as recreational sites for local children, as well as a source of water for subsistence farming. Community members manifested their discontentment by protesting against Vale and blocking the Sena railway, a line that channels coal from the coal mining plant to the Beira seaport.

The three identified studies are highly regarded and often recommended in this context of the impact of coal mining operations on the lives of community members in Cateme. Even so, they overlook some important considerations, such as: a) an overview of resettlement regulation, policies and international standards; b) the comprehensive resettlement plan of action for Cateme; c) literature on resettlement in light of large development extractive projects and their impact on local populace; d) the history of coal mining in Mozambique since the 1920s; and e) Vale’s corporate social responsibility in Cateme and in the country at large. In addition to the above-mentioned studies, much of the literature (Castel-Branco, 2008; Castel-Branco &

Mandlate, 2012; Gerety, 2013) on mining in Mozambique tended to focus more on questions revolving around long-term development and economic growth at the macroeconomic level rather than examining specific communities affected by these large projects. In contrast, this case study seeks to contribute to the scarce literature on the effects of coal mining operations on the Cateme community, as well as the greater literature on mining booms and their impact on local communities.

2.5 Displacement and Involuntary Resettlement Caused by Mining Operations

The extraction of natural resources often requires land in large quantities. Such projects often give developers rights to land previously inhabited by local groups. The most direct and common repercussions of such projects are the displacement and involuntary resettlement of communities.

In the context of mineral extraction, Downing (2002) refers to this phenomenon as “mining-induced displacement and resettlement” (MIDR). According to Downing, MIDR tends to occur in regions with high population density and fertile land where land tenure is poorly defined, and where the local population is inadequately informed on land issues and politically weak. According to specialists in the area of displacement, MIDR is accompanied by the resettlement effect. Some of its core premises include:

The loss of physical and non-physical assets, including homes, communities, productive land, income-earning assets and sources, subsistence, resources, cultural sites, social structures, networks and ties, cultural identity and mutual help mechanisms (Downing, 2002, p. 3).

Communities affected by MIDR are vulnerable to impoverishment risks. Several theoretical frameworks explain the economic and social risks of involuntary resettlement, including Cernea’s Impoverishment Risks and Reconstruction (IRR) model (1997). Cernea acknowledges cases of resettlement induced by development projects in India, where in four decades approximately 20 million people were relocated, and 75% of them were not “rehabilitated,” or in other words were unable to adapt to the new circumstances or were further impoverished. Cognisant of such cases, Cernea identifies patterns and common trends on involuntary resettlement caused by development projects from empirical data to conceptualise the IRR model. The aim of the IRR model is to find ways to reverse the negative effects of

involuntary resettlement by identifying impoverishment risks to offer appropriate measures for the reconstruction of the livelihoods of the affected population in the event of involuntary resettlement. The IRR model emphasises that in the absence of appropriate policy followed by implementation, forced relocation or involuntary resettlement can lead to the impoverishment of the affected population. For the current study, it is important to highlight the possible impoverishment risks of involuntary resettlement offered by Cernea's IRR model and to assess whether the people of Cateme were rehabilitated. The impoverishment risks identified by Cernea's IRR model are the following: landlessness, joblessness, homelessness, marginalization, food insecurity, loss of access to common property resources, increased morbidity and mortality, and community disarticulation (1997, p. 1569).

According to Downing, an additional risk to displacement and involuntary resettlement is the loss of civil and human rights, as well as the disruption of formal education activities (1998). Bala (2008) also considers involuntary resettlement to be a human rights issue. According to Bala, resettlement processes involve "accountability, governance, participation, capacity building, relevant legal and policy framework" (2008, p. 4). In this vein, resettled communities have the right to legal representation and institutional support to ensure the protection of their human rights as they are relocated. In this respect, Article 10 of Mozambique's Regulation for Resettlement Resulting from Economic Activities, approved by the Council of Ministers in 2012, grants:

The right for affected persons and their advocates to challenge the resettlement decision, to present alternative proposals, and to articulate demands and development priorities;

The right to opportunities for facilitated provision of legal, technical, and other advice about legal rights and options... (GoM, 2012, Art. 10).

Therefore, the GoM recognises that legal and institutional systems have the duty to safeguard the rights of people displaced and resettled to make room for economic activities and development projects. The GoM has not only acknowledged this right, but it also turned it into law through its Resettlement Decree of 2012. Furthermore, Article 45 of the Constitution of the Republic of Mozambique declares that the well-being of the people and the community should be protected and preserved (GoM, 2004).

2.6 International and Regional Standards and Policy on Involuntary Resettlements

There are international and regional guidelines set to support countries in the articulation, enactment and implementation of policy aimed at reducing the risks and negative consequences attached to displacement and involuntary resettlement. For example, the African Development Bank (AfDB) Policy on Involuntary Resettlement states that:

Compensation at the full replacement cost for loss of lands and other assets should be paid prior to projects implementation with the view to improve the former living standards, income earning capacity and production levels of the affected population (2003, Executive Summary, Art. 8).

The AfDB policy also requires that:

Agricultural or pastureland provided through land-for-land resettlement should be equal or better in quality, including access to safe drinking water and irrigation water for agricultural lands (2003, Section 4.1.7).

Moreover, in the same policy package, the AfDB highlights the importance of providing legal representation to the resettled communities to ensure that their rights are prioritised throughout the resettlement process.

The World Bank also has an involuntary resettlement policy aimed at providing guidance to countries that seek aid from the Bank to fund their development projects (2001). Incidentally, a branch of the World Bank, the International Financial Corporation (IFC), is one of the entities financing the Vale coal mining project in Mozambique. The GoM adopted the World Bank's involuntary resettlement policy's guidelines to orientate resettlement processes. The policy seeks to mitigate and minimise the adverse social and economic impact of resettlement in large development projects. As is the case with the AfDB resettlement policy, the World Bank policy calls on all relevant stakeholders involved in the resettlement of a population to make room for development projects to help displaced persons improve, or at least restore, their living standards (World Bank, 2001). The policy also specifies that displaced people should be, "consulted and provided with technically and economically feasible resettlement alternatives"

(2001, Annex A, Art. 6ii). The new location must give the resettled population the same or better opportunities to engage in productive activities to ensure their self-sufficiency and avoid a cycle of dependence on the mining company and the government (2001, 6b, ii). In the case of Mozambique, given that the Cateme community primarily consists of subsistence farmers, their mode of survival must be maintained, and they must also have access to markets and proper infrastructure to enhance their living standards. The World Bank also advises governments dealing with resettlement to seek technical assistance from internationally recognised resettlement specialists.

CHAPTER 3: Instruments of the Government and Vale for the Resettlement

3.1 The Government

It is the duty of the Government of Mozambique to protect its citizens' human rights. The national constitution and human rights laws highlight fundamental human rights that the government must protect for the well-being of its population. Some of the most essential rights include the right to food, water, health, education, and housing. The government is obligated to take the necessary measures to avoid any action that would jeopardise the full enjoyment of these rights and promote actions that aim at guaranteeing their full realization. In this context of mineral extraction and resettlement in Moatize, the GoM must manage the exploration of natural resources in a way that produces shared prosperity and safeguards the well-being of local communities, particularly those affected by the extractive projects. For that to occur, the management of the country's mineral resources must be coordinated with mining policies and contracts, as well as proper regulation for resettlement.

3.1.1 Mining Policy and Legislation

In Mozambique, the national mining policy is the instrument that defines the guidelines for the development of activities in the area of mineral resources in the country. According to the GoM, mineral resources must contribute to the eradication of poverty, raise the standard of living of Mozambicans and produce socio-economic transformation in the country. According to Mozambique's Mining Policy, extractive projects must:

- ensure efficient management and sustainable use of mineral resources;
- contribute to local and national socio-economic development;
- prioritize human development of nationals, improved living conditions for local communities and respect for their cultural heritage;
- use environmentally sound and efficient technologies in the exploration of mineral resources;
- ensure good governance, transparency, competitiveness and productivity; and
- ensure the protection of the interests of the country (GoM, 1998).

In the context of resettlement, the National Mining Policy states that mining activities should be conducted in a manner that affects other uses of land as little as possible (GoM, 1995, No.

38). In the case of a conflict with other uses, mining activities have priority over the area; however, it must be accompanied by adequate compensation for any damage the project may cause (GoM, 1995, No. 39; GoM, 2003, Art. 18). For licenses to be issued to mining companies, the GoM requires a comprehensive study on the environmental, economic and social impact of the project at stake. The GoM only issues licenses to companies that give sufficient evidence, through the study, proving that the project will benefit local communities. Should the information provided by the studies be fraudulent or not implemented, the companies are subject to civil and criminal liability. Regarding mineral extraction in Mozambique, out of the US\$ 35 million that the government expects to receive from mining companies in 2013, 2.75%—almost US\$ 1 million—will be given to communities affected by mining operations, including Moatize, Moma and Guvuro (Hanlon, 2012).

Acknowledging the growing importance of minerals to the country's social and economic development, the Assembly of the Republic revoked Act No. 2/86 of April 16 and Act No. 5/94 of September 13 for the adoption of the Mining Act, Act No. 14/2002 of June 26. The 2002 Mining Act provides the legal framework for the use of all minerals lying under Mozambican soil. It establishes the rights and obligations of any party involved in the use and exploration of the country's minerals to ensure that they benefit the national economy. In addition, Act No. 19/97, the Land Act, delineates the rights of use and benefit of the land to individuals, communities and corporations. In light of substantial investments in the mining sector, in 2012, the government revised the Mining Act to align it with the country's development objectives.

According to the 2002 Mining Act and 1997 Land Act, any party involved in a mining project in Mozambique must carry out public consultations with all parties directly or indirectly affected by the project. This procedure is compulsory in cases involving temporary or permanent resettlement. It is the responsibility of public authorities to ensure that public consultations with the affected population occur prior to the approval of any mining license (GoM – MoMR, 2004). The Mining Act states that the population affected by a mining project must be fairly compensated for any damage caused to crops and buildings. It also establishes the obligation to resettle the affected population in the terms and conditions of resettlement agreed upon between the mining company, the government and the affected communities. In case of disagreements in the terms of compensation, the Ministry of Mineral Resources has the responsibility to mediate the process.

3.1.2 Regulation on the Process of Resettlement Resulting from Economic Activities

During the resettlement phase, Mozambique did not have any concrete laws concerning involuntary resettlement. As previously mentioned, the government and the companies followed the guidelines provided by the World Bank's involuntary resettlement policy. However, as issues related to the resettlement began to arise, including numerous protests by community members disrupting mining activities, the government was pressured and compelled to put in order adequate ordinance to address resettlement issues at the local level. As a result, the Council of Ministers announced the adoption of the Regulation on the Process of Resettlement Resulting from Economic Activities⁵ (GoM, 2012), which came into force on 23 August 2012.

The regulation establishes basic rules and principles for resettlement processes resulting from economic activities such as mineral extraction. Considering the natural resource boom and large investments in the mining sector in Mozambique, the regulation covers important issues related to resettlement as it aims to provide safeguards for displaced and resettled populations. It aims to guarantee that the resettlement processes re-establish or improve the living conditions of the affected communities. The regulation outlines the way in which resettlement processes must be carried out, the rights of the affected population, and the components of the resettlement plan to be approved by the government and implemented by the entity using the land for the economic activities or development projects at stake. Under Article 5 of the Regulation, its core principles include:

The Principle of Social Cohesion – the resettlement shall guarantee social integration and re-establish the standard of living of the affected people to a higher level;

The Principle of Social Equality – all those affected by the resettlement process are entitled to the re-establishment or creation of conditions equal or above their previous standard of living;

The Principle of Direct Benefit – the affected people shall be given the possibility to benefit directly from the undertaking and its socio-economic impacts;

⁵ Translated from the original Portuguese, *Regulamento sobre o Processo de Reassentamento Resultante de Atividades Económicas*

The Principle of Social Equity – the resettlement of populations in new areas shall take into account access to the available means of subsistence, social services and resources;

The Principle of Non-Alteration of the Income Level – the resettled people shall have the possibility to re-establish their previous basic income level;

The Principle of Public Participation – in the resettlement process there shall be hearings of local communities and other parties interested in and affected by the activity;

The Principle of Social Responsibility – the investor must create social infrastructures, which promote learning, leisure, sports, health, culture and other projects of community interest (GoM, 2012, Art. 5).

Under the regulation, a technical resettlement committee is given the responsibility of participating in every phase of the resettlement process, including supervising and monitoring the implementation of the resettlement plan approved by the government. The document also emphasises that five members of the affected community, a civil society representative, three community leaders and two private sector representatives must work alongside the technical committee throughout the entire resettlement process. The above-mentioned stakeholders have the right to participate in every step of the process and have the duty to point out any irregularity or illegalities identified throughout the process for appropriate interventions by local authorities. Furthermore, under the regulation, the general public also has the right to seek clarifications, make suggestions and recommendations, and organise public gatherings to discuss issues pertaining to the resettlement at stake.

The regulation also highlights that any entity or party involved in an economic activity that requires the resettlement of local populace on national territory must prepare and, once approved, implement a comprehensive resettlement plan (RP) (GoM, 2012, 4.4.2). In terms of a model of resettlement, Article 16 of the regulation specifies that resettling a population implies organising access roads, water supply systems, sanitation, electrification, health clinics, schools, a childcare centre, a supermarket, shops, police stations, places of leisure, sports facilities and places of worship. The resettlement must also ensure that the population continues

to exercise its daily activities, especially if they generated income for their households. Alternatively, the party or entity resettling the population must develop income generation programmes. Regarding the environment, Article 17 particularly underlines the importance of soil fertility as most rural communities highly depend on subsistence farming to sustain their lives. The violation of the provisions of the resettlement regulation constitutes an administrative offence, punishable by fine.

3.1.3 Mining Contracts

The contracts between the government and the company must reflect the terms and conditions set by the government for the issuance of mining licenses. Mining contracts set the tone for how mining companies must operate in a given country and give the host country an opportunity to engage in negotiations, generally, aimed at ensuring that the national economy and the local population benefit from mining activities. Important components of mining contracts include: leases and rights for mining development; project implementation; infrastructure facilities; rates and duties; financing of the project; environmental management and protection; training and local employment; supply and procurement; local business development; resettlement; consultations, etc. (Government of Papua New Guinea, 2010).

