

**Politics of Mining Reforms and Poverty: Informal Mining Suspension and
its Impacts on Rural Livelihoods in the Twangiza Mining Area,
Eastern DRC**

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Dissertation component submitted in partial fulfillment of the requirements for the degree of
Master of Development Studies in the School of Built Environment and Development Studies

Howard College Campus

University of KwaZulu-Natal

November 2012

Durban

South Africa

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Submission.*

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Declaration

The content of this dissertation is the original product by the author and has not been submitted in any form to another tertiary institution. Where the work of others is used, it has been duly acknowledged and referenced in the text accordingly.

The present research was conducted in the School of Built Environment and Development Studies, University of KwaZulu-Natal in Durban. The research was conducted between July 2011 and November 2012 under the supervision of Ms. Catherine Sutherland. However, the opinions expressed and conclusions presented are those of the author alone.

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Date

Abstract

Informal mining requires particular attention in the fight against poverty. In sub-Saharan Africa, the world's poorest region, more than ten millions of people have depended on it for livelihoods. The aim of this study was to investigate the causes and impacts of the suspension of informal mining in the eastern DRC, between 2010 and 2011, on rural livelihoods in Twangiza. The study being a qualitative case study, both primary and secondary data were collected through semi-structured interviews with a total of 21 respondents and analyzed using thematic methods.

This study has found that geopolitical influences upon the DRC government's concerns over fraud, corruption, loss of state revenues and the perpetuation of conflicts associated with informal mining activities were the main causes of its suspension in the eastern DRC. In Twangiza however, although informal mining was still practiced until 2010 when it was suspended across the eastern DRC, it had already been illegalized since 2003, following the introduction of BANRO - a Canadian based multinational company – to mine in the area. This happened shortly after DRC's adoption of a predominantly neo-liberal driven Mining Code in 2001.

This study has also found that the suspension of informal mining worsened the already venerable rural livelihoods in Twangiza as it resulted in increased unemployment, loss of income and food as well school dropouts by both pupils and teachers. To cope with these impacts many people decided to liquidate their assets, including livestock and land. While some of them managed to reemploy themselves by reinvesting in small businesses or migrating outside the community to search jobs, the most vulnerable had no option but to stay at home, resort to theft or prostitution.

This study, therefore stresses the livelihood importance of informal mining in Twangiza, which is consistent with previous studies on informal mining and livelihoods among poor communities in developing countries, especially in Africa. It also questions the consistency of DRC's mining policy and provides some constructive recommendations on how mining should be used to promote sustainable development in the eastern DRC.

Keywords: *Informal mining, Politics, Suspension, Livelihoods, Poverty, Development, Eastern DRC, Twangiza*

Acknowledgment

Thanks, glory and honor be rendered to the Almighty God, the Father of my Lord and Savior Jesus-Christ for His favor upon me without which my study efforts would have been in vain.

I also want to acknowledge and thank the following figures:

- My Supervisor, Ms. Catherine Sutherland, for her intellectual, academic, financial and moral support towards the completion of this research.
- Professor Julian May, for his financial support which made it possible for me to conduct the fieldwork required for the completion of this work.
- Professor Richard Ballard, for his academic guidance, which has helped me complete this dissertation.
- Honorable, Mwami (King) Richard Muganga Bulala Chirhulwire II, of the Collectivity of Burhinyi, for his support in getting the permission to conduct the fieldwork for this study in Twangiza/Luhwinja.
- All the participants; without their responses this thesis could not have been completed
- Both the Masheka and Bahati families for their support with accommodation and other necessities related to the fieldwork component of this research.
- Both my families, including both the Makanishe and the Mulali, where I was born and raised respectively.
- All my friends, including Dr. Joseph Rukeba, Marcel Mirindi, Bercky Masheka, Herman Muhambe, Joshua Karume, Del'homme Mulumeoderhwa, Aganze Zihindula and Darius Kwigomba whose advices and support have encouraged me to carry on with my studies.
- My spiritual and Christian mentors and fellows at the Communauté des Eglises Pentecôtistes en Afrique Centrale (CEPAC) Amani Buholo 2, Bukavu, DRC and the Durban Mission Church (DMC), South Africa, especially the intercession groups in both of these churches, whose prayers have been my source of strength toward the completion of this Degree.

Dedication

This dissertation is dedicated to a number of special people in my life, including my dear wife Dunia Sarah and first son Eliud Mwemezi, who was born while in the process of completing this work. But more especially, it is dedicated to my parents, Mr. and Mrs. Makanishe for their open mindedness and unstoppable commitment with their emotional, financial and spiritual support towards my education, even though my dad grew up as orphan and was never afforded the luxury of acquiring formal education, and has partly relied on informal mining to raise his 10 children.

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Abbreviations and Acronyms

ADB :	African Development Bank
AFDL:	Alliance des Forces Démocratique pour la Libération
ASM:	Artisanal Small-scale Mining.
CODELU:	Communauté de Développement de Luhwinja
DRC:	Democratic Republic of Congo
EITI:	Extractive Industry Transparency Initiative
FDI:	Foreign Direct Investment
FDLR:	Force Démocratique pour la Libération du Rwanda
GDP:	Gross Domestic Product
GDP:	Gross Domestic Product
HH:	Household
HoHH:	Head of Household
IDA:	International Development Association
IFI:	International Financial Institutions
ILO:	International Labour Organization
IMF:	International Monetary Fund
ITRI:	International Tin Research Institute
LCD:	Luhwinja Chinyabuguma Diaspora
LDC:	Less Developed Countries
MDG:	Millenium developmental goals
MEI:	Multinational Economic Imperialism

MGL:	Minière des Grands Lacs
MNC:	Multinational Company
NGO:	Non-Governmental Organization
OECD:	Organization for Economic Cooperation and Development
OGP:	Observatoire, Gouvernance et Paix
PAM:	Programme Alimentaire Mondial (French version for WFP)
RDC:	Rassemblement Congolais pour la Démocratie
SADC:	South African Development Community
SLA:	Sustainable Livelihoods Approach
SLF:	Sustainable Livelihood Framework
SOKIMO:	Société Minière de Kilo-Moto
SOMICO:	Société Minière du Congo
SOMINKI:	Société Minière du Kivu
UJCC:	Union des Jeunes Congolais pour le Changement
UN:	United Nations
UNDP:	United Nations Development Program
US:	United States
USAID:	United State Agency for International Development
WCED:	World Commission on Environment and Development
WFP:	World Food Program

CHAPTER 1: INTRODUCTION

1.1. Introduction

Mining is one of the most important but contested economic sectors in the developing world. This is particularly true in the Democratic Republic of Congo (DRC) where mining has been not only one of the largest contributors to the gross domestic product (GDP) and livelihoods in poor communities, but also to conflicts in the eastern part of the country (Armstrong, 2007; IMF, 2010; International Alert, 2009; Mazalto, 2008; Vlassenroot and Raeymaekers, 2004). This study investigates the causes of the suspension of informal mining in the eastern DRC and its impacts on rural livelihoods in Twangiza. The background and research problem, rationale, aim and objectives of the study are presented in this chapter. It also introduces the methodological and theoretical frameworks, the definition of the key concepts used in the study, and an outline of the dissertation structure.

1.2. Background and outline of the research problem

The relationship between the exploitation of natural resources and the allocation of poverty has been one of the development dilemmas of the developing world countries (Maconachie and Binns, 2007). The DRC for example, although endowed with an amazing and diversified amount of mineral riches, recent studies show that the country has been one, if not the first, of the world's poorest countries (Programme Alimentaire Mondial [PAM], 2011; Stearns, 2011). This contradicts the hope that, through their natural resources, developing countries would overcome poverty (Pegg, 2006). Over the past two centuries, the best approach to achieve such a noble goal has remained a matter of speculations (World Bank Group, 2002).

Poverty continues to distress millions, if not billions, of people. Recent research data reveal that an estimated half of the world's population has been affected by poverty (NETAID, 2008). In the developing world alone, 1.5 billion, out of more than 3.5 billion people is still living on a daily income of less than US \$2 (International Council Mining and Metals [ICMM], 2011). Africa bears the heaviest burden of poverty, prompting Ogbunwezeh (2005) to deplore the "Africanization of global poverty". In 1990 the United Nations (UN) adopted the Millennium Development Goals (MDGs) of which the aim is to halve the number of people living in poverty (Hulme and Shepherd, 2003). In addition, in this same endeavor,

world leaders, at the 1995 Copenhagen World Summit for Social Development (CWSSD), agreed on the need to rethink the best way to eradicate poverty across the world (United Nations, 2009).