In Mozambique, a major criticism from civil society, academic experts and the general public has been that mining contracts between the government and Vale are kept confidential. The provincial directorates have no access to contracts and agreements between the central government and Vale, including local government officials who are part of resettlement committees at the provincial and district level (Mosca & Selemene, 2012). During my interview with the representative from the Ministry of Mineral Resources, I repeatedly brought up the question of contracts in different ways to find out the main agreements between the GoM and Vale. The only information released by the official was a brief account of the fiscal regime. He also added that the government required the companies to have a corporate social responsibility policy that provides for leisurely and cultural activities, as well as training for employment in the companies for local community members.

For the Moatize mining concession, Vale paid US\$ 120 million to the government, but this amount never entered the state budget (Selemene, 2010). The two main sources of tax revenue for the coal mining companies in Mozambique are royalties of 3% on all extracted coal and a

corporate tax of 32% on profits (Mosca & Selemene, 2012; Resenfeld, 2012). As is the case with other large companies operating in Mozambique, Vale enjoys significant tax breaks. It benefits from a reduction of 15% in the Corporate Income Tax Code (IRPC) and 50% reduction of the Stated Income / Stated Asset tax (SISA)⁶ in the acquisition of properties. The government also granted Vale free repatriation of up to 100% of profits and dividends (Castel-Branco & Cavadias, 2009). It is also worth noting that Mozambique's fully state-owned mining company, *Empresa Moçambicana de Exploração Mineira* [Mozambican Mining Company] (EMEM) bought 5% of Vale's Mozambique subsidiary for 16 million Euros, while the main shareholder and 10% of the company remained opened for local investors (Hanlon, 2012). Aside from the above-mentioned data, to a great extent, revenue transparency is undermined (Kabemba & Nhancale, 2013). There is a lack of transparency and the amounts subject to taxation for the enhancement of public services and living conditions are poorly reported. (Ossemane, 2013: 2).

3.2 Vale

3.2.1 Background of Vale

Founded in 1942, Vale is the second biggest mining company in the world. With more than 100,000 employees worldwide and a net worth of US\$ 169 billion, the Brazilian mining company operates in 13 Brazilian states and on 5 continents (Kabemba & Nhancale, 2013; Mosca & Selemene, 2012). It is listed on numerous stock exchanges, including those of New York, São Paulo, Madrid, and China (Mosca & Selemene, 2011; Ramos, 2009). In 2004, the mining multinational won a bid to explore coal in Mozambique and obtained a 35-year concession for 24,000 hectares in Moatize in 2007. Vale's Mozambique subsidiary, *Vale Moçambique*,⁷ began construction on the Moatize mine in 2008, resettled households in 2009 and 2010, and started coal mining operations in 2011 (HRW, 2013). Vale also invested in the 912-kilometre Nacala Corridor, a project that will connect the Moatize Coal Mine to the port of Nacala passing through Malawi, with a transport capacity of 18 million tonnes of coal per year. The company also invested in the rehabilitation of the 575-kilometre Sena railway, which is already operational, connecting Moatize to the Beira seaport. According to a 2013 Human Rights Watch report, the company spent nearly US\$ 8 billion on the entire project, including

⁶ The SISA focuses on considerations for the right of property ownership in Mozambique and tax levies for real estate and municipal buildings in the national territory.

⁷ *Vale Moçambique* will be simply referred to as "Vale" throughout the study.

the construction of the mining plant, resettlement and infrastructure for the transportation of coal from the mining site to the Beira and Nacala seaports. Vale aims to export up to 11 million tonnes of coal per year in its first phase and 22 million in its second phase (HRW, 2013).

Concerning the resettlement, given the confidentiality of the mining contracts, there is no clear understanding of the practical responsibilities of the company—as well as the concrete obligations of the government—towards the resettled families. In fact, during the protests, Cateme community members did not know where to lodge their complaints. Despite this lapse in information, prior to the resettlement, the government had approved environmental, social and economic impact studies conducted by a Brazilian consulting firm, Diagonal. After receiving government approval, Vale began to implement a clear and documented Resettlement Plan (RP). In addition to the RP, the company has a CSR policy, which is accessible to the public via the company website. These resources provide insight into Vale's intentions for the resettlement.

3.2.2 The Resettlement Plan

In 2006, Vale commissioned the Diagonal consulting firm to produce an “Action Plan for Resettlement.” The resettlement plan (RP) outlines all of the conditions and provisions for the resettlement process, including an exhaustive report of the communities, demographics, farms and infrastructure to be displaced, as well as a detailed account of the compensation package (Diagonal, 2006). The plan was approved by the government and implemented by Vale. The RP establishes that only families that had houses and farmland in the four villages would be eligible to full compensation and other benefits guaranteed by the plan. According to the RP, the families were to receive new homes with the same dimensions or superior to their original homes. Under the plan, the properties would have a main house, a kitchen separated from the main house, and an outdoor bathroom with a latrine and a sink. The plan also specified that the houses were to be built with concrete floors, brick walls, roofing from galvanised sheets, wooden doors, and glass windows. All homes were to be prepared with appropriate electrical systems for power connection.

Concerning land tenure rights, the plan underlined that each of the families would be granted a *Direito de Uso e Aproveitamento de Terra* [Right of Land Use] (DUAT), that is, a document issued by the state giving tenants the right to use a particular space [land] for 50 years. Given

that Mozambique's rural communities rely tremendously on subsistence farming, DUATs were to be granted not only for domestic spaces, but also for farmland. According to the plan, domestic spaces were to be around 8,000 square metres and 2 hectares of farmland would be given to each family. The RP also indicated that Vale would provide food assistance to families whose harvesting cycle was interrupted during the interval between the relocation and their first harvest in the new area.

In terms of access to water, the RP determined that the households that previously had potable water in their homes would receive the same level of access in the resettlement. The plan also guaranteed that Vale would provide tanks with treated water to be distributed to the community through water fountains. The fountains would be located 250-300 metres away from every residential plot. The RP also noted that electricity would be installed in the whole community, including individual houses and public spaces. Vale was to be responsible for the installation costs of street lights and house connections.

According to the RP, Vale would build two schools, a primary and secondary school, as well as a hospital. Vale would provide all the equipment for the schools and the hospital. Moreover, under the plan, the company was also responsible for providing houses for the school principals, teachers and health practitioners. Teachers who were not from the four villages relocated in Cateme were not included in this particular package. As a social duty, the company was to maintain a system of communication with Cateme residents to keep them informed on the development of the project and its implications on the community. Also, the company was to ensure that it dedicated time to answer questions posed by community members throughout the resettlement phase and in case of any additional concerns coming from residents after the completion of the project.

3.2.3 Corporate Social Responsibility

At present, poor transparency and public accountability mechanisms make it difficult to assess the real revenue arising from concessions and corporate taxes entering state coffers in Mozambique. In analysing the contribution of the coal companies to the country's development, particularly in the communities, one could start by looking at the corporate social responsibility. Mozambique does not yet have firm laws with regard to CSR policies for multinational companies exploiting natural resources. Nevertheless, the mining companies

operating in the country have a long history of engagement with communities and are conscious about their image in the global stage as they are often targeted by powerful international civil society organisations. For this reason, multinationals tend to work diligently to comply with international standards.

In Mozambique, the Vale Foundation is the division of Vale dealing with the management of socio-economic programmes and relations between the company, the government and the affected communities. The Vale Foundation has CSR initiatives in cities linked with the company's coal mining projects in Mozambique—for instance, Beira and Nacala, which are the cities where the seaports are located, and Maputo, the capital city and site of its main offices. Although the Vale Foundation has a presence in various cities of Mozambique, its work is significantly directed towards social projects in Moatize and Cateme, which are closest to the mine location. As this study focuses on Cateme, this section will first briefly discuss Vale's social spending in the broader Mozambican context and then focus more attention on the company's CSR initiatives in the community at stake.

In a meeting with Vale, the government emphasised the importance of investing in the sustainable development of Mozambique through CSR initiatives (Vale, 2014). Thus, the aim of Vale Foundation is to design projects that will produce long-term and far-reaching effects for community members. In Mozambique, Vale is committed to providing technical training, through Brazilian and Mozambican universities, to build capacity in construction and mining engineering (Besharati, 2012). The company is also engaged in the revamping of a prominent botanical garden in Maputo. Further, it is conducting a survey of small and medium enterprises in Moatize to possibly utilise their services for its operations. Vale has also rehabilitated two health clinics and built a sports field in Moatize.

In Cateme, the company's approach to CSR is comprised of socio-educational and production-oriented initiatives aimed at promoting income generation. For example, Vale has trained women in sewing, as well as business and marketing skills, as a means of promoting women's empowerment and self-sufficiency. On a broader scale, Vale supports local initiatives to develop small businesses by conducting vocational training activities. The foundation also aims to strengthen the capacity of local suppliers to help improve the quality of their services and boost their supply chain capacity.

The Vale Foundation also aims to promote social integration in Cateme through a focus on sports for community members, particularly youth and children. It organises sports events in the schools to incentivise children to attend school. As a part of the sports programme, with the support of the government, Vale sponsored a project in Cateme to help children from the community obtain state identification cards. The cards do not only enable the children to register for and participate in the sports programmes initiated by Vale in the province, but also help children register for the local primary and secondary schools, as well as universities. The foundation is also training youth to become sports instructors to give them an opportunity to take the lead in the organisation of sports activities in Cateme and the greater Moatize area.

In terms of agricultural development, Vale built a model farm to teach local farmers how to use technologies to produce food for themselves and the community. Vale introduced a system in which local farmers are given the opportunity to supply vegetables to the company as a form of income generation for the community members.

CHAPTER 4: Methodology

4.1 Methods of Data Collection

This study used a qualitative approach for the acquisition of information in the field. Strauss and Corbin refer to qualitative research as, “any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification” (1990, p. 17). Qualitative methods seek to discover people’s understanding and perceptions of events and phenomena in their surroundings. A qualitative research methodology can be used to understand phenomena about which little is known, to obtain new perspectives on occurrences that are already known, or to provide in-depth information of events that cannot be described quantitatively (Strauss and Corbin, 1990).

This study used a qualitative approach to find out the impact of coal mining in the resettled community of Cateme from the perspective of community members and other stakeholders involved in the process. The study employed both primary and secondary sources for the collection of data. In-depth interviews were administered, in a semi-structured form. In addition, observation and conversation were also methods used to collect primary data. The study also relied on secondary data, including published peer-reviewed journal articles, books, legislation, government policies, strategy papers, corporate plans, reports and online sources.

4.2 Data Sources

This study applied the purposive sampling technique as a tool for informant selection. The current study sought to elicit information on perceptions about the living conditions of Cateme community members. Therefore, the informants were selected on the basis of this particular purpose, hence the use of the purposive sampling technique. The table below shows the people who were interviewed for the study:

People interviewed for the Study

Respondent(s) Category	Location	Interview type	Gender	Number
National Directorate of Mines: Ministry of Mineral Resources	Maputo	Face-to-face	Male	1
Vale Foundation Management	Maputo	Face-to-face	Male	1
Resettled Families	Cateme	Face-to-face	Female	3
Community leader (resettled)	Cateme	Face-to-face	Male	1
Teacher	Cateme	Face-to-face	Male	1
Primary School principal (resettled)	Cateme	Face-to-face	Male	1
Civil Society Officer	Moatize	Face-to-face	Male	1
Eduardo Mondlane University Professor	Maputo	Face-to-face	Male	1

Source: Compiled by the author based on fieldwork notes

For the study, I conducted fieldwork in Maputo, Moatize, and Cateme from November 2013 to January 2014. The majority of my interviews were conducted in Cateme. I visited the community and interviewed its residents with the help of a teacher from the community's primary school, who served as a guide for my visit. The community residents who were interviewed previously lived in the villages of Malabwe and Chipanga.⁸ The respondents include the primary school teacher, a community leader and his wife, the primary school's principal and two women who head their households.

In Cateme, I sought to find out whether and to what extent the community leader and the families were involved in consultations and negotiations with the government and Vale for their relocation into Cateme, and whether both entities explained what their new conditions were going to be in Cateme. I also enquired about promises made by Vale and the government and whether they were fulfilled. In addition, I collected information on the respondents' views regarding the living conditions in Cateme and the villages where they lived prior to being

⁸ Malabwe and Chipanga are two of the four villages located in the concession area where Vale is currently carrying out mining operations. The community members who accepted to be interviewed came from these two villages.

relocated, including aspects such as health, education, housing conditions, and electricity, as well as, access to water, food and farmland.

I visited the primary school where I had the opportunity to see the premises and take photographs. After a few minutes of negotiations and explanations of the nature of the study, I was able to secure an interview with the school principal who also lives in the community in houses built for resettled school staff. I asked about the conditions of the schools in their previous location and those of the school in Cateme, as well as enrolment and attendance, and extracurricular activities for the children in the school. The principal also provided his views on the overall living conditions prior to and after the relocation. My meeting with the community leader would have not been possible without the support of the school principal, as the community leader was sceptical of my intentions. The principal reassured him that I was a ‘harmless’ university student conducting a study for a degree in development studies.

At the district capital of Moatize, the civil society officer I interviewed indicated reasons the community leader might have been sceptical of my visit. According to the officer, during the resettlement process, the originally appointed community leader, Saize Roia, was sacked from the position for encouraging the population to resist the resettlement if their concerns and demands were not met. The community leader who replaced Roia was given the position for being a FRELIMO loyalist.⁹ Perhaps the new community leader was hesitant to be interviewed due to fears of being interpreted as an unresponsive leader to the community given the political nature of his appointment. In addition, Selemane (2010) confirms that Roia was intimidated, threatened and accused of acting against the development interests of Mozambique by officials of the provincial government. At the time, Alberto Vaquina led the government at the provincial level; today Vaquina is the Prime Minister of Mozambique. Furthermore, according to Human Rights Watch:

District officials have also instructed resettled community leaders not to speak with civil society activists, journalists, and other agencies unless they secure prior approval and appropriate “credentials” from the district administrator. Withheld permission has prevented international

⁹ In Mozambique, the government and every aspect of public life are controlled by FRELIMO, the party in power since independence. Considering this, the assumption is that a community leader appointed by FRELIMO will inherently follow the agenda of the government.

agencies such as the United Nations Children's Fund (UNICEF) from conducting research and programming in the resettled villages. Such actions undermine the right to freedom of expression (HRW, 2013, p. 23).

This confirms the reluctance of the community leader to be interviewed by someone without 'credentials' from the district government. I was fortunate to have talked to the school principal who reassured the community leader of my intentions.

I also had various conversations with my guide throughout the visits to Cateme. He provided me with a tour of the entire community. During my visits to the community, the teacher gave me information about the promises made by Vale and the government and the frustration of a considerable number of community members with their new conditions in Cateme. He also described some of the events that occurred during the protests, as well as the training programmes offered by Vale in the community and the housing conditions in the old villages compared to those in Cateme.

I observed community members interacting in various places such as the hospital, schools, and market, as well as in the streets and their backyards. When I was allowed to do so, I took photographs of the houses, hospital, schools, water fountains, agricultural lands, roads and community members. I took notes during the interviews, but also recorded some of our interactions when permissible.

At the district level, I interviewed a civil society officer in Moatize. He mentioned that he was a former Vale employee who worked with the company during the resettlement process and decided to join civil society after being dissatisfied with the way in which the population was resettled. We met on various occasions in different locations, including his house, a bar and a restaurant. He was very descriptive and spoke confidently about the social impact and feasibility studies, as well as the meetings between community leaders prior and after the relocation occurred. He provided me with electronic information (Excel documents, PowerPoint presentations, and Word documents) pertaining to pre- and post-resettlement operations that he obtained when he worked for Vale. It is worth noting that the information on the resettlement plan was drawn from the original RP designed by Diagonal, a Brazilian consultancy firm that conducted feasibility studies and planned the resettlement processes for

Cateme and *25 de Setembro*. I also gained access to the RP Progress Report document, which describes in a detailed manner the aspects of the RP that were executed and what was not accomplished. In addition, I was given documents with feasibility studies, CSR initiatives for Moatize and Cateme, and exhaustive social, economic and demographic descriptions of the areas where Cateme community members previously lived.

In Maputo, I interacted with experts and officials from the government, the company and academia. Firstly, I interviewed a chief mining engineer from the National Directorate of Mines in the Ministry of Mineral Resources (MIREM) and the former Development Manager of Vale Foundation. The mining engineer provided me with insight into the history of coal mining in Mozambique, mining legislation, contracts between the government and Vale, the concession and tax regime, the living conditions of Cateme community members before and after the relocation, and the contribution of coal mining companies to social and economic transformations in Moatize. At the Vale Foundation, I collected information on the company's CSR policy, its communication with the community and the government, and their work in Cateme, including provisions for housing, land and water, and health and education. I interviewed a former development manager from Vale Foundation, who had been working with Vale at the time of the resettlement. Lastly, I met with Dr. José Jaime Macuane,¹⁰ a prominent political analyst, consultant in the areas of governance, management and development, and professor of political science at Eduardo Mondlane University, the oldest and largest university in Mozambique. I asked about his research and studies in the community and his assessment of the Cateme resettlement project. We also discussed the impact of the mining boom and the extractive industry on the Mozambican economy and local communities.

4.3 Data Collection Challenges

The major challenge to data collection in the field was the reluctance of the community members to participate in the interviews, particularly among the men and the elders. I learned that they tend to be unreceptive towards researchers because many have entered the community and asked questions, but nothing has yet been done to change their state of affairs. Some community members also suspect that researchers may be spies for the government. According to my informant, community members demonstrate hostility towards local government

¹⁰ Dr. José Jaime Macuane granted permission to use his name for the study.

officials and, as a result, never gather when they are called for meetings because they believe that the government did not adequately address their demands after the protests. In addition, community members still recall the brutality of state police forces towards community members during the protests; hence they remain sceptical.

An additional limitation in terms of data collection was my inability to interview local government officials. I was not able to obtain an interview with representatives from the provincial and district governments in Tete and Moatize, respectively. I did not have the appropriate credentials to interview local government officials for academic purposes, and there was limited time to apply and receive the necessary documentation during my stay in Moatize. These stakeholders are of great importance to the study, particularly in the context of mining-induced resettlement in the region. As a result of the numerous problems related to the resettlement process in Moatize, the central government began to regulate the resettlement processes for development projects. The regulations established a technical committee to supervise resettlement processes. Key stakeholders on this committee are members of the provincial and district government, particularly in the areas of housing, mineral resources and agriculture. It would have been useful to discuss the status of the Cateme community and the resettled families with provincial government officials and the Moatize administrator. As an alternative, I used information from state documents, online desk research, and also gathered data from other relevant studies with quotes from local public officials.

4.4 Methods of Data Analysis

I applied Matthew Miles' and Michael Huberman's (1994) approach to data analysis when analysing the data elicited from the respondents about their views and perceptions on the impact of coal mining on the living conditions of resettled families in Cateme. According to Miles and Huberman, qualitative research analysis involves two types of codes: first-level and second-level coding. First-level coding consists of sorting the data into a range of categories. Following this reasoning, Fielding and Lee refer to first-level coding as a process of "naming and classifying" the data (1998, p. 42). This contributes to data reduction as it helps the researcher summarise the text to a significant extent (Miles & Huberman, 1994). Second-level coding refers to the identification of emerging themes and links between the classified categories. It facilitates the identification of relationships between codes and pulls out patterns. Such patterns can be put aside for "further conceptual development" (Fielding & Lee, 1998, p.

42) or for the framing of preliminary findings. These emerging findings need to be verified using other relevant codes or already existing theory to substantiate the findings and provide reliability and validity of the data (De Wet & Erasmus, 2005). The Miles and Huberman approach to data analysis also emphasises that the data analysed must help provide answers to the research question.

CHAPTER 5: The Cateme Resettlement Case Study

This chapter focuses on the living conditions of Cateme residents after being resettled from their villages of origin to make room for coal mining operations spearheaded by Brazilian coal mining company Vale. Bearing in mind that the government has consistently asserted that the mining project would bring development to local communities and improve their livelihoods, this study seeks to find out whether the living conditions of community members improved after their relocation to Cateme. Five indicators were applied to assess whether the livelihoods of Cateme households improved from their previous condition, namely: (1) health; (2) education; (3) housing; (4) access to electricity and water; and (5) access to food and farmland. The above-mentioned indicators were chosen on the basis of their relevance for Cateme residents, their importance as basic human rights in accordance with international and regional standards, and their prominence in the 2004 Constitution of Mozambique. According to the chief mining engineer at MIREM:

We gave responsibility to the company to guarantee the necessary support for the social development of the community, which means that specific areas were to be defined for the building of houses and to cultivate the land as one of the priorities for our population is agriculture. Also, Tete is known as an area for herding. Everything that is linked to infrastructure from the area where the population was removed had to be guaranteed for the population in the new area of Cateme. The building of houses and additional supporting infrastructure—for instance, for agriculture and access to water, electricity, constructions for schools for the community... (MIREM mining engineer, personal interview, November 2013).

Due to limitations in scope, this case study does not have comprehensive data for every resettled family or community member on their perceptions regarding living conditions and their experiences before and after being relocated. Nonetheless, three families and a total of six community members who head households were interviewed for this study as described in the methodology. Additional information on opinions and views from community members and other stakeholders was extracted from other studies related to coal mining operations in Moatize and the relocation to Cateme (Gerety, 2013; HRW, 2013; Kabemba & Nhancale, 2013; Selemene, 2010). The following chapter will describe the infrastructure and living conditions of Cateme community residents before and after being resettled. This chapter will also outline the intricacies of such a resettlement process and the issues that came along with this particular

resettlement from the perspective of the community, civil society, the government, the mining company and academics.

5.1 Health

The right to health and access to health care is a fundamental right underlined by various international agreements supported by the Government of Mozambique (GoM), including the Universal Declaration of Human Rights (UDHR) and the International Covenant on Social, Economic and Cultural Rights (ICESCR). In addition, the right to health is constitutionally recognised in Mozambique. It is therefore clear that access to hospitals and proper health care is an arena of much importance to the GoM.

The vast majority of hospitals located in rural areas have poor infrastructure and limited resources. The district of Moatize has two major hospitals in the town of Moatize and Zobuè, with emergency rooms, a few doctors and nurses, obstetric care, pharmacies and rooms with beds to temporarily accommodate patients. In addition, there are ten smaller health clinics sparsely distributed throughout the district with an emergency room, a general health technician and an obstetrician. The health units in Moatize also have occasional programmes sponsored by non-governmental organisations and international aid agencies for patients with HIV/AIDS, malaria and cholera, and for the provision of vaccinations for infants.

Although there is considerable knowledge of traditional remedies for certain health problems in the district of Moatize, according to a 2006 study, which was confirmed by Moatize health officials, approximately 98% of the resettled population used to seek professional medical help from nearby public hospitals before the resettlement (Diagonal, 2006). According to the same study, improvements in health care and education over the past 20 years have helped significantly reduce the traditional treatment option for the Moatize district population, including the villages surrounding the main town. Prior to the resettlement, in the village of Malabwe, a vast majority of the population travelled for more than an hour to have access to a hospital in either *25 de Setembro* or Moatize, whereas most of the Chipanga population travelled ten minutes to an hour to get to the nearest hospital, given that the village also had its local health clinic. Referring to the clinics in Malabwe, one of the community residents in Cateme asserted:

The hospital was far from us in Malabwe; we had to walk to Moatize to get care. Sometimes you need quick treatment because you do not feel well. The distance did not help us and also the hospitals in Moatize have long lines, so it takes a long time for us to be seen by a doctor (head of Household 1 in Cateme, personal interview, December 2013).

In Cateme, the hospital built by Vale is strategically located at the heart of the community. It is considerably larger in size and provides a wider range of health services than the local health clinics in the villages of Chipanga and Malabwe did. The hospital has rooms to accommodate the patients; it offers obstetric services and vaccinations for infants, as well as general treatment for health problems and diseases, including diarrhoea, malaria and cholera. In addition, the international non-governmental organisation *Médecins Sans Frontières* has a variety of preventive and treatment programmes directed towards HIV/AIDS and aimed at strengthening the capacity of the staff to deal with malaria and cholera.



Figure 2: The Cateme Hospital (Photo by the author, December 2013)

According to a head of household interviewed in Cateme:

The hospital is good, the hospital is good. It is not far from my house like it used to be before we moved to Cateme. We like it, but sometimes our children want to go to school and they are sick, but the hospital does not have enough medicine (head of Household 2 in Cateme, personal interview, December 2013).

In the same context, in our visit to the hospital, the teacher who guided me through the community stated that:

The hospital is better than the previous ones in the villages. It has more space for the population. But you can see that there is not enough staff. There is only one health technician who lives here in the community and he cannot be here all the time. There are also two nurses who changed shifts, but it is not enough you know (primary school teacher in Cateme, personal interview, December 2013).

It is unknown whether the local health department is working towards further supporting the community with medical supplies and staff to close these gaps.

5.2 Education

The right to education is also an essential human right recognised by the Constitution of Mozambique. The post-GPA economic reforms combined with support from bilateral and international partners brought substantial improvements to the Mozambican education system. Although the quality of education in Mozambique is questionable, since the GPA, many of the schools destroyed by the civil war have been revamped, access to schools has increased exponentially in rural areas, and more teachers have been trained and hired by the public education system. However, in spite of the government's policies under the recovery programme in the aftermath of the civil war, the illiteracy rate in Mozambique remains high.

The illiteracy rate in the Tete province and the district of Moatize mirrors the national numbers (Diagonal, 2006). It is therefore crucial to examine whether the mining boom in Moatize is helping to develop the education system, particularly for the resettled communities, through CSR initiatives, government policies and resettlement plans. In Cateme, there is a common

agreement among community members, scholars, civil society and the government that since the resettlement, education has improved for the residents, particularly in terms of resources and infrastructure. Concerning the involvement of the government for infrastructure development in Cateme, the MIREM mining engineer stated the following:

These are initiatives defined by the government for the benefit of the community, but built by the company. The company makes the investments. There are various other projects. For the schools for instance, the company might want to build a school, but the parameters have to be defined by the government. We have to show them how it has to be done, and then the company can invest. There is no project in Cateme without an intergovernmental commission involved in the process at the local level, which involves directorates from the Ministry of Mineral Resources, the Ministry of Public Works, the Ministry of Environment, Tourism and many others to ensure that all the defined priorities reflect the agenda of the government (MIREM mining engineer in Maputo, personal interview, November 2013).

Therefore, the government did not make direct investments into the community. The company executed the projects, including the schools.

Prior to the resettlement, whilst some of the classes were taught under trees, most children from Malabwe attended primary school in neighbouring *25 de Setembro*, which resulted in long walks from their homes to their closest schools. For secondary and technical schools, the population of Malabwe relied on schools located in the town of Moatize. Most students from Malabwe who attended secondary school in Moatize walked to school for at least one hour or more. In Chipanga, the students were slightly more fortunate as the village had a fairly well equipped primary school with 11 classrooms for pupils from Chipanga and the neighbouring villages of Mithete, Guluale and Inhançonsa. Nonetheless, for secondary education, the students from Chipanga also attended school in Moatize. The primary schools in the villages had no extracurricular activities and also lacked a sports field and playgrounds for physical education, sports events and leisurely activities.

In Cateme, Vale built a primary and a secondary school. Both schools are located conspicuously at the entrance of the community. The Cateme primary school principal, who previously lived in Chipanga, noted that:

The new school in Cateme provides better conditions for the students in terms of infrastructure, equipment and resources. The classrooms are bigger in size and have more seats than the schools in Chipanga. The primary school also has fans and water fountains for the students and the staff. Vale and other companies gave us a library equipped with books and other learning materials. It is better than what we had in Chipanga (primary school principal in Cateme, personal interview, December 2013).

When I visited Cateme, the water fountains in the primary school were dry and inoperative. The primary school teacher explained that the problem was associated with water shortages in the community. At the primary school, as part of their social projects, Odebrecht, a large construction company from Brazil operating in Moatize, and Vale Foundation launched the Read+Project that equipped the school's library with over 350 books, maps, dictionaries and globes, and trained the teachers to use the materials. The aim of the project is to integrate reading in the school's curriculum, train teachers to encourage students to read and stimulate creativity among the pupils. As I was being introduced to the facilities, the teacher explained:

Vale built this sports field where the children can have sports activities. In the villages, sports activities were rare because there was no proper infrastructure for that. Now, they can run, play football and basketball. Sometimes, they also come on the weekends to play here and Vale organises championships with prizes. The school has extracurricular activities in which the children come to plant trees and you can also see the playground there for the younger children. I think the school is good, you can see it for yourself (primary school teacher in Cateme, personal interview, December 2013).

In spite of these advancements, the main problem with the primary school in Cateme is the low attendance and poor academic marks. Speaking to this issue, the principal asserted that:

There is a lack of interest from the students. Cateme is not unique; it is a national problem. But the children in Cateme have no particular activity so they should be in school. The parents should be responsible for having their children in school. It is their responsibility to make sure that their children come to school every day (primary school principal in Cateme, personal interview, December 2013).