Mining has been singled out as one of the means by which to fight poverty and promote development in developing countries. According to the World Bank Group (2002:2), mining matters for development for four reasons. Firstly, because it is special as is underground and “what’s under the ground is a national asset”. Secondly, mining is a “footprint industry” because it has social, economic and environmental implications. Thirdly, it is “a priority area for foreign direct investment”, involving high risks for foreign investors, especially in the developing world. Fourthly, mining is “a large source of government revenues” and “large parts of fiscal incomes are export-based” as state revenues in many developing countries largely depend on export sectors such as minerals and ores (World Bank Group, 2002).

Therefore, the politics of mining reform has been partly concerned with how mining can be used to address poverty in developing countries. A successful answer to this question would have meant a lot to the achievement of the MDGs. But the question has been unsuccessfully debated since the 18th century (World Bank Group, 2002). The debate has been generally led by modernization and neo-liberal approaches. Championed by major international financial institutions (IFIs), these approaches argue that the mining sector should be privatized and reformed to promote private and foreign investment (World Bank Group, 2002). It is believed that this investment will help create jobs, boost economic growth and eventually trickle down to the poor (Willis, 2005).

However, this approach has been criticized of having negative impacts on livelihoods in poor communities in many developing countries (Dreschler, 2002; Banchirigah, 2006). Mining, particularly informal mining has been used as a coping strategy by mostly poor communities in developing countries where formal mining by multinational companies (MNCs) has often compromised local livelihoods (Banchirigah, 2006). Often sponsored by major international financial institutions such as the World Bank and the international monetary fund (IMF), MNCs in the mining sector have competed with tens of millions of poor people who depend on informal mining for their livelihood in sub-Saharan Africa, the world’s poorest region (Dreschler, 2002; Banchirigah, 2006).

In 2002 the DRC, a sub-Saharan country and member of SADC, adopted a new Mining Code aimed at attracting private and foreign investment. Prior to this, the country’s mining sector

had been predominantly informal (Armstrong, 2007; International Alert, 2009). However, not just the national economy has partly depended on it, as more than 80% of mineral production and export come from informal mining, but also millions of people's livelihoods (Armstrong, 2007; International Alert, 2009).

However, many scholars have doubted whether informal mining would help overcome poverty and lead to sustainable development in developing countries (Hentschel et al., 2003; Maconachie and Binns, 2007). Informal mining is often regarded as illegal and has been criticized of being associated with various social, economic and environmental negative impacts (Maconachie and Binns, 2007). Nevertheless, informal mining deserves particular attention in the fight against poverty. In the DRC where as noted earlier, millions of people depend on informal mining, this activity was suspended between 2010 and 2011 across the eastern part of the country. The suspension was subsequently lifted in less than one year. This scenario raises interesting questions concerning the politics in terms of the reasons for the suspension and its socio-economic impacts in the eastern DRC.

1.3. Rationale

Given the strong relationship between mining and development in developing countries, the impacts of informal mining cannot be ignored in current academic and social discourses. Misinformed and misguided policies or practices in an attempt to promote mining reforms have often undone poverty reduction efforts (Hilson and Potter, 2005; Maconachie and Binns, 2007). The Twangiza case study provides an empirical insight into the politics and impacts of mining reforms on rural livelihoods in the context of poverty and conflicts stricken developing countries such as the DRC, where many rural communities largely depend on informal mining activities (Armstrong, 2007). In addition, both mining activities and poverty are more often concentrated in rural than urban areas. Yet, mining has been one of the most important economic pillars of developing countries such as the DRC (World Bank Group, 2002; IMF, 2010). Basically, this means that rural poor communities that were supposed to be most legitimate and rightful beneficiaries of their mineral resources tend to be neglected.

This study, based on its aim and objectives, is designed not only to add to the literature, but also inform mining policy makers on the potential and challenge of informal mining activities in relation to livelihoods, poverty and development in rural area in developing countries, such as the eastern DRC, where the majority of people have been faced with limited livelihood options due to persistent political and social instabilities as well as government inefficiencies.

1.4. Research aim and objectives

This study aims to investigate the causes of the suspension of informal mining in the eastern DRC, between 2010 and 2011, and its impacts on rural livelihoods in the Twangiza mining area, eastern DRC.

The objectives of this study are to:

- Describe the living conditions in the Twangiza mining area.
- Describe the history of informal mining activities in Twangiza.
- Understand why informal mining was suspended and shortly reinstated in the eastern DRC.
- Analyze the livelihood impacts of the suspension of informal mining, considering both the responses and coping mechanisms adopted by local people in Twangiza.
- Discuss, from a respondent perspective, how mining should be used to promote sustainable livelihoods and development in the eastern DRC, especially in Twangiza.

1.5. Theoretical framework

This study draws from two opposing theoretical perspectives. Modernization and neo-liberal theories on the one hand, are challenged by the sustainable livelihoods approach on the other.

1.5.1. Modernization and Neo-liberal theories

These theories advocate for modern capitalist and free-market-led development approaches. Modernization theory argues that economic well-being only occurs as societies move away from traditional social and economic systems (Willis, 2005). Traditional systems are regarded as deprived of innovative and complex economic associations, resulting in stagnant and limited “economic relationship” (Gelderblom and Kok, 1994: 3).

Advancing modernization ideas, the neo-liberal approach maintains that privatization and free-market policies are the best channels for economic growth and development (Willis, 2005; Filipovic, 2006). Neo-liberals believe that economic growth will occur through private and foreign direct investment (FDI), which would lead to poverty reduction, through trickle-down effects, as the benefits of FDI, including jobs, spread across various sectors of the economy (World Bank Group, 2002; Willis, 2005).

Therefore, both modernization and neo-liberal theories would prefer the formalization and privatization of mining, which mean to move away from informal mining, in order to achieve economic growth through FDI as the best way to reduce poverty.

1.5.2. Sustainable livelihoods approach

In contrast to modernization and neo-liberal approaches, the sustainable livelihoods approach (SLA) emphasizes the need to promote local livelihoods as a strategy for poverty reduction. SLA emerged in the 1990s and uses sustainable livelihood frameworks (SLFs) (see Figure 1) to analyze livelihood production and changes overtime in poor households (Bury, 2004:79). The production of livelihoods, according to the SLA, depends on both the quantity and quality of resources in a given geographic location (Bury, 2004). Resources or livelihoods assets include various capitals such as human, social, natural, physical and financial assets “required for a means of living” a household or community (Siegel, 2005:13). A SLF is use to analyze these aspects of resources to understand the vulnerability context (Diga, 2007). The vulnerability context of a household or community depends not only on external shocks, including environmental, political or economic factors, but also transforming structures in terms of development policies and processes affecting their livelihoods (Diga, 2007; Temeng and Abew, 2009).

While a quantitative analysis of the extent to which the suspension of informal mining has affected livelihoods in Twangiza is beyond the scope of this study, the use of SLF is important as it helps understand living conditions in the area, considering both the external shocks and transforming structures. In Twangiza, for example, external shocks are rooted in a long history of social and political instabilities in the DRC, whereas both the introduction of formal mining in Twangiza and the suspension of informal mining in the eastern DRC can be regarded as transforming structure or development processes intended to address the socio-economic challenges in the country.

1.6. Methodological framework

This study was conducted as a qualitative case study involving both primary and secondary data gathering. The primary data was collected through in-depth semi-structured interviews, using an interview guide (See Appendix 2), with various actors in Twangiza, eastern DRC. The secondary data was collected from both printed and electronic materials, both published and unpublished, on mining in the case study area. Respondents were purposively selected based on their involvement in mining or related activities. A snowball sampling strategy was

also used to identify potential respondents because the research area was not familiar to the researcher. The data analysis was done through the NVIVO computer software for qualitative data analysis. Research ethics have been adhered to in the process of data collection and presentation. More details on the data collection and analysis procedures and limitation of the study are provided in chapter 4.

1.7. Definition of key concepts

It is important to first understand the key concepts, including mining, livelihood, poverty and politics, which define the basis for the conceptual analysis of this study.

Mining refers to underground operations for minerals and metals exploitation; it includes open-pit, underground operations and both large- and small-scale and artisanal activities, but excludes oil or gas (World Bank Group, 2002). There are different types of mining, including industrial or large-scale and small-scale or artisanal mining.