The teacher echoed the principal's sentiment towards attendance and the low scores obtained by the students at the primary school. They both agreed that the local department of education should assume its responsibilities with respect to the school life in Cateme and initiate programmes to reverse the current situation.



Figure 3: Cateme Primary School (Photo by the author, December 2013)

The secondary school in Cateme signifies a notable advancement in various ways. In fact, it surpasses the quality of the secondary schools in Moatize, and as a result, many students from other communities, including people from town travel to Cateme to attend the school. On my way to Cateme, I noticed a large number of teenage and adult students leaving Moatize to take exams at the Cateme secondary school. One of the community members stated that:

Moatize has had secondary schools for a long time. Why are they coming to Cateme now? It's our turn to have good schools and good materials for our children to learn. They did not come to our school when we had nothing (head of Household 1 in Cateme, personal interview, December 2013).

The school is fully equipped with desks, fans, electricity, computers, water fountains, labs and recreational spaces. In addition, according to the community leader:

Odebrecht is a company that works with Vale. This company and Vale did good things here in Cateme. They brought 25 computers, stable power sources and Internet access for the pupils in the secondary school. We never had computers before and the students there seem to be more interested with the school because of this equipment (community leader in Cateme, personal interview, December 2013).

From mere observation, both the schools are in better physical conditions and have more equipment than many schools in the country, including the main cities.

5.3 Housing

The right to shelter is a fundamental human right recognised and defended by international human rights law as well as Mozambican law. All of the families resettled in Cateme had homes prior to being resettled. The appearance of their houses reflected their culture, needs and habits. It was therefore, the duty of the government to guarantee that Vale prepared and implemented a RP designed to accommodate the needs and habits of the population being resettled from the concession area to Cateme. In fact, the purpose of the socio-economic studies was to make sure that the resettlement did not interrupt the habits and daily activities of the population, whether it is cultural, social or economic.

In the villages of Malabwe and Chipanga, as a requirement of the RP, Vale carried out socio-economic studies to find out about the material and compartments of the houses, the number of people living in a household, their occupation, and their cultural, social and economic activities, in order to build houses that were reflective of the population's lifestyle and mindful of their needs and habits. The civil society officer, who was a Vale employee during the resettlement, mentioned that:

A team of social development technicians from Diagonal went to the villages and looked at the houses and their structures. I was there working with them in that period. They also conducted interviews with the population to learn about their habits, activities and cultural practices. They

went into each house and put a number to relocate the residents of the villages as neighbours again in Cateme (civil society officer in Moatize, personal interview, December 2013).

The former Development Manager at Vale Foundation confirmed the studies by the Diagonal team. Reflecting on the studies for the resettlement he mentioned that:

There were no local companies with competencies to provide them [Vale] with the studies they wanted to have. The biggest problem is this, you might be an excellent researcher but there is no way that you are going to do a perfect study if you do not have a thorough understanding of the context and the culture, and all the social economic perspective of the place that you are studying. What do we do? We usually partner with a local person that has the knowledge that can communicate with us so that we can learn with the person as well (former Vale Foundation Development Manager, personal interview, January 2014).

According to a community leader, Vale and the government promised better houses in Cateme. Vale built a model house¹¹, showing how the houses were going to be in Cateme, which was subsequently approved by the government. The community residents interviewed claim that they were not consulted before the approval of the model of their future houses. Although the community leader participated in the ceremony in which Vale presented the model house, he asserted that, “There was no contract signed between us and the government and Vale for the houses. We are not involved in any documents for the resettlement” (Cateme community leader, personal interview, December 2013).

In Malabwe and Chipanga, the families had their own yards where they personally built their houses. Although some families separated their houses from others using bricks and trunks, the boundaries between neighbouring yards were, for the most part, not clearly demarcated. Most of their houses consisted of three separate units, which included a main house, an external kitchen and bathroom. Some have a few additional blocks for poultry and cattle, and units for safe seed storage. Most of the houses in the village of Chipanga and some in Malabwe were considered to be ‘modern’, with a rectangular shape to accommodate Western furniture as opposed to the traditional round-shaped houses where people mainly sat and slept on the floor.

¹¹ The model house is open for visitors and can be seen at the entrance of the Cateme community.

These ‘modern’ houses also had compartments within the same unit, meaning that the bedrooms, the living room and the balcony were inside the main house.

In contrast, the more traditional houses in Malabwe had bedrooms that were sparsely distributed throughout the family yard. Since the average family had five to seven people, most houses had two or more bedrooms, where the parents would occupy one bedroom and the remaining bedrooms would accommodate the children. Culturally, once children reach the age of 15, they are prohibited from sleeping in the same space as their parents to prevent them from hearing their elders’ discussions and intimate moments. In the yard, the external kitchens served as storage spaces for pots and utensils, and the meals were prepared outdoors. In both villages, most bathrooms had no roofs. They were often made out of a combination of zinc sheets, straw and wood.

In their former villages, one of the economic activities of the men was producing mud bricks for personal construction and commercial purposes. These mud bricks were used to build their own houses, ensuring that the main house had a foundation, pillars and beams to support and protect it from the rain. The roofs of the houses were typically made of galvanised sheets, and some of the houses in Malabwe were covered in straw and wood. Both roofing systems prevented the penetration of rainwater into the house. In addition, the bricks and the mud gave the houses a solid structure that prevented the formation of cracks and fissures. The majority of the houses in Chipanga had wooden doors and glass windows. In contrast, whilst the doors were also made out of wood, most houses in Malabwe had no windows and would instead have small holes that would allow for the circulation of air in and out of the house. In both villages, most houses were not externally decorated or painted; they maintained a dry, muddy and earthen texture. The community leader explained:

Our houses were not painted in Chipanga. My house was not. But it was solid. These houses here in Cateme are painted and look good from the outside but the inside has a lot of problems. Look at these cracks [pointing at the walls]. I didn’t have these problems in Chipanga. Here rainwater comes inside, even in Malabwe where the houses were traditional, they were still resistant to rain (community leader in Cateme, personal interview, December 2013).

In the resettlement, before building the houses for the population, Vale presented the model house to the government, community leaders and representatives of the International Financial Corporation (Selemane, 2010). After visiting and inspecting the model house, the government approved the structure, which gave Vale the green light to replicate the model throughout the community. Similar to the houses in Chipanga and Malabwe, the model house consists of three principal units comprising a main house, an external kitchen and a bathroom. The yards in the new Cateme houses have enough space for small additional units for poultry and cattle, and storage for seeds and farming tools. In spite of the equal number of units, most of the families in Cateme were resettled in one-bedroom houses, whereas the majority of the households had two or more bedrooms in Chipanga and Malabwe. The primary school teacher stressed that at least 80% of the houses in Cateme had one bedroom. Likewise, Selemane (2010) reports that many of the houses were not suitable for the families in terms of size and the internal compartments. In addition, the model with external bedrooms was not replicated in Cateme for some of the community members who were culturally accustomed to such arrangements. Furthermore, the Resettlement Regulation Act emphasises that all houses given to a resettled family must have at least three bedrooms (GoM, 2012, Art. 12, Section 1b). The resettlement of the families began in November of 2009—before the passage of the 2012 Act. As of 2013, one year after the regulation was adopted, it was not clear whether the other bedrooms would be added to the houses.



Figure 4: One-bedroom houses with three separate units (Photo by the author, December 2013)

The model house built by Vale has a solid foundation. It consists of bricks, cement, and steel beams to support the house—a critical inclusion given the rocky land prone to erosion and occasional rains in the Cateme area. The floor consists of concrete, sand, and cement supported by firm steel pillars. The roof is made from galvanised sheets supported by thick wooden bars.

The new houses built in Cateme were not all up to the same standard as the model house. As the first wave of families was being resettled to Cateme in late 2009, some found their new houses with cracks and fissures along the walls and floors. As a result, 28 families did not accept to resettle in Cateme and preferred to be monetarily compensated to build houses elsewhere (Selemane, 2010). Nevertheless, the majority of the population was transferred to the houses in Cateme.

Both the civil society officer and the community leader pointed out that the houses given to Cateme residents by Vale did not have the same features as the model house approved by the government. The main difference between the model house and the units built in the community was the lack of a foundation and beams to support the structure, which led to early cracks and fissures along the walls. Expressing his disappointment, the community leader said, “The houses have no foundation; they are vulnerable to water” (community leader in Cateme, personal interview, December 2013). As a substitute for the foundation, the houses given to the families in Cateme are built on a platform made of plastic, cement, sand and gravel stones; once the platform became solid, the walls were erected and joined with cement. Vale claims that this type of construction is modern from a house model referred to as *raiter* and it is widely used in Latin America, particularly in Brazil, the company’s country of origin (Selemane, 2010). However, according to Selemane (2010), a group of five Mozambicans representing different civil society organisations travelled to Brazil to visit the houses that Vale referred to as modern and were not able to identify any house built with no foundation.

The houses we had in Chipanga were better. We built our houses with a solid foundation and beams so that we could be protected from heavy rains and make sure that our houses are firm and last a lifetime. The houses here have no foundation, when it rains, water comes in and the cracks get bigger. When we came, some of the houses already had cracks (head of household 1 in Cateme, personal interview, December 2013).

According to the community leader, “the houses were painted before the cement dried, which led to external cracks in the units.” Between 2010 and 2012, most of the houses in the community had already undergone three rounds of repairs for the same problems (HRW, 2013). The fourth and last round of repairs was completed in mid-2013. The photograph below shows a crack almost slicing the wall on the side of one of the houses and a gap between the galvanised sheets and the wooden bar supporting it, which allows for the penetration of rainwater inside the unit. Further, under the wooden bar, one may notice a few red blocks cemented together to cover a gap between the sidewall and the wooden bar. The residents added the blocks to cover the gap left by the original construction. The photograph was taken in December of 2013, which shows that the situation remained the same after the last round of repairs.



Figure 5: The side of one of the units in the Cateme houses (Photo by the author, December 2013)

There is evidence of contradictions between the central government and the district government with regard to the poor housing conditions. In March 2010, Yolanda Cintura, the Minister of Women and Social Affairs, visited the houses in Cateme. The minister commended Vale for

the work done and pointed that the houses were of excellent quality. Cintura added that the quality of the houses reflects the interest of the government of creating the necessary conditions to fight absolute poverty in Mozambique's rural communities. In her own words:

I am very impressed with the quality of the houses. The buildings are of various sizes and what we do as the government is to now work with people to teach them good ways to deal with this type of real estate (*Moçambique para Todos*, 2010).

In May 2012, the President of Mozambique visited Cateme and applauded the work of Vale in the community. According to the teacher in Cateme and the civil society officer whom I interviewed on separate occasions, in his visit to the community, President Guebuza did not deliver a speech to the community nor address its residents or civil society. Guebuza's visit occurred at a time when the community was deeply concerned with the living conditions in Cateme and wanted to seize the moment to communicate their grievances to the government. According to the teacher:

The President was driven through the community for a few minutes and simply waved at the population. He only said "Good Morning!" Now, the people do not trust anyone from the government. When the local administrators, governor, or any other government official comes to Cateme, the people do not gather, they stay home (primary school teacher in Cateme, personal interview, December 2013).

In an interview for *The New York Times*, the Vice-Minister of Mineral Resources Abdul Razak asserted that, "the population is in a better situation in terms of housing, education and health care" (Izen, 2012).

In contrast to the primarily positive response of the national government, government leaders at the provincial level are less impressed with Vale's investment in the communities. Domingos Macamo, the Permanent Secretary of Moatize, expressed disappointment with the houses. The government of Moatize accused Vale of not honouring its commitments with respect to housing in the resettlement. In an interview with Tomas Selemene in February 2010—a month before the visit of the Minister of Women and Social Affairs who hailed the work of Vale with regard to the houses—Macamo said the following:

The first problem that arose, and we were reported by community representatives, was the change of the structure from the one presented in the model house. I mean, the houses that were being made throughout the process are different from the model approved by the Government. The engineering team thought it should introduce a new model, and this model is debatable: they have no foundations, it is said that is the raiter model from Latin America (Selemane, 2010, p. 27).

In addition, in an interview for a local newspaper, Manuel Guimarães, the former district administrator of Moatize said that the problems in Cateme served as a lesson, and that he was wrong about Vale; he added that Vale broke its promises in Moatize (Gerety, 2013). According to the civil society officer:

The local government is powerless and has no discretionary power or leverage in relation to Vale's operations in Moatize because all the contracts were signed at the central government level and most decisions aimed at dealing with local problems in Moatize are taken by top level officials or the governor of the province who is appointed by the President (civil society officer in Moatize, personal interview, December 2013).

The resettlement problems that occurred between 2010 and 2012 happened under the leadership of Governor Alberto Vaquina, the current Prime Minister and a Guebuza loyalist. Moreover, Gerety notes that:

Many high-ranking officials in the agencies regulating Mozambique's mining industry are also executives of private companies within the same mining sector, making them both regulators and businessmen (2013, p. 9).

This shows that it is convenient for top-level officials not to contradict the operations conducted by the mining companies, as they are beneficiaries of their investments in Mozambique. In the same vein, Kabemba and Nhancale articulate that:

The central government controls all mining activities rather than decentralising oversight to provincial and local levels. Central government is resisting decentralisation because it believes that there is no capacity at local level and also out of fear that it will lose control over the

provinces if they become financially self-sufficient. Government also lacks a clear plan for resource management from exploration to extraction to commercialisation (2013, p. 8).

There is, therefore, a lack of harmonization in discourse and perhaps positioning between the central and local government, particularly in questions revolving around the housing conditions in Cateme. Ever since the population was resettled in Cateme, the housing situation has been the Achilles' heel of Vale and the GoM. It has been said on numerous occasions by civil society agents and academics that the housing problems in Cateme and their repercussions—including massive protests interrupting the transportation of coal to the seaports, arbitrary arrests of community members and a controversial intervention by state police forces that was reported by international media and select local news outlets—were contributing factors to the swift preparation of the comprehensive resettlement regulation of 2012.

Community members often blame Vale for the poor housing conditions, but in our interview, Dr. Macuane indicated the following:

The government approves the model of the houses and the houses are built. At least the government was involved in the approval of the houses, but obviously those houses have serious problems. They [the mining company] expected that the company, the firm they hired for the resettlement process was a good company and also would understand the idiosyncrasies of Cateme and Moatize and would do a good job there as well (Dr. José Jaime Macuane, personal interview, November 2013).

Vale acknowledged the problems with the houses and subcontracted a company to deal with the necessary reparations. During the reparations, the families lived in tents temporarily. The houses were 'repaired' but soon after the 'reparations', the same cracks, fissures and leakages appeared on the walls and flooring.

In terms of ownership, as the houses were given to the families in Cateme, the head of the households signed a document confirming that they received the real estate from Vale. However, the community residents did not receive a title of ownership, a document issued by the local government through the city council acknowledging that they formally own the houses. In the absence of this important document, the families may be, once again, removed

from their houses on a future occasion without being appropriately compensated. The civil society officer mentioned that the Cateme area also has coal underground that may be explored in the future. Taking this into consideration, one must recognise that Cateme residents may be involuntarily resettled again in the future. In their previous villages, they had no ownership titles, and according to the civil society officer:

They were easily taken out of their old houses because they had no documents. There is a more wealthy man who lived in the same area, and he was given a lot of money because he knew the law. He had a title of ownership for the house and documents that showed that he could use the land freely, so the government gave him money. The resettled families did not get these documents. At any point, they can be taken out of their houses (civil society officer in Moatize, personal interview, December 2013).

There are currently associations such as the *Associação de Apoio e Assistência Jurídica as Comunidades* [Association for Support and Legal Assistance for Communities] (AAAJC) working towards providing legal counselling to community members to inform them of their rights and help them with legal questions pertaining to the resettlement. Nevertheless, the quality of the houses and the issue of formal ownership remain unresolved.

5.4 Access to Electricity and Water Supply

Water is a necessity and also considered a crucial human right both internationally and at the national level. The GoM recognises its responsibility to provide water to its people and its central role to ensure that companies involved in development projects provide potable water to the resettled communities. In contrast, prior to resettlement, some community members did not consider electricity to be a necessity. In Cateme, the system that channels water throughout the community is electrically powered; thus, electricity is required to access water. Therefore, even community members who did not perceive electricity to be a necessity are now dependent on it to have water for their daily use. A Cateme community member interviewed by Human Rights Watch said, “Water doesn’t come regularly because it depends on electricity. [A shutdown] happens a lot, two or three times a day or every two days” (HRW, 2012, p. 65).

According to one of the women interviewed, very few people had access to electricity in their former village of Malabwe. She explained that, in the past, for the local population electricity

was considered to be a ‘luxury’. The population prepared their meals with firewood, illuminated their houses with candles and petrol lamps, and used battery-powered radios to stay updated with the news and entertainment instead of television sets. In contrast, the former village of Chipanga had electric posts and many of its residents had electricity installed in their homes. The Chipanga population was accustomed to watching the news, entertainment and soap operas on television. In addition, many of the families in Chipanga had refrigerators for their own use, as well as for commercial purposes; some people stored water, cool drinks and juices in their fridges to sell in the local markets.

In Cateme, Vale installed electric posts and an illumination system for the community. The government and Vale informed the community that the families that previously had electricity in their households would have the services directly reinstalled into their houses in Cateme and continue paying their bills to the state-owned electricity company in Mozambique, EDM. The families that had no electricity were given the option to have connections in their houses under the premise that they would also pay their monthly bills to EDM. However, in the resettlement, a large part of the community members who previously lived in Malabwe did not have electricity, mainly due to the fact that they could not afford the services. One of the Cateme residents asserted:

Now, the students who attend the secondary school and who work during the day can go to school after work because we have power at night here in Cateme. It used to be dark at night where we come from (head of Household 1 in Cateme, personal interview, December 2013).

Nonetheless, the constant power shortages cause problems for night illumination and the distribution of water throughout the community.

Access to water remains an issue for Cateme residents. One of the respondents who lived in Malabwe prior to the resettlement expressed the following:

We were blessed with water in abundance in Malabwe because we lived close to the Revuboè River. We were so close to the river that it naturally irrigated our crops. This was important for us because we lived off what we produced (head of household 2 in Cateme, personal interview, December 2013).

In addition to being subsistence farmers, the families were also culturally attached to the river, as it was a space where they practiced traditional rituals and ceremonies. They also used the river for fishing, bathing and recreational activities. Therefore, the lack of a natural source of water in Cateme has profoundly affected the day-to-day activities of the community members. In their former village, the Chipanga families had water pumps and boreholes situated nearby or on the outskirts of their village. The travel distance from their houses to their closest source of potable water ranged from 5 to 45 minutes.

In Cateme, Vale placed a large tank with a capacity to hold up to 500 cubic meters of water, connected to 17 water fountains placed within 250-300 metres of every residential plot. This system also integrates four wells for water catchment and 17 kilometres of pipe for water supply and distribution. However, these measures proved insufficient for the community. As mentioned above, water supply for the community continues to be inadequate and unsatisfactory due to the system's dependence on the unreliable electricity to operate. In addition, the pipes installed by Vale sometimes have leakages that affect the distribution of water throughout the community. Concerning irrigation for crops, as well as a space for rituals, leisure and fishing, the government and Vale have stated that they have found no alternative to compensate the families for the lack of a natural source of water for such activities. In an interview with Human Rights Watch, a Cateme resident stated that:

Sometimes they say the pipe is broken. Sometimes the tanks have a problem. Then we have to go with pots and go to other neighbourhoods for water. In the place where we used to live, there was no problem with water. If no water was in the pump we could go to the river. Here you can spend two or three days without a bath because there is not enough water (Sanolia S., resettled farmer in Cateme, HRW, 2012, p. 64).

One of the head of households interviewed in Cateme confirmed the above statement when I asked her about the water situation in the community, she said:

We used to have water from the Revuboè River. Sometimes we do not have water for a whole week. So, we go to Mwaladze, the Rio Tinto settlement, to get water but it is so far. The water here gives us stomach aches. It's salty. What would be perfect for us is to have food and good

water. The children urinate blood because of the water. The water is not good (head of Household 1 in Cateme, personal interview, December 2013).

From Cateme to Mwaladze, “the distance is too long for us to get the amount of water that our families need on a daily basis,” she added (head of Household 1, personal interview, December 2013). Several other community members confirmed the scarcity of water in Cateme and mentioned that their proximity to the rivers in their former villages of Chipanga and Malabwe gave them easy access to water.



Figure 6: Children from Cateme fetching water from fountains installed by Vale
(Photo by the author, December 2013)

5.5 Access to Food and Farmland

The right to food is a human right that protects the right for people to feed themselves in accordance to their dietary needs. According to the Universal Declaration of Human Rights, the right to food entails that all human beings are to be free from hunger, food insecurity and malnutrition. It is also critical to point out that the right to food does not mean that governments have the responsibility to feed their population; however, they must not act in ways that undermine their citizens' access to food and self-sufficiency.

In Mozambique, more than 70% of the population resides in rural areas. It is widely known that most rural families in Mozambique depend tremendously on agriculture for their

livelihoods. In addition, selling legumes in local markets is a common activity for small-scale farmers. In this context, access to farmland cannot be divorced from access to food, as one needs land to produce food in rural settings. Therefore, interrupting a harvest or agricultural activities in general has dire consequences for rural families because farming is often their basic form of sustenance.

Malabwe and Chipanga are no different from most rural communities in Mozambique. In Cateme, one head of household pointed out that she always produced her own food in Malabwe. One of the most important terms in Mozambican rural terminology is *machamba*, which refers to a plot of land where families carry out their agricultural activities. In both villages, most *machambas* were located fairly close to their houses, and those located farther away were accompanied by a seasonal house built by the users of the *machamba* where they stayed for a few days to cultivate the land and to harvest. The community members did not previously depend on food assistance from the state or any other entity, they were self-sufficient.

Regarding access to food in Cateme, the head of household of one of the families interviewed stated the following:

In Malabwe, we used to have maize, tomatoes, onions, lettuce, cabbage and other vegetables. We always had food. We were able to sell vegetables in Moatize and Bagamoyo. Here, we barely have any vegetables to eat because the land is not good for farming. Sometimes, we struggle looking for food to eat (head of Household 1 in Cateme, personal interview, December 2013).

The resettlement to Cateme disrupted the farming cycle for the families. As a result, the community residents became dependent on food assistance from Vale. However, the delivery of food packages was inconsistent. Aside from the community leader and his wife, the other heads of households who were interviewed mentioned that food packages were only delivered once. One community member pointed out:

It has been six months since we haven't been given food. Vale said they would give us food for five years. They only gave us once and no more. Rio Tinto's resettlement in Mwaladze, people get fish, beans, corn, oil. Here, nothing! They don't give us anything. I have to go to the field,

go back home to leave it, and then go back several times to feed my family (head of Household 1 in Cateme, personal interview, December 2013).

The dependency on the sporadic food assistance increased uncertainties with respect to food security.

Regarding farmland in Cateme, the community leader said, “In Chipanga, the land was better although it was dry in some places.” His wife added, “The land in Chipanga was better than here to produce food. I didn’t have to go very far to farm.” In addition, the civil society officer and the state official agreed that the land in Malabwe and Chipanga was fertile and that it was appropriate for agriculture. The RP also recognised the fertility of the soil in both villages and underlined the need for productive land as a top priority for the population. During the visits to the Cateme site prior to the resettlement, some of the community leaders were concerned with the designated spaces for their agricultural activities. According to the leader:

Vale and the government talked to us communities and told us that Chipanga has coal and that we would have to move so that the coal could be explored. It will help us develop. In the process, we had no power to negotiate with the government and Vale (Cateme community leader, personal interview, December 2013).

Every stakeholder involved in the resettlement process was aware that the population did not face any difficulty in growing their crops in Chipanga and Malabwe since the rivers surrounding their villages provided natural irrigation, boosting soil fertility. Moreover, the use of farming technologies was not a necessity for the population. Concerning land tenure, there were no exact delimitations separating one farm from another, especially in Malabwe. There were common spaces for the farmers to cultivate the land.

In Cateme, the situation is different. The population was promised two hectares of farmland by Vale and the government to restore their agricultural activities. As of December 2013, the community residents complained that they had only been given one hectare. More importantly, Vale’s own progress report for the resettlement acknowledges that the Cateme families were not given their promised second hectare of land for their *machambas*. In this regard, Vale has defended itself arguing that, “the government did not identify the second hectare promised to

the families in Cateme” for Vale to clear and plough the land for the families to start cultivating (Diagonal, No Date). The provincial government claims that the biggest obstacle thwarting the designation of the second hectare is the limited availability of land due to other mining concessions granted to other companies. According to the national constitution, the land is owned by the state, and only the state can grant the use of a particular plot of land for any interested party; it is therefore, the responsibility of the state to guarantee a space for the families to carry out their agricultural activities. Speaking to this issue, in an interview with Human Rights Watch, a Cateme community member expressed the following:

When we ask the company, the company says, this is the government’s responsibility. And when we talk to the government they say, okay, we will talk to the company (Eugénia D., HRW, 2012, p. 93).

The verdict on the land issue was an arrangement in which the families would receive a compensation of 119,000 Mozambican meticaïs¹² (approximately US\$ 4,000) as a replacement for the second hectare of land. A Cateme resident stated that, “Vale said they would give us 119 because of the bad land. They gave it to us but it was late. We didn’t have food for a long time” (head of Household 2 in Cateme, personal interview, December 2013).

In the same context, the primary school teacher pointed out that:

Vale did not give the community food for a year. The families here received 119,000 meticaïs to compensate for the lost fertile land and the plot of land that was not given to the families. They were not necessarily well prepared to manage the 119,000 meticaïs. People bought motorbikes and fridges; others spent a lot of their money purchasing and consuming alcohol. Many men spent money on alcohol because they thought the money would never end. They could have invested their money in building more houses on the land they were given. (primary school teacher in Cateme, personal interview, December 2013).

In my visit to the community, I did notice that many families had motorbikes parked in their backyards. The teacher also explained that some used the money to improve their houses, buy

¹² The metical (plural: meticaïs) is the currency of Mozambique. All of the community members I interviewed confirmed that they received the 119,000 meticaïs as a compensation for the second hectare of land.

furniture and purchase decorations to embellish their homes. I was also told that many of the families organised parties and social events to commemorate their new 'wealth'. The teacher indicated that there was only a few cases of people who used their money to start their own small businesses, mainly consisting of houses where they played music to entertain the community and sold a variety of products, including petrol, cooking oil, washing powder, sardines, cool drinks and alcoholic beverages. Considering that most rural families are rarely exposed to such large amounts of money, the compensation cash transfer was both a blessing and a curse for the community; some were more prudent and savvy with their cash, while others managed it poorly. Regardless of the way in which the money was spent, there is much doubt on whether this form of compensation is sustainable and whether it can realistically replace one hectare of land, which could provide food for the community for a lifetime.

In addition to the missing second hectare, the main issue of concern to the communities was and continues to be the unproductive nature of the land that was cleared and ploughed for their *machambas*. The community members resentfully complain that the land in Cateme is rocky, infertile and inadequate for farming. In my first interview in Cateme, I remember being told repeatedly that the community felt cheated by Vale and betrayed by the government with respect to the land fertility question, which deeply affects their mode of survival and daily activities. The civil society officer mentioned that:

Vale cleaned space for farmland, but once it was clean, the land was dry, rocky and infertile. When they realised the families could not produce, they offered them baskets of food once. It was a time when 150 families had hunger problems. They were also given fertilizers, which they were not taught to use, so they began to sell them for money (civil society officer in Moatize, personal interview, December 2013).

One of the residents expressed his disappointment, saying, "The land has rocks. It's not good for farming. We are hungry; we suffer" (head of Household 2, personal interview, December 2013).



Figure 7: Plot of land given to the Zinocassaka family in Cateme to produce their food.

(Photo by Megan Izan, 2012)

This image vividly shows the poor conditions of the land for agriculture and the dry maize that is produced in such conditions. The land is undoubtedly rocky as described by the respondents. In a report by *The New York Times*, the man on the image above said, “We were promised comparable land, houses and food for five years. But they just gave us one hectare, a house and food once” (Izan, 2012). Whilst the government acknowledges the soil infertility conundrum, it does not offer pragmatic solutions. In an interview with Human Rights Watch, the Minister of Mineral Resources Esperança Bias stated the following:

We need to make sure that the land is productive. If not, we should substitute bad land with something else. Before, if people had bad land [they had other economic options since] they lived five minutes from the market, now they are thirty minutes away (HRW, 2013, p. 85).