The DRC 2002 Mining Code recognizes three different types of mining, including industrial, small-scale and artisanal mining (SAESSCAM, 2010). Industrial mining differs from small-scale mining in terms of both their scales and the economic values of mineral deposits. Small-scale mining, unlike industrial mining, requires mineral deposits valued at between US\$ 100.000 and US\$ 200.000. Small-scale mining also differs from artisanal mining in terms of both mineral deposit lifespan and mining methods. Small-scale mining, unlike artisanal mining, requires evidence of a deposit of mining reserves not exceeding a lifespan of 10 years and employs both semi-industrial and industrial processes. Artisanal mining is defined as mining activities through rudimentary tools, and non-industrial methods, permitted to any DRC citizens, and are delimited in surface and in-depth up to a maximum of 30m. In line with this, Hentschel et al. (2003:6) mention that in some countries such as Mali, “small-scale mining differs from artisanal mining by the presence of permanent, fixed installations that are established once an ore body is confirmed”. However, a universally accepted distinction between artisanal and small-scale mining has not been established (Chupenzi et al., 2009). Mining scholars such as Hentschel et al. (2003), while recognizing that artisanal mining may differ¹ from small-scale mining, have attempted to condense the two into one type of mining referred to as ASM (Artisanal and Small-scale Mining). They define ASM as “mining by individuals, groups, families or cooperatives with minimal or no mechanization, often in the

¹Hentschel et al. (2003), recognize that artisanal mining is “purely manual and on a very small scale”, while small-scale mining “has some mechanization and is on a larger scale”.

informal [illegal] sector of the market”. Large-scale mining, in contrast to ASM is often conducted by “major companies as well as [...] mid-tier and small companies or any formal company that complies with international performance standards²” (Chupenzi et al., 2009:10).

The problem with these definitions and distinctions of mining is that they do not provide a clear measurement of the scale, method, formality and legality on which they are based. The question is whether large-scale mining is always and fully industrialized or mechanized, formalized and legalized, whereas small-scale or artisanal mining is always and fully non-mechanized, informal or illegal. Chupenzi et al. (2009) argues that while ASM is often conducted by local people in the informal sector, large-scale mining is often conducted by formal companies. While calling for further research to clarify of this issue, this study draws from Chupenzi et al. (2009) argument above and uses “informal mining” to describe ASM mining and “formal mining” to describe large-scale or industrial mining.

The concept livelihood involves combination of assets, entitlements, capabilities, access and activities which are required for producing a means of living (Siegel, 2005; Diga, 2007; Temeng and Abew, 2009). The living standard of an individual, household or community therefore depends on the quantity and quality of their livelihoods.

Poverty is multidimensional and therefore there cannot be a universal way to describe what it means (Boltivnik, 2001; May, 2010). May (2010) reveals that poverty is often defined as the lack of income and inability to achieve a better living standard due to a shortage of resources, and lack of capabilities. People can be poor if they possess few assets or if there are financial and other challenges that compromise their ability to use their assets efficiently (Charter and May, 2001). Similarly, Lok-Dessallien (2001) mentions that people may be poor because they lack income or money to pay for food, clothing, shelter and other basic necessities.

1.8. Dissertation structure

The background to this study, in terms of the research problems, rational aim and objectives are presented in Chapter 1. Chapter 2 provides a literature review conceptualizing the relationship between mining, poverty and development. Presented in two sections, the chapter begins with the history of mining globally and proceeds with the conceptualization of the links between mining, poverty and development not only according to modernization and

² See Hentschel et al. (2003:6) for further details on these standards.

neoliberal theories, but also according to livelihood approaches. Chapter 3 provides a general background to the DRC where this research was conducted. Presented in four sections, this chapter describes the geographic, political, demographic, social and economic contexts. Then it provides the history and politics of mining reforms in the DRC is provided. It closes by presenting Twangiza as a relevant case to study the relationship between mining activities and livelihoods in the eastern DRC. Chapter 4 presents and discusses the methodology used in this study, including the sampling criteria and procedures used for data collection and analysis as well as the limitations encountered during the fieldwork. The findings (results) of the present study are presented and discussed in Chapter 5. Finally, the conclusion and recommendations are provided in Chapter 6.

1.9. Conclusion

The research problem, rationale, aim and objectives, theories and methods used in the present study have been introduced in this chapter. The problem is that although informal mining is regarded as an important livelihood activity by impoverished communities in many developing countries, it was suspended in the eastern DRC. This study investigates the impacts of that suspension in the Twangiza mining area. This study is important because it could bring different perspectives in the analysis of mining and development in developing countries, especially in the eastern DRC. In addition, the key concepts used in this study have been briefly defined and the dissertation structure presented in this chapter.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

The purpose of a literature review is to understand key issues, including the history, theories, phenomena, concepts and variables in relation to the field of research (Randolph, 2009). This chapter builds upon the existing literature to discuss how mining has been conceptualized in relation to poverty and development. The debate around the relationship between mining and poverty in developing countries has been generally influenced by two different approaches. On the one hand, modernization and neo-liberal theories believe that the privatization of the mining sector will help achieve the much needed economic growth to reduce poverty. On the other hand, critics argue that mining privatization or liberalism has rather exacerbated poverty by compromising livelihoods in rural communities. This concern has led to a sustainable livelihood approach being used to analyze the impacts of mining in poor communities. Made up of two sections, this chapter begins with a brief history of mining globally. Then, based on the above mentioned theories, the relationship between mining, poverty and development is explored.

2.2. History of mining

Historically, mining has always been part of human activities and economic development. In the pre-modern era, mining was used for a range of purposes. In Africa, 40,000 years ago, “regional hunter and gatherers” used mining resources such as iron ore for painting and used “obsidian and chalcedony rock for stone implements and weapons” (Kitula, 2005:405). In Tanzania, centuries before the colonization of Africa, local people used traditional techniques of mining to produce minerals (Kitula, 2005). Elsewhere, mining was used for economic ends such as wealth accumulation and exchange. The Bible³ measures the richness of people, such as Abraham, who lived several centuries before Christ, in terms of gold (Genesis 13:1). It also shows how the Queen of Sheba exchanged gold, among other presents, with King Solomon (see 1 Kings 10:10).

In the modern era, mining has become one of the strategies for countries and individuals to attain economic, political and livelihood objectives. This has further increased the importance of mining resulting in various socio-economic and environmental impacts. Mining such as steel, coal and iron ore exploitation was one of the prerequisites for 19th century industrial

³ <http://www.biblegateway.com/passage/?search=1+Kings+10&version=NIV> [visited: 12/11/2012].

development in Britain, Germany and the United States of America (Sachs and Warner, 1997). Influenced by these experiences, developing countries, following their independence, have sought to achieve economic growth and development through mining (Granville, 2001).

During World War II, mining resources such as gold and cobalt were used for strategic purposes. Powerful countries such as Britain and US controlled mining to strengthen their power and weaken their rivals, Germany and Japan, by preventing them to access strategic mineral resources from Africa during the war (Dummett, 1985). Minerals such as metals, diamond, coal, copper, chrome, platinum, bauxite, zinc and manganese were, therefore, used for “wartime metals fabrication and petro-chemical production by the belligerent powers” (Dummett, 1985:381). In Post-World War II, mining had become an important economic resource, resulting in what Ballard and Banks (2003:288) have termed the world’s “explosion of mineral exploitation” in the 1970 and 1980s.

More recently, mining has become even more important as a result of its role in promoting modern technology. Minerals and metals such as gold, diamond, iron, coltan, copper, zinc, uranium and manganese, to list just a few, are valuable products which have become highly marketable due to their role in advancing the world’s technology (Cattaneo, 2009). Tantalum (Coltan) in particular has been highly demanded for its role in making highly demanded computer gadgets, smart phones and iPods (Kelly, 2010). Consequently, mining has been regarded not only as an “engine for economic growth” (World Bank Group, 2002), but also as a significant livelihood activity for households and individuals in poor communities in developing countries (Bury, 2004; Hentschelet al., 2003; Temeng and Abew, 2009). This has led the exacerbation of competition over mineral resources between and within countries (De Koning, 2008; Cattaneo, 2009).

Mineral resources, however, are non-renewable and have been limited, which has partly influenced mineral contenders to engage in various ways – including but not limited to wars, political and economic activities seeking to take over control their exploitation (Ballard and Banks, 2003; The Africa Report, 2009). Mining has, therefore, been associated with deadly conflicts, wars and violence between and within many developing countries such as the DRC, Liberia, and Sierra-Leone (Armstrong, 2007).

2.3. Conceptualization of mining, poverty and development

The relationship between mining, poverty and development has been conceptualized mainly based on modernization and neo-liberal theories on the one hand and sustainable livelihoods approach on the other.

2.3.1. Modernization and neo-liberal theories

These theories attribute the economic malaise of developing countries to their stagnation in traditional practices and lack of full exposure to capitalism (So, 1990). In the capitalist system, “business and industries are controlled and run for profit by private owners rather than government”⁴. Modernists and neo-liberals believe that poor countries could only benefit if they adopted “free market” principles because of their comparative advantage⁵ in commodity trading. It is believed that this would boost economic growth and eventually lead to poverty reduction and development promotion (So, 1990:50). The emergence of modernization theory coincides with changes in the economic importance of mining in Europe. In the 19th century, Modernization theory was developed by scholars such as Spenser, Durkheim, Comte, Weber and others (Gelderblom and Kok, 1994). During this period, mining was credited with promoting industrial development in western countries, such as Britain, US, Germany and Australia (Sachs and Warner, 1997).