Vale acknowledged that the land in Cateme is in a poor condition compared to the *machambas* in Malabwe and Chipanga. As an alternative, a Vale official asserted that the land has “potential with greater access to water” (HRW, 2013). As of December 2013, access to water in Cateme was still a pending issue to be addressed. In this regard, the community leader stated, “there is

a lack of water in Cateme—we need more water pumps,” and his wife added, “the water is cleaner here, but it’s scarce. It works with electricity, so when we don’t have it, there is no water. It’s difficult to go the *machamba* without water.”

In terms of agricultural improvements, Vale installed a model farm—the *Fazenda Modelo*—which aims to be a centre of experimentation for teaching farmers how to use technology to grow crops in dry and rocky land. The crops grown at the *Fazenda Modelo* are meant to supply catering companies that provide food services to Vale workers. However, the community does not yet have the capacity to supply vegetables to the companies on a large scale. In addition, Vale offered fertilizers and pesticides for the community members to improve their crops in their one hectare *machambas*. According to the civil society officer and the teacher in Cateme, some people sold the chemical products for money to buy food. The teacher mentioned that, “donating fertilizers and pesticides is not a sustainable solution; it ultimately hurts self-sufficiency and promotes a chronic dependency on the companies.” The mining engineer from the MIREM confirmed this notion, asserting the following:

We notice that since 2009 when the project started to this day, the population is not self-sufficient [pause] completely, but we can say that they are minimally satisfied and the company’s investments are visible (MIREM mining engineer, personal interview, November 2013).

The government has not suggested any concrete long-term solutions to address the land issue. As noted above, the highest authority in the context of the exploration of mineral resources and their repercussions on the population—the Minister of Mineral Resources—simply said, “We need to make sure that the land is productive. If not, we should substitute bad land with something else” (HRW, 2013). Her statement demonstrates the unresponsiveness of the central government towards the involuntarily resettled Cateme inhabitants, particularly regarding the land issue, which has a direct impact on their living conditions and undermines their right to food.

In addition to the soil infertility question, Cateme residents face land tenure issues. The government must grant a DUAT (right of land use permit) to any party wishing to explore a certain plot of land within the Mozambican territory. In the absence of the document, the

population is using the space illegally and is subject to arbitrary expulsion. As of December 2013, none of the families in Cateme had received the DUAT. The government should have given the population the DUAT upon conceding the demarcated spaces for the population to engage in their agricultural activities. In addition, for the usage of the land surrounding their houses, the families must also have a DUAT to ensure that they have legal rights over the space. In this concern, the civil society officer expressed that:

It is convenient for the government not to grant the population the DUAT because the greater Moatize area, including Cateme, is rich in coal, which means that in the future the government can force the population out of Cateme to other regions to make way for coal mining operations (civil society officer in Moatize, personal interview, December 2013).

The resettlement has brought some advancements and shortcomings to the community members. As of the period when field interviews were conducted in Cateme, constant power outages continued to pose problems with regard to access to water. Aside from the introduction of farming technologies by the company to compensate for the dry and rocky land plots, the soil infertility question had not yet been addressed by the government, which caused Cateme residents to remain dependent on inconsistent food packages. Alternatively, some community members travelled long distances in search of suitable farmland to grow their crops and produce food for their daily consumption. The photograph taken in Cateme reveals the continued deficiencies of the housing units and the lack of a long-term solution to the problem (see Figure 5). Furthermore, the absence of formal land tenure documentation for the farmland and the housing spaces leaves the families vulnerable to arbitrary evictions or other involuntary resettlement in the future as the entire Moatize region is known to be rich in coal, including the Cateme area.

In the midst of the above-mentioned flaws with the resettlement, there have been discernible improvements with both the primary and secondary schools in terms of infrastructure and learning resources. Still, attendance remains relatively low and the overall performance of the pupils has been feeble, particularly at the primary school level. In addition to infrastructure improvements at the schools, through its corporate social responsibility initiatives, Vale has introduced technical and vocational training programmes, the model farm project, as well as

social and cultural events that have exposed the community to new income generation opportunities and leisurely activities.

Cateme residents have also seen some improvements in the realm of health. The hospital is located at the heart of the community, which shortens the travel distance for most Cateme residents in comparison to their villages of origin. In addition, according to community members, whilst there are shortages in staff and medicine, the hospital is better equipped, has more rooms for admissions and provides better care for children and mothers through programmes led by local and international non-governmental organisations.

CHAPTER 6: Summary of Findings, Discussion and Conclusion

The present study sought to assess whether the living conditions of Cateme community members improved after their mining-induced resettlement. This chapter presents the summary of findings, answers to the research questions and conclusions based on information acquired through in-depth interviews in the field with relevant stakeholders and applicable secondary sources. Further, this chapter discusses the findings of the study in relation to existing research, national laws and regulations, corporate plans, and international and regional standards.

6.1 Summary of Findings

This study focused on five indicators to examine the livelihoods of Cateme community members after the resettlement. The indicators are: (1) health; (2) education; (3) housing; (4) access to electricity and water; and (5) access to food and farmland. These indicators are particularly relevant to this study because they cover basic means of subsistence, social services and resources required for the resettled families to re-establish their previous living conditions as highlighted by the principles of social equality and social equity found in Mozambique's Resettlement Regulation. These services and resources were previously available to the resettled families, and according to the Resettlement Regulation, as well as the AfDB and World Bank policies on resettlement, such relocations must ensure the creation of conditions that are equal or above the previous standards of living of the affected communities.

In this regard, this study reveals that whilst there have been certain improvements in the schools and the hospital, overall, Cateme residents are in a worse situation than they were previously and their living conditions have not been re-established as they have lost their means to secure basic necessities, including proper shelter, food and water. The findings for each indicator will be presented below. Furthermore, the study investigated whether the government is investing mining revenue into the community. In this regard, there was no evidence indicating government investments in Cateme, which will also be discussed.

Housing

The study finds out that the housing conditions have deteriorated. Whilst the families previously lived in houses with firm structures and built from strong materials, the solid model house units presented to the government, the IFC and community leaders were not replicated

in the community. The study reveals that the sizes of the houses in Cateme are inappropriate for the families, which was not the case in Chipanga and Malabwe where various units were built throughout the yard in accordance to the size of the families. Overall, Cateme inhabitants are dissatisfied with their precarious housing conditions. Though Vale acknowledges the shortcomings associated with housing, the three rounds of repairs that have already occurred for many of the houses in the community did not fully resolve the structural problems with the units. In addition, the families have no ownership over the property, and the government has failed to grant land tenure rights, which leaves residents vulnerable to involuntary resettlement, as was also the case in their villages of origin.

Electricity and water

The study shows that the community benefits from the electricity posts installed by Vale. Nevertheless, power outages deprive Cateme community members from consistent access to water as the fountains are electrically powered, which differs from the situation in Chipanga and Malabwe where the families lived near rivers, guaranteeing constant access to water for multiple purposes. Therefore, the loss of a natural source of water has deeply affected the livelihoods of the resettled population. Since the population of Cateme is primarily comprised of subsistence farmers, the inconsistencies in access to water curtail their ability to produce food, adversely affecting their self-sufficiency. Prior to the resettlement, agricultural land plots were located near the rivers providing natural irrigation for crops. In addition, the community is no longer able to sustain its domestic, leisure and cultural activities that were formerly carried out in the rivers. The unreliable water fountains show no evidence of re-established or improved living conditions for Cateme inhabitants.

Food and farmland

In relation to access to food and farmland, the study identifies a loss of self-sufficiency and severe cases of food insecurity. The mining operations in the areas from which the population was resettled resulted in the loss of fertile and naturally irrigated land, a crucial physical asset that guaranteed food for the families. In the studied community, the families rely on inconsistent food packages provided by the mining company. Moreover, in many instances, community members have to purchase food for their daily consumption, which has been a major economic shock and was not a necessity in Chipanga and Malabwe because the farmers produced their own food and sold surplus in local markets. In addition to soil infertility, the

study finds out that the families were not given the promised two hectares of land for farming and lack any form of land tenure rights (DUAT), leaving them vulnerable to arbitrary evictions. The study also observes that, for many families, the cash transfers of 119.000 meticais—conferred to the families to compensate for land lost to the mining company—were spent imprudently due to poor financial education and inability to manage large amounts of money.

Education

Although performance and enrolment do not demonstrate major signs of improvement, the study shows that there has been improvement in the schools' infrastructure and availability of resources in comparison to the schools in Chipanga and Malabwe, which lacked basic resources to the extent that certain students attended classes under trees. It also comes to light that, in general, pupils travel shorter distances to attend school, particularly the secondary school students who previously had to walk to Moatize on a daily basis to attend the local public schools. Another positive externality identified is an increase in the availability of learning materials and equipment such as fully equipped libraries with books, maps, dictionaries and computers complemented by technical and vocational training programmes that were not available for the children and youth prior to the resettlement.

Health

Concerning the health sector in Cateme, although there is evidence of a shortage of staff and medical supplies, the study registers some advancements for the community in the quality of the hospital and access to medical services in comparison to Chipanga and Malabwe where many of the households either relied on traditional cures or travelled long distances to have access to the town hospitals, which were often overcrowded and distant. The strategic location of the hospital has significantly shortened the distance to be travelled by Cateme residents for emergencies as well as regular care and treatment in comparison to their detachment from the main hospitals prior to the resettlement. The study also finds out that with the relocation to Cateme, there have been more preventive and treatment programmes led by local and foreign non-governmental organisations such as *Médecins Sans Frontières*.

State investment

Official data shows that the state collects revenue of approximately US\$ 35 million per annum from the mining sector (Hanlon, 2012). Further, the GoM pledged 2.75% of the revenue collected from the extractive industry to communities affected by the mining projects. The study finds no evidence of government spending or state-led programmes catering to the community. Data from the field and secondary sources indicate that the infrastructure and socio-economic development of the community resulted from the actions of the mining company rather than the government. The study also indicates that, aside from the passing of the 2012 Resettlement Regulation, the government has not provided any tangible long-term solutions to the remaining deficiencies of the resettlement, including housing, access to water, availability of food and farmland, and legal issues related to land tenure.

6.2 Discussion

The problems of Cateme are reflective of the arguments propounded by the literature on mining-induced resettlement. Seminal works on the subject (Bala, 2008; Cernea, 1997; Downing, 1998; Downing, 2002) stress that loss of livelihoods is a common trend in such scenarios. Although the findings of the current study validate this conviction, the theoretical frameworks on resettlement presented by the above-mentioned authors are limited to a mere emphasis on the impoverishment risks associated with such processes. The loss of livelihoods and tendencies towards the furtherance of poverty are indubitable realities for Cateme residents; however, the literature on coal mining and resettlement in Mozambique (HRW, 2013; Kabemba & Nhancale, 2013; Mosca & Selemene, 2012; Selemene, 2010) omits the existing positive externalities that emerged out of investments from the mining multinationals.

The improvements in infrastructure—namely, the schools and the hospital—challenge the dominant narrative. This may be attributed to the fact that Vale's CSR policies are strongly geared towards education and training, as well as other activities that promote the empowerment of youth and women. The sports and cultural activities, training and vocational programmes, as well as technological upgrades in the schools and improvements in obstetric care confirm the existence of positive consequences of the resettlement. As previously mentioned, large international non-governmental organisations such as Human Rights Watch tend to pressure multinationals operating in rural areas to comply with international standards,

particularly in the areas of environmental sustainability and human rights. It is therefore in the interest of companies such as Vale to deliver certain services to the communities surrounding their projects through CSR strategies.

Acemoglu and others (2001) convey the message that it is ultimately the quality of institutions that determines the socio-economic path of a nation. The shortage of staff and medical supplies, and other similar shortcomings in education and health are reflective of the weak institutional capacity of the Mozambican state at the local and central levels. Though resettlement requires the replacement of existing infrastructure into the new location, it is not the responsibility of private companies to run public hospitals and schools. The investments by multi-billion dollar corporations in resources-rich countries are not driven by altruistic motives, they are profit-oriented. Vale is primarily concerned with the reduction of costs and maximisation of profits as shown by the precariousness of the houses, which were built with no foundations and stand on plastic, sand and gravel stones. Multinational companies may invest in health and education to strengthen the capacity of the country's nascent institutions, as Vale did to a certain extent in Cateme, but these services must be guaranteed by the state. The lacunae found in the schools and the hospital, including low enrolment and attendance, poor scores, and shortages of staff and medical supplies mirror the conditions of the education and health systems at the national level. Moreover, parents play a major role in the performance of their children and are responsible for their attendance. The intervention of health-based non-governmental organisations has helped improve care and treatment in the transition from Chipanga and Malabwe to Cateme; however, the local health department at the district and provincial levels must intervene to increase ownership over health care and treatment programmes to improve the quality of health for the communities affected by coal mining operations.

Experts on the negative relationship between mineral wealth and socio-economic development (Bucuane & Mulder, 2007; Englebert & Ron, 2004; Sachs & Warner, 1997) argue that high dependence on mineral resources and easily acquired wealth in this sector have often led to imprudent economic policies, corruption and unproductive behaviour in poor resource-rich countries. In the Cateme resettlement, there is no evidence of state-led initiatives or investments in the community, despite incoming mining revenue and pledges by the state to dedicate 2.75% of the revenue to the affected communities. What's more, the mining engineer from the MIREM constantly affirmed that the government defined priorities for resettlement

infrastructure, while Vale made the investments. There are two possible explanations for the state's feeble contribution into the Cateme community. First, given that the large discoveries of coal reserves are fairly recent, the state has limited experience in dealing with such large investments with great potential for sizeable revenue in the extractive industry. Second, state inexperience may also serve as an excuse for poor social and economic policies for the communities affected by the projects. Additionally, such large investments foster opportunities for corruption, particularly for Mozambique, which registers cases in which public office was used for private interests, including in the mineral sector. As expounded by Sachs and Warner (1997) resource wealth can lead to grand corruption and inefficient bureaucracies; moreover, high rents distract governments from providing public services for the population at large.