Modernization theory adopts a scientific or technological innovation approach to the world (So, 1990). It argues that economic well-being only occurs as society moves away from traditional to modern social, political, economic, and cultural ways of life (Willis, 2005). Thus, modernists advocate for modern as opposed to traditional systems and values (Willis, 2005). While the former are credited with innovative and complex economic associations, the latter are seen as stagnant with limited economic progress (Gelderblom and Kok, 1994).

In relation to mining, some practices such as formal mining would, therefore, be regarded as modern with a high economic return as it has been associated with technological innovation and high productivity (Chupenzi et al., 2009). Others such as informal mining, in contrast are regarded as traditional due to their use limited technology or lack thereof, and the associated less productivity and little economic benefits (Chupenzi et al., 2009). Modernization driven policy would therefore favor formal over informal mining development. It is expected that due to its productivity, formal mining will lead to higher mineral commodity exports,

⁴ See Oxford Advanced Learner’s Dictionary, 6th edition 2000, page 160

⁵ This approach argues that countries should specialize in products that they can produce with as fewer resources as possible in order to compete with other producers in the free market system.

increase job creation and boost the much needed economic growth to reduce poverty and promote development. Critics however, say that modernization theory has been Eurocentric⁶ in its approach to development (Willis, 2005).

Informed by modernization thinking, neo-liberal theories emphasize privatization and free-market as the best way to achieve economic growth (Willis, 2005). It is believed that this growth would trickle down into other sectors of the economy in order to reduce poverty (World Bank Group, 2002; Willis, 2005). This, however, is top-down approach in which decision are made at national levels rather than by the poor themselves in their local communities where their lives depend on their local resources. The neo-liberal approach upholds the system of free-market economy based on the principle of privatization, which refers to well-defined private property rights which enable individuals or companies to work for their own interests (Filipovic, 2006). It is assumed that this would motivate people to work as hard as they choose to make profit, increase productivity and eventually promote development.

One of the methods of privatization is to sell public enterprises to private investors (Filipovic, 2006). However, in underdeveloped countries, according to Filipovic (2006), it has been often difficult to find domestic investors. As a result their mining sectors have been dominated by western multinational companies (MNCs). They are seen as bearers of foreign investment in both the developed and the developing worlds. Foreign investment is expected to bridge the gap caused by the lack of domestic investments and increase the much needed economic productivity, exports and economic growth. In relation to this, the World Bank Group (2002) argues that the overall economic growth per se is a prerequisite to sustainable development and poverty reduction. Thus, the extent to which privatization affects economic growth, partly depends on foreign direct investment (FDI) and property rights.

Modernization and neo-liberal inspired policies have therefore been implemented in many countries through Structural Adjustment Programs (SAPs). They have been particularly imposed on developing countries as a precondition to financial aid provisions from the World Bank and the IMF. Since the last two decades, the World Bank has supported and advocated for the privatization of the mining sector as the “main engine of development” for developing countries (Tougas, 2008). SAPs have, therefore, been one of the most predominant features of neo-liberal theories in mining development across the developing world.

⁶ Eurocentric means that European ideas and ways of life are often perceived as better than others.

2.3.1.1. Modernization and neo-liberal-influenced mining reforms

The predominance of SAPs in developing country's mining sector has meant to shift from community based informal mining to MNCs driven formal mining activities. This is because, as argued earlier, formal mining, unlike informal mining, is associated with modern practices, regarded as the best way to achieve prosperity.

SAPs, which represent a practical version of modernization and neo-liberal ideas, emphasize FDI through "increased privatization, currency devaluation, reduced government spending and trade liberalization (Bradshaw and Huang, 1991; United State Agency for International Development [USAID], 1996; Willis, 2005). Since the 1970s and 1980s, SAPs have been imposed on developing countries that were affected by the Debt Crisis and failed to comply with the terms of their loans from IFIs, such as IMF and World Bank, as prerequisites to obtain further financial aid from these institutions (Bradshaw and Huang, 1991). Desperate for financial aid, many developing countries have had no choice but to adopt these neo-liberal austerity measures in order to salvage their economies and repay previous loans (Bradshaw and Huang, 1991). SAPs have, therefore, been designed to help indebted countries "to save money and facilitate exports, thereby increasing [their] debt repayment" (Bradshaw and Huang, 1991:321). Most countries in Southern Africa, according to USAID (1996), have pursued policy changes which are focused on macroeconomic reforms, including trade liberalization and markets and prices deregulations.

The mining sector, in particular, more than other sectors, has been subjected to SAP reforms in many developing economies. As Haselip and Hilson (2005:89) put it:

"Over the past 10 –20 years, policy makers at the IFIs have worked to persuade a number of governments in LDCs (Less Developed Countries) that the efficient development of mineral resources by foreign multinationals creates innumerable socioeconomic benefits in the form of fees, employment, taxation and infrastructure. Considerable effort has been made to convince officials that mineral resources are important economic assets, which remain largely untapped because of excessive state control of extractive operations".

Most of these countries "have negotiated loans from IFIs to address these policy areas and strengthen local regulatory agencies (Haselip and Hilson, 2005:90). The closure of informal mining by local communities, in favour of formal mining by IFIs sponsored MNCs has been an important feature of these reforms in developing countries. Some of the African countries

where these mining reforms have taken place include Tanzania, Ghana, Mali, Burkina Faso, Madagascar, Mauritania and Zambia (Haselip and Hilson, 2005:90). In Latin America this has happened in Peru and Bolivia amongst others. In Peru, for example the aim of mining reforms in 1990 was to earn foreign investment confidence and to grow the economy as President Fujimori's regime was "desperate" for hard currency through mining exports (Szablowski, 2002:258). For this reason the regime, under the mandate of IMF, implemented drastic SAPs and promoted mining investment as national priority. This led to "a radical restructuring of the mining sector", through significant policy changes, including privatization of public properties in favor of foreign investments (Szablowski, 2002:258).

In order for effective privatization to occur and to enable increased foreign investment in the mining sector, "policy makers at the IFIs have...encouraged LDC governments to decrease their controlling stake in operations and to amend policies and regulations to create more favorable investment climates for mining" (Haselip and Hilson, 2005:90). To achieve these reforms, countries have been advised to consider a list of IFIs' five criteria, summarized in Table 1 below, in their "mining investment frameworks" (Haselip and Hilson, 2005:90). However, there has been a lack of consensus whether this kind of privatization will actually lead to economic growth in underdeveloped countries.

Table 1: IFIs criteria for countries to attract private mining investments

No.	Criteria	Description
1	Security of land tenure	Countries must guarantee the access of private mining companies to a parcel of land for a reasonable time; give them exclusive entitlement to the minerals within that plot and the right to transfer exploration rights to other companies.
2	System of granting Mining Titles	Countries must implement a systematic process for awarding mining titles.
3	Open-Title Registry	Countries must maintain and open their title registries to the public in order to "enable private investors to readily determine available land" for mining activities.
4	Environmental issues	Countries must commit themselves to "environmental issues" in terms of regulation and protection.
5	Competitive and stable fiscal regime	Countries must have competitive and stable fiscal regime because the lack of it have negative impacts on the benefits of mining.

Source: Compiled from Haselip and Hilson, 2005.

An example of a developing country that has met at least the fifth criterion, is Tanzania where, according to Haselip and Hilson (2005:90) the government has provided “a wealth of tax breaks to foreign parties, including low royalty rate, payments and a one-year grace period for payment of Value-added tax” in the mining sector.

2.3.1.2. Mining and economic development: a neo-liberal perspective

The neo-liberal approach to mining and economic development is that mining is a significant opportunity for economic growth and poverty reduction (World Bank Group, 2002). It is believed that this would happen through mining sector privatization and free-market policies, designed to create investor-friendly climates. These policies, as mentioned earlier, emphasize less state intervention and more private sector involvement as the economy adopts free-market principles through SAPs designed to attract and promote private mining investment, usually by MNCs (see Table 1).

MNCs are regarded as bearers of foreign direct investment (FDI) in the mining sector, needed to achieve economic development, particularly in developing countries. It is believed that through FDIs countries would increase their mineral production, therefore, boosting tax revenues, mineral exports and infrastructure development (World Bank Group, 2002). From a neo-liberal perspective, a combination of the above would then boost economic growth, which in turn would reduce poverty through trickle-down effects as jobs are created directly in the mining sector and indirectly in other sectors of the economy (World Bank Group, 2002; Willis, 2005).

In developing countries, however, as mentioned earlier, there has been a lack of private domestic investments. Consequently, MNCs or foreign companies have dominated the mining sector in developing countries. However, these companies are primarily businesses who seek to exploit and benefit from the marketable and profitable mining resources (The Africa Report, 2009). Governments in developing countries have, therefore, been obliged to implement neo-liberal mining reforms to incentivize foreign investors.

Private and formal mining investment by MNCs is often associated with formal and modern mining practices featuring high technology and skilled and semi-skilled labour and, hence, credited for leading to high mining productivity (Chupenzi et al., 2009; Hentschel et al., 2003). Informal mining, in contrast, tends to be regarded as a traditional mining practice due to its use little mechanization or lack thereof, unskilled labor and often done illegally and, hence, often criticized for low mining productivity (Chupenzi et al., 2009; Hentschel et al.,

2003). Neo-liberals therefore favour formal mining by private players over informal mining by local communities.

Developing countries that have implemented neo-liberal mining reforms include Tanzania (Haselip and Hilson, 2005), Ghana (Adjei, 2007; Banchirighan, 2006; Temeng and Abew, 2009), Peru (Bury, 2004) and Botswana (Gommen et al., 1983). Most of them have made significant concessions to incentivize MNCs to invest in their mining sectors. As a result, expansions of mining were associated with increased mineral production and exports. In Tanzania for example, in the 1990s, gold production increased tenfold (Haselip and Hilson, 2005). However, while private mining investments benefited these national economies, local communities were negatively affected. Local livelihoods were disrupted due formal mining which led to farming land erosion, employments, water pollution and other irreversible problem, worsening the living conditions of poor communities in and around the mines.

Botswana is the only African country that has been able to achieve substantial economic development through private mining investments. The success of Botswana was mainly due to good governance and democracy. The government of Botswana not only intervened in the mining sector to ensure good industry practices by MNCs, but also was open to criticism and exercised “tolerance for politically divergent views” (Gommen et al. 1983:95; Moribame, 2011). Due to good governance in Botswana, it was ensured that the country benefits from its diamond minerals more than MNCs. Fiscal means were designed to inject those benefits in various development priorities such as agriculture (Moribame, 2011).

Expectations are still high that other developing countries will follow the example of Botswana. The Southern African Development Community (SADC), for example, has optimistically expected that mining would lead to sustainable development (Granville, 2001). The DRC is one of the SADC member countries which signed a mining joint venture contract with China, worth US\$15 billion in 2007. Part of the contract, US\$9 billion, was aimed at developing the country’s mining sector where China was due to hold a 68% share of mineral production (Lokongo, 2009). The rest (US\$6 billion) was planned to be injected into infrastructure development. However, the contract was later challenged by major IFIs, including the World Bank and IMF who were concerned that the contract would benefit China with unprecedented financial guarantees and revenues to become a privileged creditor. Although the deal was seen as crucial for helping the DRC achieve development, it was reduced from US\$15 to 7 billion (Lokongo, 2009). However, this geopolitical struggle is not

the only challenge constraining the neo-liberal approach to mining and development in developing countries.

2.3.1.3. Constraints to mining-led economic development in developing countries

In the literature, there are pessimisms as to whether mining will lead to economic development in developing countries. While major western industrial countries managed to industrialize and develop by exploiting their mineral and other natural resources, most developing countries have failed to do so (Sachs and Warner, 1997; World Bank Group, 2002). Theoretically, it makes sense that due to their abundant mineral resources, developing countries will achieve economic growth and reduce poverty. Pegg (2006) however, argues that the evidence to prove such a belief, except under certain circumstances, is very weak in developing countries. Two main factors have constrained their mining potential, including the “natural resource curse” (Sachs and Warner, 1997; Bornhorst et al., 2009) and the so called “multinational economic imperialism” (Dummett, 1985).

2.3.1.3.1. Natural resource curse

The natural resource curse approach suggests that “natural resources have a relatively poor track record” in promoting economic growth and sustainable development (Thomas, 2008:33). Analyzing 39 countries to test the resource curse hypothesis, Papyrakis and Gerlagh (2003) conclude that other economic variables⁷ are more likely to drive high economic growth than natural resources. This happens because most developing economies with abundant natural resources tend to depend heavily on their exploitation (Organization for Economic Cooperation and Development [OECD], 2008). Economic dependence on natural resources is problematic because it is often associated with various impediments to economic growth and to poverty reduction. In the literature, these impediments include but are not limited to commodity price volatility; crowd-out effects; the so-called “Dutch disease” (explained below); weak institution, poor governance, corruption and armed conflicts.

The price of commodities such as minerals is often volatile on the world market for two reasons (Van der Ploeng and Poelhekke, 2009; Frankel, 2010). Firstly, the price is measured in US dollars so that if the dollar depreciates the price of minerals also depreciates. Secondly, in the face of high demand for commodities, producers tend to increase supply by all means.

⁷ For example, high investment ratio, a higher openness index, a lower initial income per capita, a decrease in terms of trade, and high educational standards

This results in tight competition in which developing countries producers' bargaining power is eventually undermined, reducing them to mere "price takers" (Frankel, 2010:4). A reduced commodity price not only means lower revenues and less government spending on social services, but also means disincentive for private or foreign investments. Consequently, the economy slow down if it was heavily dependent on commodity exports.

In addition, volatility in commodity price often leads to what is known as Dutch disease (Bornhorst et al., 2009; Frankel 2010; Papyrakis and Gerlagh, 2003; Sachs and Warner, 1997; 2001). This disease occurs when a temporary commodity export boom occurs. It provides excessive but temporary revenues, influencing the government to overspend and increasing inflation which eventually suffocates other sectors of the economy. Inflation has negative impacts on the economy because it renders everything expensive, undermines the value of money and discourages savings and investments.

Overreliance on commodity exports can therefore "crowd out" other sectors of the economy, such as manufacturing (Brunnschweiler and Bulte, 2006:3). As a result, the country relies on importing manufactured products at higher prices than it receives on its commodity (Papyrakis and Gerlagh, 2003). Strong dependence on natural resources can also crowd out or suffocate human capital. This type of capital refers to "the accumulated values of investment" in people's competence and future through education, training and nutrition (Chang and Hsleh, 2011:394). The exploitation of natural resources is "less high-skill labour intensive and perhaps also less high-quality capital intensive than other industries" so that it confers relatively few external benefits on other industries" (Gylfason, 2001:857). For this reason an economy that depends on natural resource extraction, such as mining, may be less interested in investing in education which is crucial for skilled development. Without education and skills people cannot earn good wages and this has an impact on their saving and investment potential. Schooling according, to Papyrakis and Gerlagh (2003), is a significant channel for economic growth in developing countries.

Furthermore, countries with abundant natural resources have often been associated with weak institutions and poor governance and corruption mainly due to political and personal interests. Papyrakis and Gerlagh (2003:188) argue that in countries with abundant natural resources various "politically powerful interest groups that attempt to influence politicians to adopt policies that may not favour the general public interest emerge". Likewise, Dunning

(2005) argues that governments may misuse natural resources as a strategy to prevent their powers from being challenged by opposition parties.

Natural resources have also been associated with armed conflicts. According to Englebert and Ron (2004:61), natural resources under “acute circumstances of acute political uncertainty” such as failed democracy, are likely to cause rebellions. Studying the economic dimension of conflict in the DRC, Cone (2007:97) argues that “if the existing state does not work for people” conflicts are likely to erupt in countries with rich natural resources, such as the DRC. The DRC is one of the developing countries where mining has been associated with armed conflicts and corruption. Further details on conflicts, poor governance and corruption in the DRC are provided in the Chapter 3. However, while modernization and neo-liberal policies should not be entirely blamed for all the aforementioned impediments to economic growth in relation to mining, they have also been criticized for promoting multinational economic imperialism.

2.3.1.3.2. Multinational economic imperialism

Multinational economic imperialism (MEI) is a phenomenon whereby MNCs from powerful developed nations such as Western Europe and North America have dominated private sector development in developing countries (Dummett, 1985). Lokongo (2009) refers to it as neo-colonialism, in his critic of the IMF and World Bank’s disapproval of the 2007 China-DRC mining contract, as mentioned earlier. According to Dummett (1985), the expansion of MEI was triggered by the demand for minerals during World War II. As mentioned earlier, minerals were used to make war time infrastructure so that both mining and the flow of minerals were controlled by powerful countries to prevent their counterparts from acquiring those strategic resources. Today, neo-liberal policies are regarded as perpetuating the expansion of MEI in developing countries. According to Dansereau (2005), SAPs have removed the state as the principal agent of development in favor of private companies in developing countries. Yet, these companies have been accused of neglecting the communities who are often negatively affected by their mining operations (Hentschel et al., 2003; Lavaus, 2007; Temeng and Abew, 2009).