In Mozambique, as in other resource-rich countries in Africa, large foreign investments and export revenues have brought opportunities for rent-seeking and corruption, which may deeply affect income distribution in the country at large. First, mining activities are known to be capital intensive, as such the industry creates less jobs than the size of the investments would suggest (Resenfeld, 2012). This shows that, in the long-term, there will be few direct beneficiaries from the mining projects (Castel-Branco, 2008). Second, it is often said that the Mozambican political and business elite, who mainly consists of individuals in high-ranking positions in the ruling party and the government, are intertwined (Cumbi et al., 2012; Hanlon & Mosse, 2010). Many high-ranking officials leading national agencies that regulate the mining sector are also executives within the private mining companies, making them both regulators and businessmen (Gerety, 2013). Therefore, whilst the growth rate numbers may seem encouraging at the national level, they may also mean that the economic growth is creating a few wealthy people rather than wealth that benefits the broader population in the form of improved public services, infrastructure, schools and hospitals. In this context, the absence of state-led programmes, projects or initiatives in Cateme may reveal that, despite the existence of revenue from the mining sector, the 2.75% pledged by the state appears not to have been invested into the communities affected by the projects due to high level interest in mineral funds. Ossemane (2013) asserts that given the confidentiality of mining contracts between the government and the mining companies, the export revenue entering the state budget is unknown to the public.

Botswana presents a model that can be emulated in Mozambique for the benefit of the affected communities. The creation of funds where revenues from the mining sector are allocated for

rural development in the communities affected by mining operations has proven to help improve livelihoods in such contexts. There is no evidence of savings or mineral funds for the affected communities in Mozambique. This may be attributed to the fact that Mozambique has limited experience in dealing with natural resource funds as explained above. Nevertheless, the country's rent-seeking tendencies, the confidentiality of mining contracts, and the lack of transparency and public accountability concerning export revenue from the mineral sector entering state coffers pose serious questions regarding the destination of the promised 2.75% for the affected communities.

The assumptions of Downing's theory of Mining Induced Displacement and Resettlement (MIDR) vividly explain what occurred in Cateme. The similarities between MIDR and Cateme shows that the propensity for loss of livelihoods in such cases is relatively high. Other studies (Bala, 2008; Cernea, 1997; Downing, 2002) on resettlement suggest a similar narrative to that which occurred in Cateme. According to Downing's resettlement effect, a resettled population is vulnerable to impoverishment risks including the loss of "productive land, homes, income-earning assets and sources, subsistence, resources" (2002, p. 8). In Cateme, the loss of productive land and natural resources such as water led to food shortages and a chronic dependency on food packages. Cernea argues that because, often times, the population loses self-sufficiency during resettlement, they are further impoverished. In this reasoning, the relocation from Chipanga and Malabwe to Cateme has created a new poverty for the resettled families. Furthermore, the dependency on food packages and the inability to earn income caused by the long distance to the Moatize market accentuate this new poverty caused by the resettlement. Therefore, the resettlement is problematic and unsustainable. In addition, the monetary compensation of 119.000 meticaís proved problematic as many of the community members were poorly educated for the management of such large funds. The promises to provide food for five years, which were not kept, are only going to contribute to more dependency and further impoverishment. The inaction of the government and the business interests of the ruling elite in the mining sector, particularly at the central level, exacerbate the long-term impoverishment risks faced by the resettled families.

The World Bank and AfDB resettlement policies, the 2012 Resettlement Regulation, and the Mining and Land Acts emphasise that the resettlement of a population should not disrupt agricultural and income-generating activities, self-sufficiency or the modes of survival of the

population at stake (AfDB 2003; GoM 2012; World Bank 2001). The Resettlement Plan approved by the GoM pledged to find appropriate land for the resettled families. As the state is the sole entity with the authority to grant land use rights or displace a people in the name of national development, it should be held accountable for the loss of fertile land for farming. Article 17 of the Resettlement Regulation emphasises that rural communities must be resettled in areas with fertile soil. In this context, though the state is not responsible for providing food to its population, the involuntary displacement to an area where the soil is infertile, approved by the state, is preventing the resettled families from satisfying their dietary needs.

Downing (2002) also explains that, often times, resettled communities are poorly instructed and informed on land issues, and politically weak. The situation is noticeable in Cateme. The community residents are for the most part poorly educated and lack solid structures of representation whereby their grievances can be formally presented. Although there have been efforts by certain civil society organisations to provide legal counselling, Cateme residents continue to be the weakest link when it comes to negotiations as they are infrequently consulted in issues regarding their own destiny, including housing and formal land use rights. The government signs the contracts with the company at the central level, and the community as well as local government authorities are left with no choice but to adhere to the agreements, including the community leader whose representation of the community is undermined by political affiliation. The deficiencies of the houses not only have to do with poor monitoring of the building process by the government and flawed construction approaches by the company subcontracted to build the houses, but also a lack of consultation with the families prior to the resettlement. The inconsistencies in discourse between the local and central government with regard to the dire housing conditions and legalities in Cateme also show that public officials at the central level do not necessarily consider the well-being of the resettled families a top priority next to the opportunities for personal gain in the mining sector. As documented by this study, government decisions relating to the mining industry are often influenced by private interests, which has largely jeopardised the living conditions of Cateme community members.

6.3 Conclusion

This study concludes that the operations of the mines in the concession area have placed the livelihoods of the resettled families under worse conditions. The families that formerly lived in the villages of Chipanga and Malabwe have been further impoverished by the resettlement due to the loss of their mode of sustenance and self-sufficiency. The rural households have been deprived from some of their most basic necessities and habitual activities, including water for domestic, recreational, and cultural purposes, and food to eat and sell in local markets.

Nevertheless, there have been some positive outcomes with regard to infrastructure, particularly in the schools and the hospital. The schools in Cateme are undoubtedly better equipped than those in Malabwe and Chipanga to an extent that students from Moatize travel over 40 kilometres to attend classes, read books and use computers in Cateme. The district and provincial education directorates, parents and legal guardians must nonetheless shoulder efforts to improve the attendance, enrolment and performance of the students in Cateme because well-built and equipped schools are useless if the beneficiaries of the infrastructure are not appropriately using the resources or fail to produce positive results despite the improvements. The hospital faces the same dilemma. Although the facilities are large, well-structured and strategically located to better service the community in comparison to Chipanga and Malabwe, the fact that there is only one health technician accompanied by two nurses for the 720 families living in Cateme poses serious questions about the quality of care and treatment in the community. The support from external organisations does not suffice. The local health directorates have the duty and responsibility to ensure that these services address the needs of the population.

The positive aspects of the schools and the hospital in the studied community do not compensate for the loss of fertile and productive farmland and natural water sources such as the rivers surrounding Chipanga and Malabwe, which culminated in sharp declines in food production causing food insecurity issues, increased living costs and a chronic dependency on compensation packages provided infrequently by the company. The community found no long-term alternative to food shortages, and the statements of central government officials at the highest levels unmask both the incompetence and negligence of the state toward the food problems faced by the rural communities affected by Vale's coal mining operations.

The deficiencies in housing further accentuate the indifference of the government with regard to the living conditions of Cateme residents. In such processes, proper government oversight through the local directorates of public works not only helps prevent and mitigate these occurrences but also regulate any irregularities coming from the companies. Local resettlement committees and central government officials failed to realise that the houses that were being replicated were built with plastic platforms, sand and gravel stones instead of solid steel foundations supported by beams. The study indicates that the local government institutions were powerless in matters involving the company as the contracts were signed and are regulated at the central government level where public officials are private executives in the same companies they are supposed to oversee. On the other hand, the company is also at fault for failing to correctly replicate the model house presented to the government, the IFC and the community leaders.

There is no evidence that the central government—the main state agency dealing with Vale—is investing mining revenues into Cateme to improve the living conditions of its residents. Rent-seeking, corruption and private interests in the mining industry at the highest levels undermine central government efforts to invest in the resettlement. The confidentiality of contracts between the mining company and the central government leaves question marks on the mining revenues entering the state budget for investments in the communities affected by mining operations in Moatize. On the other hand, whilst contributing to the community through its CSR strategy, as a mining company investing in operations, logistics and infrastructure, Vale is primarily concerned with reducing costs and maximising profits. The community members lack formal and educated representation structures, and local civil society in Moatize is relatively weak with limited capacity to pressure the central government and Vale to attend to Cateme residents' grievances. In the end, Vale is exporting coal and is currently going towards its second phase of exports, the government is collecting revenues that are unknown to the public, and ultimately, the affected communities are suffering the consequences of coal extraction.

References

- Acemoglu, D., Johnson, S., & Robinson, J. (2001). The Colonial Origins of Comparative Development: An Empirical Investigation. *American Economic Review*, 91, 1369-1401.
- Afandiyev, E. (2013). Causes of Dutch Disease and Ways to Deal with It: Literature Overview. [Poster Presentation]. *Indiana University-Purdue University Fort Wayne*. Retrieved from http://opus.ipfw.edu/cgi/viewcontent.cgi?article=1172&context=srce_stusymp
- Afonso, R. (1978). *Geologia de Moçambique: Distribuição do Karroo em Moçambique* [Geology of Mozambique: Distribution of the Karoo in Mozambique].
- African Development Bank (AfDB) (2003). *Involuntary Resettlement Policy*. Retrieved from <http://www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/10000009-EN-BANK-GROUP-INVOLUNTARY-RESETTLEMENT-POLICY.PDF>
- Almeida-Santos, A., Roffarello, L. M., & Filipe, M. (2014) *Mozambique 2014*. African Economic Outlook. Retrieved from http://www.africaneconomicoutlook.org/fileadmin/uploads/aeo/2014/PDF/CN_Long_EN/Mozambique_EN.pdf
- Alstine, J. V. & Afionis, S. (2013). Community and company capacity: the challenge of resource-led development in Zambia's 'New Copperbelt'. *Community Development Journal*, 48(3), 360-376.
- Audu, G., Ribeiro, J., Scott, O., & Taniguchi, H. (2006). *The Moatize Mining Project*. The Fuqua School of Business at Duke University. Retrieved from <http://www.docstoc.com/docs/163699756/Introduction---Duke-Universitys-Fuqua-School-of-Business>
- Auty, R. (2007). Patterns of Rent Extraction and Deployment in Developing Countries: Implications for Governance, Economic Policy and Performance. In G. Mavrotas & A. Shorrocks (Eds.), *Advancing Development: Core Themes in Global Economics* (pp. 555-577). Basingstoke: Palgrave.
- Bala, M. (2008). The Theory of Social Justice and Involuntary Resettlement. *Indian Journal of Human Development*, 2(2), 1-10.
- Barro, R. (1991). Economic Growth in a Cross-section of Countries. *Quarterly Journal of Economics*, 106, 407-441.
- Barros, C. (2012). *The Resource Curse and Rent-Seeking*. [Working Paper No. 102/2012]. *Centro de Estudos De Africa e do Desenvolvimento*. Retrieved from http://pascal.iseg.utl.pt/~cesa/files/Doc_trabalho/WP102.pdf

- Besharati, N. (2012). *Raising Mozambique: Development Through Coal*. [Policy Briefing No. 56]. South African Institute of International Affairs (SAIIA). Retrieved from <http://www.saiia.org.za/policy-briefings/raising-mozambique-development-through-coal>
- Biggs, T. (2012). *Mozambique's Coming Natural Resource Boom: Expectations, Vulnerabilities, and Policies for Successful Management*. CTA-Confederation of Economic Associations of Mozambique. Retrieved from <http://www.speed-program.com/wp-content/uploads/2012/08/2012-SPEED-Report-009-Mozambiques-Coming-Natural-Resource-Boom-EN.pdf>
- Bucuane, A. & Mulder, P. (2007, September 19). *Exploring Natural Resources in Mozambique: Will it be a Blessing or a Curse?* Paper presented at the Inaugural Conference of the IESE on Challenges for Social and Economic Research in Mozambique.
- Castel-Branco, C. N. (2008, November 27-28). *Os Mega Projectos em Moçambique: Que Contributo para a Economia Nacional?* Paper presented at the Civil Society Forum on Mining, Museum of Natural History, Maputo.
- Castel-Branco, C. N. & Cavadias, E. (2009). *O papel dos mega projectos na estabilidade da carteira fiscal em Moçambique*. Paper presented at the Second National Seminar on the Implementation of Fiscal Policy promoted by the Tax and Customs Authority, Maputo.
- Castel-Branco, C. N. & Mandlate, O. (2012). *Da Economia Extractiva à Diversificação da Base Produtiva: O que Pode o PARP Utilizar da Análise do modo de Acumulação em Moçambique. Desafios para Moçambique*.
- Castel-Branco, C. N. & Ossemame, R. (2010). Crises cíclicas e desafios de transformação do padrão do crescimento económico em Moçambique. In: L. de Brito, C. Castel-Branco, S. Chichava & A. Francisco. (Eds.), *Moçambique: Desafios 2010* (pp. 141-182). Maputo: IESE.
- Cernea, M. (1997). The Risks and Reconstruction Model for Resettling Displaced Populations. *World Development*, 25(10), 1569-1587.
- Coal International (2004, September/October). Wardell Armstrong Provides Assistance with the Development of the Moatize Coal Project. *Coal International*, 253(5), p. 173.
- Collier, P. (2007). *The Bottom Billion: Why the Poorest Countries are Failing and What Can Be Done About It*. New York: Oxford University Press.
- Collier, P. & Venables, A (2008). *Managing resource revenues: lessons for low income countries*. Paper presented at the African Economic Research Consortium 2008 Annual Conference, Nairobi.
- Corden, W. M. & Neary, P. (1982). Booming Sector and De-industrialization in a Small Open Economy. *The Economic Journal*, 92, 825-848

- Cottrell, G. & Rankin, L. (2000). *Creating Business Value through Corporate Sustainability: Sustainability Strategies and Reporting for the Gold Industry*. Price Water House Coopers.
- Cowell, S. J., Wehrmeyer, W., Argust, P. W., Graham, J., & Robertson, S. (1999). Sustainability and the primary extraction industries: theory and practice, *Resources Policy* 1999, 25(4) 277-286.
- Cumbi, A., Weimer, B., & Macuane, J. (2012). *Political Economy of the Health Sector in Mozambique: Towards an Understanding of its Features, Dynamics, and Challenges*. [Map Consult]. Maputo.
- Curtis, M. (2009). *Mining and tax in South Africa: Costs and benefits*. Curtis Research. Retrieved from <http://www.curtisresearch.org/SAfrica.MiningTax.Feb09.Curtis.pdf>
- De Wet, J. & Erasmus, Z. (2005). Towards Rigour in Qualitative Analysis. *Qualitative Research Journal*, 5(1), 27-40.
- Diagonal. (No Date). *Compromissos Assumidos no Âmbito do Par - Plano de Ação para o Reassentamento*. Tete.
- Diagonal. (2006). *Plano de Ação para o Reassentamento*. Rio Doce Moçambique. Tete.
- Downing, T. (1998) Mitigating Social Impoverishment when People are Involuntarily Displaced. In *Understanding Impoverishment: The Consequences of Development-Induced Displacement*. In C. McDowell (Ed.). Oxford and Providence, RI : Berghahn Press.
- Downing, T. (2002). *Avoiding New Poverty: Mineral-Induced Displacement and Resettlement*. [Report No. 58]. Mining, Minerals and Sustainable Development and International Institute for Environment and Development. Retrieved from http://commdev.org/files/1376_file_Avoiding_New_Poverty.pdf
- Englebert, P. & Ron, J. (2004). Primary Commodities and War: Congo-Brazzaville's Ambivalent Resource Curse. *Comparative Politics*, 37(1), 61-81.
- Epps, J. M. (1996). Environmental management in mining: an international perspective of an increasing global industry, *The Journal of South African Institute of Mining and Metallurgy*, 96(2), 67-90.
- Eweje, G. (2006). The Role of MNEs in Community Development Initiatives in Developing Countries Corporate Social Responsibility at Work in Nigeria and South Africa. *Business & Society*, 45(2), 93-129.
- FIAN International (2010). *Desenvolvimento, para quem? Impacto dos projetos de desenvolvimento sobre os direitos sociais da população rural moçambicana*. Heidelberg: FIAN International.