In this way, the expansion of MNCs has exacerbated poverty in developing countries (Lavaus, 2007). In an account of the socioeconomic and environmental impact of mining liberalization and privatization in India, Sarangi (2004) argues that mining has benefited MNCs while the government of India has become increasingly indebted to the IMF and

World Bank. This has caused many casual (temporary) jobs and tens of thousands of people being displaced from their homes in the 1980's. In a more recent study in Ghana, Temeng and Abew (2009) argue that MNCs ignore the “experiences and challenges of the community, in terms of lack of community participation and funds beyond corporate sponsorship”. As a result these companies fail to promote “sustainable alternative livelihoods in mining affected communities” (Temeng and Abew, 2009:217). This begins to explain why there have been anti MNC reactions from local communities, particularly in developing countries.

2.3.1.4. Anti neo-liberal mining reactions from local communities

There is substantial evidence of the reactions of local communities when their livelihoods are jeopardized in the process of formal mining development by MNCs. Indigenous communities in both developing and developed countries, have reacted differently since the 19th Century (Dansereau, 2005). While some have reacted by protesting in order to resist the negative effects of formal mining, others have sought survival in informal mining. Analyzing the relationship between mining, livelihoods and peasants protests in the Peruvian Andes, Bury (2004) found that peasants organized protests against SAPs-led formal mining because their livelihoods such as agriculture, livestock and water were threatened. Similar events have occurred in the USA where civil society organizations, including NGOs, associations and environmental pressure groups, have strongly protested against private formal mining operations which have been regarded as harmful to and wasteful of resources with negative socioeconomic and environmental impacts (Garrington and Rumpler, 2010; Watkins, 2011). In sub-Saharan Africa, mining reforms have fuelled the expansion of informal mining as people have sought to find alternative livelihoods to coping with the impacts of private mining projects by MNCs. According to Banchirigah (2006: 167), “many of the very people left unemployed by industry privatization both in the large-scale mining industry and other important segments of economies” have sought employment in the informal mining sector. Thus, a new approach to mining and development has focused on livelihoods promotion.

2.3.2. Sustainable Livelihoods Approach (SLA)

This approach has been used since the 1990s by prominent organisations such as the World Bank and the United Nations Development Programme (UNDP) to study the occurrence of livelihood production and changes in communities and households (Bury 2004:79). It was first introduced in 1987 in the Brundtland Report on the World Commission on Environment and Development (WCED). The SLA employs a sustainable livelihood framework (SLF) “to examine a household’s overall environment” and how development processes such as mining

affects “household [or community] level strategies and outcomes in vulnerability context” (Diga, 2007: 9). The SLF has also been used to understand how development policies and processes affect the “survival strategies of the poor people” (Lahiri-Dutt, 2006:13). It is also used to analyze livelihoods and to “build the capacity of people to continuously make a living and improve their quality of life”, while ensuring that there are options, through coping and adaptive mechanisms, for present and future generations to improve their livelihoods (Temeng and Abew, 2009:219).

Recently, the SLA has been used by researchers such as Adjei (2007) and Temeng and Abew (2009) to analyze the impacts of neoliberal-led mining on rural livelihoods in Ghana. Different SLF models have thus been developed and adapted, overtime, to suit the missions and objectives of different organizations (Diga, 2007). For example, the following SLF was designed by the English Department for International Development (DfID):

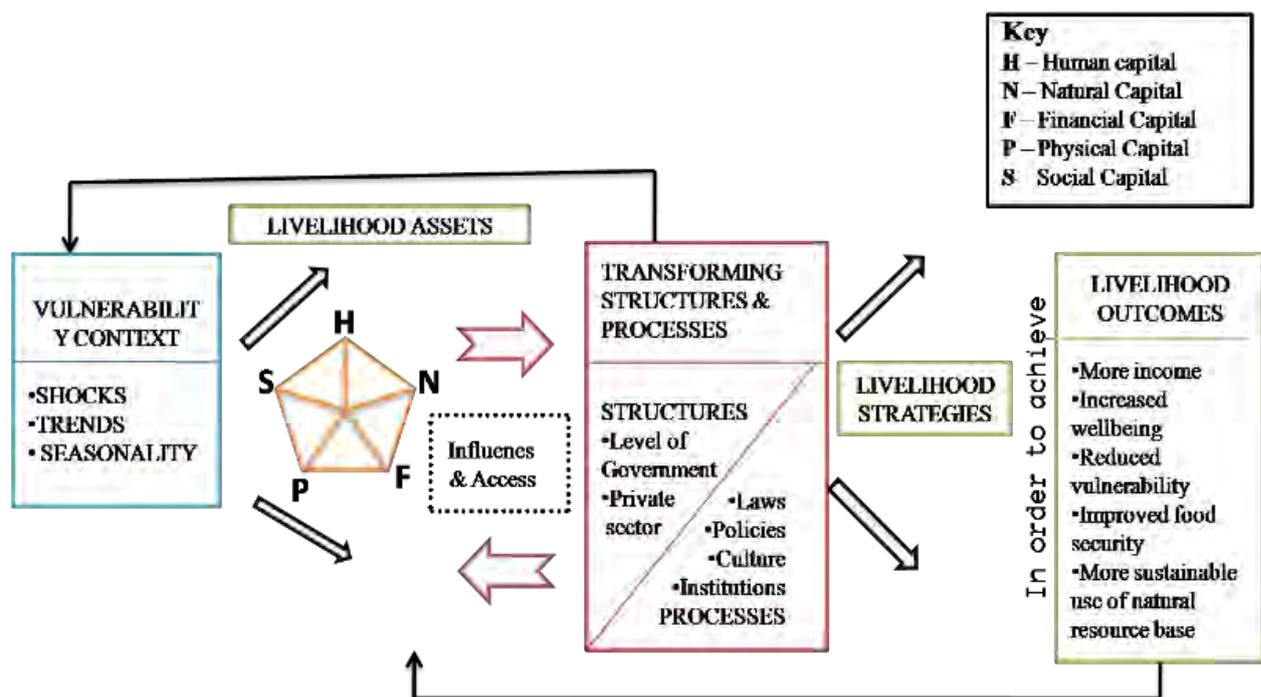


Figure 1: DfID’s Sustainable Livelihood Framework (Source: Diga, 2007).

This framework is a useful tool to analyze the livelihood implications of the suspension of informal mining in the eastern DRC in Twangiza. As Diga (2007) points out, the DfID’s SLF is consistent with the definition of sustainable livelihoods. A livelihood, according Chamber and Conway (1991), is sustainable if it is resilient enough to: 1) cope with and recover from stress and shocks, 2) maintain and enhance its capabilities and assets, 3) provide lasting

livelihood opportunities for the next generation, and 4) contribute net benefits to other livelihoods at both the household (micro) and community (macro) levels, in both the short and long terms.

In addition, the use of DfID’s SLF in this study, helps to understand how livelihoods are produced by households in Twangiza. Figure 1 above show that households’ livelihoods production depends on five factors, including their vulnerability context; livelihood assets; transforming structures and processes; livelihoods strategies; and livelihood outcomes.

The vulnerability context of a household or community is determined by a range of external shocks such as political, environmental and economic issues affecting their livelihoods and therefore causing poor households to become poorer and those that are not poor to become poor (World Bank, 2001; Osmani, 2003). In the case of Twangiza, the SLF helps to consider the challenges that shape household decisions in choosing informal mining over other livelihoods activities.

Livelihood assets refer to resources or capitals that can be acquired, developed, improved and passed to future generations, and which can help generate flows, consumption and additional assets (Diga, 2007). The nature and types of livelihood assets are briefly described in the following table:

Table 2: Livelihood Assets (*Source: compiled from Diga, 2007 and Duncombe, 2007*)

Nature and type of Assets		Description of Assets
Intangible Assets	Human capital	Includes: Human capabilities ⁸ such as labour skills, education levels, indigenous knowledge and health.
	Social Capital	Includes: Social organisations in terms of political parties, NGOs, legal claim, moral obligations and trust, cultural values and norms, etc.
Tangible Assets	Natural Capital	Includes: Natural resources, land, plant and animals, and surface and ground water.
	Physical Capital	Includes: Social infrastructures such as housing, roads, water and electricity installations as well as durable goods such a vehicle, cell phone set, etc.
	Financial Capital	Includes: assets such as income generation, loans, savings, and remittances, etc.

⁸ Capability refers to the ability of people to lead the kind of life they desire (Osmani, 2003)

The SLF, with reference to Figure 1 and Table 2 above, acknowledges that poor households, especially in rural communities, tend to rely more on a diversified livelihood strategy, based on a portfolio (different types) of assets rather than income or money alone (Datta and Iqbal, 2003 and Duncombe, 2007). This therefore suggests that development processes, such as the suspension of informal mining in the eastern DRC, that compromise the ability of households or individuals to acquire and accumulate assets can worsen their living conditions. Basically, it is an asset-based approach to poverty which “emphasizes the importance of individuals acquiring and accumulating assets of various sorts” as a means to promote economic and social development (Gamble and Prabhakar (2005:4). Measuring poverty through assets, according to Diga (2007:12), “can better explain how and why certain families move in and out of asset poverty over time”.

Transforming structures and processes refer to external factors to households, such as public and private institutions, cultural and policy interventions which can positively or negatively affect households in a vulnerability context (Adgei, 2007). In the Twangiza case, this approach provides insights into external factors, including international, national and local influences that are connected to the suspension of informal mining in the eastern DRC and how they affect livelihood assets in the area.

In addition, livelihood strategies and outcomes refer to household activities or coping mechanisms to the impacts of transforming structures and development processes (Diga, 2007). This approach provides a framework to analyze livelihood activities in Twangiza and how they have been affected by the suspension of informal mining, as a development process, considering other socio-economic challenges or external shocks affecting the area.

2.3.2.1. Mining, livelihoods and poverty: a sustainable livelihoods perspective

The issue of maintaining sustainable livelihoods has been a growing concern in local communities affected by mining, particularly in developing countries. Whereas neo-liberal theory emphasizes economic growth through private investment in mining, the SLA argues for the development of sustainable livelihoods in poor communities that are often directly affected by mining activities as a strategy to fight poverty. There is strong evidence that mining, whether formal or informal, is often associated with both livelihoods opportunities and threats.

2.3.2.1.1. Formal mining and livelihoods

Formal mining has been associated with a number of livelihood benefits, despite evidence of its negative impacts in many countries. These benefits include but are not limited to, employment and income generation through the promotion of various alternative livelihoods and market expansion for farm produce, contribution to education and land compensations.

Formal mining as advocated by modernization and neo-liberal theories has been regarded as an opportunity to create much needed employment (Dummett, 1985; Adjei, 2007). In Ghana for example, the expansion of formal mining led to 15000 jobs being created by 2003 (Banchirighan, 2006). In addition, formal mining has enabled local communities to generate income by engaging in various alternative livelihoods (Adjei, 2007). A good example of this is in Ghana, when farmlands were taken over by mines, private mining companies provided compensation which enabled the affected farmers to engage in alternative livelihood activities (Adjei, 2007:69). These activities included training in soap making, livestock production and palm oil extraction. As a result, the community obtained a variety of farming products, including crops such as cassava (Adjei 2007). Other affected farmers were given micro credits along with financial management training (Adjei, 2007). Moreover, formal mining allowed for market expansion for farm produce which also led to income generation. According to Adjei (2007: 56), formal mining attracted many people into the affected community, so that there was “increase in market size” which in turn allowed farmers to increase their income from “sale of farm produce”. This is confirmed in Temeng and Abew’s (2009) review of alternative livelihood projects by formal mining in Ghana. They found that formal mining led to cultural dilution and migrant inflow which “positively impacted on trading and other commercial activities” (Temeng and Abew, 2009:222). Furthermore, in Ghana, formal mining provided support for local education facilities and fair compensation levels for crops, farmlands and houses which enabled them to embark on alternative livelihood activities such as those mentioned earlier (Temeng and Abew, 2009).

However, the extent to which these alternative livelihoods have helped improve the lives of the mining-affected communities remains a critical issue. According to Adjei (2007:74) the extent to which formal mining leads to alternative livelihood benefits in Ghana depends on “the community and the mining company’s programs mapped out for the affected farmers”. Temeng and Abew (2009:217) argue that “the various economic activities that spin off from mining operations are not robust and diversified enough to sustain the lives of people after

closure [of mines]”, hence the long term benefits and costs of formal mining also need to be assessed.

Despite its perceived benefits, formal mining has threatened poor people’s lives in many places. During its operations, formal mining has often compromised the asset base of local livelihoods in terms of natural capital, including grazing and farming land as well as water while providing fewer jobs. According to Adjei (2007:67) neoliberal driven “expansion of land concessions” to MNCs in Ghana, threatened livelihoods in rural communities. The affected livelihood activities included farming because not only were farmlands “taken over by mines”, but also mining resulted in “chemical pollution of soils” (Adjei 2007:69). As a result, there was not only high rent and unfavourable land tenure due to a shortage of farming land, but also a “reduction in farming activities and low food production”, which led to high living costs (Adjei, 2007:69). Similar trends were found by Bury (2004) in the Peruvian Andes where the adoption of SAPs in the mining sector, which gave incentives to MNCs in the 1990s, resulted in the alteration of natural resources such as water quality and supply, land tenure and grazing areas. This in turn compromised natural capital based livelihoods production such as agricultural and livestock, accompanied by several ecological problems. In addition, formal mining has often failed to compensate for the jobs that are shed in the process of its development. Banchirighan (2006:167) found that under SAP reforms, only 45000 jobs were created in the mining sector in Ghana to address the 80000 jobs that were lost on the Cocoa industry due to mining reform, in Tanzania in 1986 more than 50.000 civil servants were retrenched as a result of mining reform policies (Banchirighan, 2006:167).

In addition, after mining closure formal mining tended to undermine the very alternative livelihoods it had provided. In Ghana for example, the closure of mines threatened major alternative livelihood activities reducing them by about 50% (Temeng and Abew, 2009). What happened is that after the mines closed farmland which had been lost to formal mining could not be recovered and there was drop in demand for trading activities people had been involved in. Individuals, therefore, became idle and did not wish to return to informal mining (Temeng and Abew, 2009). This evidence of the negative impacts of formal mining on livelihoods is supported by scholars such as Lavaus (2007) who has argued that the expansion of multilateral companies has exacerbated poverty in developing countries.

2.3.2.1.2. Informal mining and livelihoods

Informal mining has been an important and expanding feature of mining in many developing countries, where a significant relationship between informal mining and livelihoods exists. Despite its negative impacts, informal mining has been regarded as an important livelihoods-driven activity by impoverished communities in most mineral resource-rich countries (Bury 2004; Hentschelet al., 2003; Temeng and Abew, 2009).

According to Hentschel et al. (2003:25) informal mining “is often poverty driven and located in rural areas, [where] miners are generally unskilled and earn little, [and] individuals may be involved in a number of different types of activity”. A study on the impacts of small-scale mining in six SADC countries by Dreschler (2002) reveals that over a decade ago millions of people (of whom more than 20% are women) were directly depending on informal mining for livelihoods. In Ghana, informal mining was the major economic activity undertaken by over 70% of their respondents (Temeng and Abew, 2009).

The expansion of informal mining in developing countries is due to two main reasons. Firstly, it is rooted in the challenges farmers face in agriculture – the main livelihood activity, especially in most African rural communities. In the Tanzanian district of Geita for example, people have been involved in informal mining either because of poor crop harvests due to bad weather conditions or because they want to supplement household income at the end of the “agricultural season” (Kitula, 2005: 407). Secondly, the expansion of informal mining has come in response to the negative effects of neo-liberal driven formal mining on livelihoods (Banchirigah, 2006). As mentioned earlier, neo-liberal driven mining which is seen as a way to achieve economic growth and reduce poverty – has often benefited MNCs and a few national elites while providing only very limited opportunities to the poor surrounding the mines. It also disrupts the asset base (capital) of their livelihood activities, forcing them to engage in informal mining activities.

Looking at its positive impacts, informal mining has provided livelihood benefits including employment, income generation, and social and cultural opportunities (Banchirigah, 2006; Hentschelet al., 2003; Temeng and Abew, 2009). In 1999 the International Labour Organization (ILO) estimated that informal mining directly employed between 11.5 and 13 million people in Africa, Asia and Latin-American (Banchirigah, 2006:165). In respect of this Hentschelet al. (2003:5) argues that informal mining has become “at least as important as formal mining considering the numbers of people employed. In terms of their analysis of

alternative livelihoods projects (ALPs) in mining communities in Ghana Temeng and Abew (2009:222) found that informal mining was the activity that had most positive impacts on people's lives as it allowed for the "improvement of local income levels, affordability of education for their dependents, [and] increase in building and renovating houses".