- Fielding, N. & Lee, R. (1998). Approaches to Qualitative Analysis. In N. Fielding & R. Lee (Eds.), *Computer Analysis and Qualitative Research* (pp. 21-55). London: Sage.
- First Quantum Minerals (2012). *Kansanshi Copper-Gold Mine, Zambia*. Retrieved from http://www.first-quantum.com/files/doc_downloads/Kansanshi_April%20_2012-FINAL.pdf
- Gerety, R. (2013, May 15). Mozambique's Booming Town. *Guernica: Magazine of Art and Politics*. Retrieved from <http://www.guernicamag.com/features/mozambiques-mining-boomtown>
- Goldblatt, M., Gelb, S., & Davies, G. (2002). *Macroeconomics and sustainable development in Southern Africa: synthesis report of South African study*. Development Bank of South Africa, Midrand, South Africa.
- Grier, K. & Tullock, G. (1989). An Empirical Analysis of Cross-National Economic Growth, 1951-80. *Journal of Monetary Economics*, 24, 259-276.
- Grilli, E. & Yang, M. C. (1988). Primary Commodity Prices, Manufactured Goods Prices, and the Terms of Trade of Developing Countries: What the Long Run Shows. *The World Bank Economic Review*, 2(1), 1-47.
- Gwebu, T. (2012). Botswana's mining path to urbanisation and poverty alleviation, *Journal of Contemporary African Studies*, 30(4), 611-630.
- Gylfason, T. (2001). Natural Resources, education, and economic development. *European Economic Review*, 45, 847-859
- Hamann, R. (2003). Mining Companies' Role in Sustainable Development, *Development Southern Africa*, 20(2) 237-255.
- Hamann, R. (2004). Corporate Social Responsibility, Partnerships, and Institutional Change: The Case of Mining Companies in South Africa. *Natural Resources Forum*, 28(4), 278-90.
- Hanlon, J. & Mosse, M. (2010). Mozambique's elite – Finding its Way in a Globalised World and Returning to Old Development Models. [Working Paper No. 2010/105]. Retrieved from http://www.wider.unu.edu/publications/working-papers/2010/en_GB/wp2010-105
- Hanlon, J. (2012, November 5). Mining: EITI, Vale, No Cash. Retrieved from: <http://www.open.ac.uk/technology/mozambique/sites/www.open.ac.uk.technology.mozambique/files/pics/d136954.pdf>
- Herbertsson, T., Skuladottir, M., & Zoega, G. (1999). *Three symptoms and a cure: A Contribution to the economics of the Dutch Disease*. [CEPR Discussion Paper No. 2364]. Retrieved from <http://ssrn.com/abstract=279688>

- Hilson, G. & Murck, B. (2001). Progress towards Pollution Prevention and Waste Minimization in the North America Gold Mining Industry. *Journal of Cleaner Production*, 9(5), 405-415.
- Human Rights Watch (HRW) (2013, May 23). “*What is a House without Food?*” *Mozambique’s Coal Mining Boom and Resettlements*. Retrieved from <http://www.hrw.org/reports/2013/05/23/what-house-without-food>
- International Institute for Environment and Development (IIED) (2002, May). *Breaking the New Ground: Mining, Minerals and Sustainable Development*. Retrieved from <http://www.iied.org/mmsd-final-report>
- International Monetary Fund (IMF) (2012). *Regional Economic Outlook—Sub-Saharan Africa: Sustaining Growth amid Global Uncertainty*. Retrieved from <https://www.imf.org/external/pubs/ft/reo/2012/afr/eng/sreo0412.htm>
- Izen, M. (2012). The Burdens of Progress. [Film]. *The New York Times*. Retrieved from <http://www.nytimes.com/video/world/africa/100000001897236/the-burdens-of-progress.html>
- Jackson, J. (2013, June 19). Mozambique: Rebel Group Threatens Mozambique Railway. *VOA News.com*. Retrieved from <http://www.voanews.com/content/rebel-group-threatens-mozambique-railway/1684883.html>
- Jenkins, H. (2004). Corporate Social Responsibility and the Mining Industry: Conflicts and Constructs. *Corporate Social Responsibility and Environmental Management* 11(1), 23-34.
- Jorgensen, A. (2009, July 6-9). *Transport Cost Externalities: A Discussion Paper*. Paper presented at the 28th South African Transport Conference (SATC 2009), Pretoria, South Africa.
- Jourdan, P. (1986). The minerals industry of Mozambique, *Minerals & Energy. Raw Materials Report*, 4(4), 31-45.
- Kabemba, C. & Nhancale, C. (2013). *Coal Vs. Communities: Exposing Practices by Vale and Rio Tinto in Mozambique*. Southern Africa Resource Watch. Retrieved from http://www.osisa.org/sites/default/files/coal_vrs_communities_in_mozambique.pdf
- Lewis, W. A. (1955). *The Theory of Economic Growth*. Homewood, IL: R. D. Irwin.
- Matos, E. & Medeiros, R. (2012). *Exploração Mineira em Moatize, No Centro de Moçambique: Que futuro para as comunidades locais*. Paper presented at the XXI National Meeting of Agricultural Geography, Federal University of Uberlandia, Brazil.
- Miles, M. B. & Huberman, A. M. (1994). *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, CA: Sage.

- Mitchell, A. (1999). The Environmental Challenge Facing Gold Mining. *Journal of Mines, Metals and Fuels*, 47(12), 352-357.
- Mitchell, P. (2006). Mining and economic growth: The case for Ghana and Tanzania, *South African Journal of International Affairs*, 13(2), 53-67.
- Moçambique para Todos* (2010). *Aos Reassentados em Cateme: Ministra da Mulher apela à melhor manutenção das Casas*. Macua.
- Mosca, J. & Selemane. (2011). *El Dorado: Os Mega Projectos de Mineração*. Maputo: Centro de Integridade Pública [Center for Public Integrity] (CIP).
- Mosca, J. & Selemane, T. (2012). *Mega-Projectos no Meio Rural do Território e pobreza: O Caso de Tete. Desafios para Moçambique*, 231-255. Retrieved from http://www.iese.ac.mz/lib/publication/livros/des2012/IESE_Des2012_12.MegRur.pdf
- Munnik, V., Hochmann, G., & Hlabane, M. (2009). *The Social and Environmental Consequences of Coal Mining in South Africa: A Case Study*. A joint initiative of Environmental Monitoring Group, Cape Town, South Africa and Both ENDS, Amsterdam, The Netherlands. Retrieved from http://www.bothends.org/uploaded_files/uploadlibraryitem/1case_study_South_Africa_updated.pdf
- National Institute of Statistics (INE) (2009). *Produto Interno Bruto, Óptica da Produção e Principais Produtos de Exportação (1994-2009)*. Retrieved from www.ine.gov.mz
- Ngosa, F. & Alstine, J. V. (2011). *Seeking Benefits and Avoiding Conflicts: A Community-Company Assessment of Copper Mining in Solwezi, Zambia*. Retrieved from <http://www.lse.ac.uk/geographyAndEnvironment/research/Sustainable%20Synergies/Publications/Zambia%20Community-Company%20Assessment.pdf>
- Ossemame, R. (2013). *Is the Extractive Industry Transparency Initiative Relevant for Reducing Diversions of Public Revenue? The Mozambican Experience*. [Policy Briefing No. 61]. South African Institute for International Affairs (SAIIA). Retrieved from <http://www.saiia.org.za/policy-briefings/is-the-extractive-industries-transparency-initiative-relevant-for-reducing-diversions-of-public-revenue-the-mozambican-experience>
- Papyrakis, E. & Gerlagh, R. (2004). The Resource-curse Hypothesis and its Transmission Channels. *Journal of Comparative Economics*, 32(1), 181-193.
- Prebisch, R. (1950). *The Economic Development of Latin America and its Principal Problems*. United Nations Department of Economic Affairs, Lake Success, NY. Retrieved from <http://archivo.cepal.org/pdfs/cdPrebisch/002.pdf>
- Ramos, A. (2009). *Projecto Carvão Moatize*. Paper presented at the CASM Conference, Maputo.

- Real, F. (1966). *Geologia da bacia do Zambeze* [Geology of the Zambezi Basin]. Lisboa: Junta de Investigações do Ultramar [Lisbon: Overseas Investigation Board].
- Resenfeld, D. (2012). *The coal mining sector in Mozambique: a simple mode of predicting government revenue*. [Conference Paper No. 19]. Instituto de Estudos Sociais e Económicos [Institute of Social and Economic Studies] (IESE). Retrieved from http://www.iese.ac.mz/lib/publication/III_Conf2012/IESE_IIIConf_Paper19.pdf
- Ross, M. (2003). *How Does Mineral Wealth Affect the Poor?* Department of Political Science, UCLA. Retrieved from http://www.sscnet.ucla.edu/polisci/faculty/ross/minpoor.pdf?origin=publication_detail
- Sachs, J. & Warner, A. (1997). *Natural Resource Abundance and Economic Growth*. [Working Paper No. 5398]. Center for International Development and Harvard Institute for International Development, Harvard University, Cambridge. Retrieved from <http://www.nber.org/papers/w5398>
- Selemane, T. (2009). *Alguns desafios na indústria extractiva em Moçambique*. Maputo: CEDIMA/Centro de Integridade Pública [Center for Public Integrity] (CIP).
- Selemane, T. (2010). *Questões à volta da mineração em Moçambique: relatório de monitoria das actividades mineiras em Moma, Moarize, Manica e Sussundenga*. Maputo: Centro de Integridade Pública [Center for Public Integrity] (CIP).
- Strauss, A. & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques*. Newbury Park, CA: Sage.
- Swart, H. (2012, December 14). Lonmin Faces Community Showdown. *Mail and Guardian*. Retrieved from <http://mg.co.za/article/2012-12-14-00-lonmin-faces-community-showdown>
- Transparency International (2010). *Corruption Perceptions Index 2010*. [Online]. Retrieved from <http://www.transparency.org/cpi2010/results>
- United Nations Development Programme (UNDP) (1990). *Human Development Report 1990: Concept and Measurement of Human Development*. Retrieved from <http://hdr.undp.org/en/reports/global/hdr1990>
- United Nations Development Programme (UNDP) (2013). *Human Development Report: Mozambique*. Retrieved from <http://hdr.undp.org/sites/default/files/Country-Profiles/MOZ.pdf>
- United Nations Economic Commission for Africa (UNECA) (2011). *Minerals and Africa's Development*. Addis Ababa, Ethiopia: UNECA.
- Vale (2014, February 27). *Meeting in Mozambique discusses social responsibility*. [Company website]. Retrieved from <http://www.vale.com/en/aboutvale/news/pages/debate-responsabilidade-social-em-mocambique.aspx>

- Vasconcelos, L. (1995). *Contribuição para o Conhecimento dos Carvões da Bacia Carbonífera de Moatize*. University of Porto, Portugal.
- Verma, N. (2012, October 16). Mozambique to offer new blocks in Q1 2013-ministry. *Reuters*. Retrieved from <http://af.reuters.com/article/investingNews/idAFJOE89F01D20121016>
- Viner, J. (1952). *International Trade and Economic Development*. Glencoe, IL: Free Press.
- Watkins, M. H. (1963). A Stable Theory of Economic Growth. *The Canadian Journal of Economics and Political Science*, 29(2), 142-158.
- Weber-Fahr, M., Strongman, J., Kunanayagam, R., McMahon, G., & Sheldon, C. (2001). *Mining and Poverty Reduction*. [Draft paper]. Retrieved from <http://www.intussen.info/OldSite/Documenten/Noord/Internationaal/WB/PRSP%20Sourcebook/20%20Mining%20and%20poverty%20reduction.pdf>
- World Bank (2001). *The World Bank Operational Policy 4.12: Involuntary Resettlement*. Retrieved from <http://web.worldbank.org/WBSITE/EXTERNAL/PROJECTS/EXTPOLICIES/EXTOPMANUAL/0,,contentMDK:20064610~menuPK:64701637~pagePK:64709096~piPK:64709108~theSitePK:502184,00.html>

Government Publications

- Government of Mozambique (GoM) (1995, October). National Mining Policy. Resolution No. 10/95. Maputo: Mozambique National Press.
- Government of Mozambique (GoM) (1997, October 1). Land Act. Act No. 19/97. Maputo: Mozambique National Press.
- Government of Mozambique (GoM) (1998, February). Mining Policy. Resolution No. 4/98. Maputo: Mozambique National Press.
- Government of Mozambique (GoM) (2002, June 26). Mining Act. Act No. 14/2002. Maputo: Mozambique National Press.
- Government of Mozambique (GoM) (2003, June 17). Decree No. 28/2003. Maputo: Mozambique National Press.
- Government of Mozambique (GoM) (2004). Constitution of the Republic of Mozambique. Maputo: Mozambique National Press.
- Government of Mozambique (GoM) – Ministry of Mineral Resources (MoMR) (2004, September 9). Art. 14 (7), Decree 45/2004. Maputo: Mozambique National Press.

Government of Mozambique (GoM) (2012). Regulations on the Resettlement Process Resulting from Economic Activities. No. 32, Series 1. Maputo: Mozambique National Press.

Government of Papua New Guinea (2010). *Standard Mining Development Contract*. Retrieved from <http://www.mmdaproject.org/presentations/PNG%20Full%20Revised%20Standard%20MDC.pdf>