However, informal mining can also negatively impact on the lives of the poor. Hentschel et al. (2003:25) argue that informal mining "is perhaps better known for its high environmental costs and poor health and safety record". In Sierra-Leone, Maconachie and Binns (2007:378) found that long-term informal or artisanal mining has led to a loss of vegetation, top soil and fertile farming land (Maconachie and Binns, 2007). In addition, Banchirigah (2006) mentions that informal mining is associated with prostitution and HIV/AIDS without elaborating on how these social challenges happen in relation to informal mining which is often regarded as a "dirty, unprofitable and fundamentally unsustainable" activity (Hentschel et al. 2003:25).

Many development practitioners have, hence, questioned the potential of the informal mining sector to help achieve sustainable development (Hentschel et al., 2003). In a counter argument, Hentschel et al. (2003:25) argue that since most of the people involved in informal mining are poor and "mining represents the most promising, if not the only income opportunity available", the question "whether or not the informal mining sector is a net contributor to sustainable development" needs further investigation. But "the fact remains that small-scale and artisanal mining activities will continue for at least as long as poverty makes them necessary" (Hentschel et al., 2003:25). They finally contend that informal mining "can play a crucial role in poverty alleviation and rural development". However, further research is required to provide an insight into how the benefits of informal mining can be maximized and its treats minimized.

2.4. Conclusion

This chapter has presented a broad review of the literature on the relationship between mining, poverty and development, particularly in developing countries. The debated has been influenced by two different approaches. On the one hand modernization and neo-liberal theories argue that formal mining will lead to poverty reduction through economic growth if friendly policies to attract private and foreign investment in mining are promoted. In contrast, the sustainable livelihood approach argues that mining should be used to promote and support local livelihood strategies. Neo-liberal theories have been accused of disrupting local livelihoods, therefore exacerbating, instead of reducing poverty in developing countries.

Local communities have often resisted the impacts of neoliberal driven mining practices. Informal mining has often been adopted by poor communities as a strategy to cope with those impacts. However, it has also been associated with negative environmental and socio-economic impacts. The extent to which the coping strategies adopted by poor communities, in response to neo-liberal driven mining development, have helped reduce poverty requires further investigation. This study focuses on the causes of the suspension of informal mining, and its impacts on rural livelihoods in the eastern DRC's Twangiza mining area.

CHAPTER 3: BACKGROUND TO THE RESEARCH AREA

3.1. Introduction

The research for this study was conducted in Twangiza, a rural mining area situated in the eastern DRC. This chapter provides a holistic description of the background, including the geographic (natural), political, demographic, socio-economic and historical aspects shaping the relationship between mining and development in the DRC and in Twangiza in particular. A context analysis is important in providing an informed and objective analysis of the suspension of informal mining in the DRC. The Country is described as wealthy poor country, which despite being endowed of amazing natural resources and has suffered persistent political and socio-economic instabilities. This chapter is presented in three major sections, including the description of the DRC, history and politics of mining in the DRC and the description of the Twangiza mining area.

3.2. Description of the DRC

3.2.1. Geographic and political context

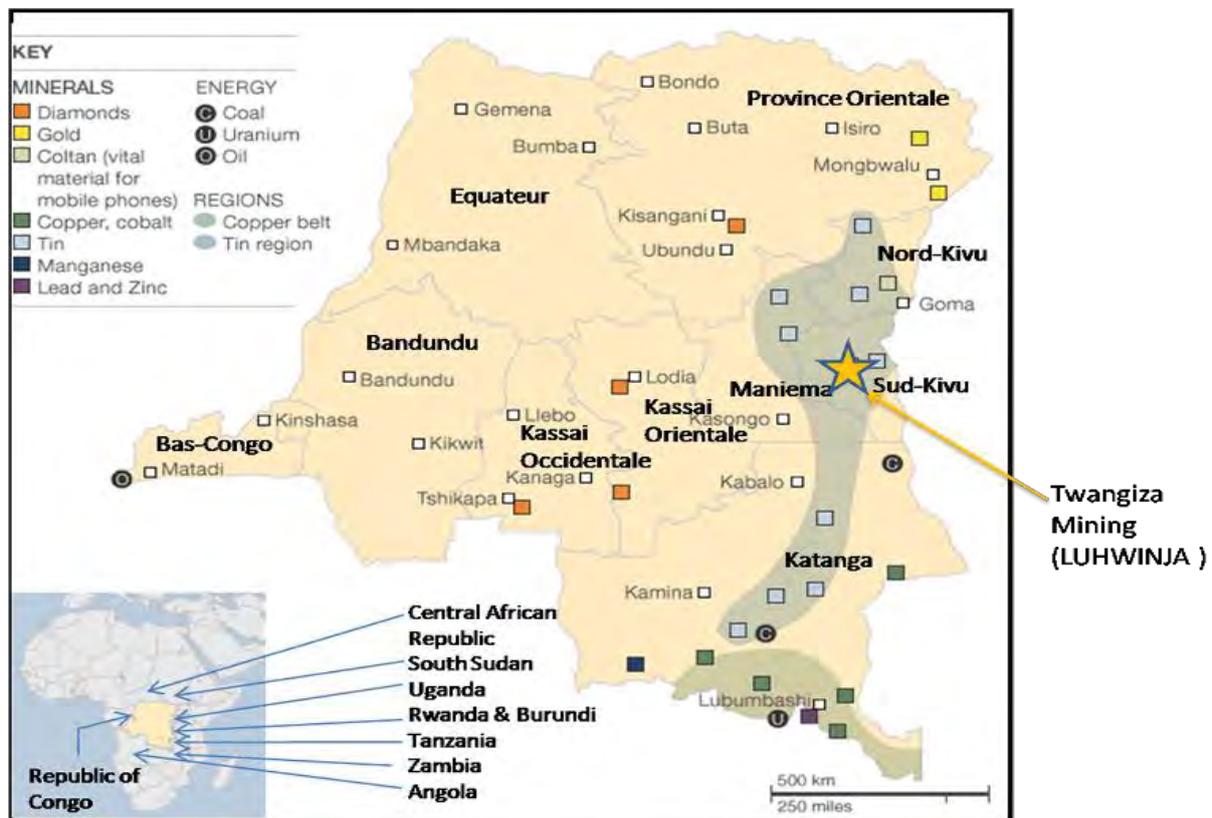


Figure 2: DRC Map with some of the countries mining areas, including Twangiza (Source: Adapted: <http://www.google.co.za/imgres?q=DRC+map+minerals> [Accessed: July 2, 2012]).

From a geographic perspective, the DRC (see Figure 2 above) is situated in central Africa. It is endowed with abundant natural resources, but has been affected by persistent political instabilities. The DRC has 2.345.000 square kilometers (sq. km) of land mass, making it the 12th largest country in the world and second in Africa. The country is comprised of eleven provinces, including its capital city, Kinshasa, which is situated in the western part, near the Atlantic Ocean. Stretched along 40 km of this ocean's coastline, the DRC is also open to the Gulf of Guinea due to its approximately 9 km-wide mouth of the Congo River (Zihindula, 2010), which shows that the country is unlocked to the external world.

The DRC boasts a significant share of global mineral reserves as it is estimated to have 80% of global columbite-tantalite (coltan), 49% of cobalt and 10% of copper (Armstrong, 2007:1). This, in addition to its mostly unexploited reserves of diamonds, gold, cadmium, silver, zinc, manganese, tin, uranium, germanium, bauxite, iron ore and coal and many more unexploited minerals (Armstrong, 2007:1; De Koning, 2008:10). In addition, according to the Financial Standards Foundation [FSF] (2009), the DRC has the world's second largest forest, after the Amazon in Brazil. Moreover, the UN estimate for 2010 shows that while arable land accounts for 2.9%, the forest coverage accounts for 58.9% of the DRC's total land area, and only 0.5% of the total arable land is presently cultivated (FSF, 2009). This shows that the country has a significant potential for both mineral and agricultural productions.

From a political perspective, the DRC is a former Belgian colony and has been experiencing political instability since accession to independence spearheaded by the country's first Prime Minister Patrice Lumumba in June 30, 1960 (FSF, 2009). Since then the DRC has gone through a series of political instabilities, beginning with the late President Mobutu's 32 year autocratic regime shortly after Lumumba was assassinated. The situation has not improved although Mobutu's regime was defeated in 1997 by the late President Laurent Kabila and his Rwandan and Ugandan allies following a war that started in the eastern DRC in 1996. In 2001 Kabila was assassinated and his son Joseph Kabila succeeded him as president.

The eastern part of the DRC is mainly comprised of four provinces, including the Province Oriental, Maniema, Nord-Kivu and Sud-Kivu, which were affected by the government's decision to suspend informal mining activities. As Figure 3 shows, the Twangiza mining area, where this research was conducted, is situated in the Sud-Kivu province.

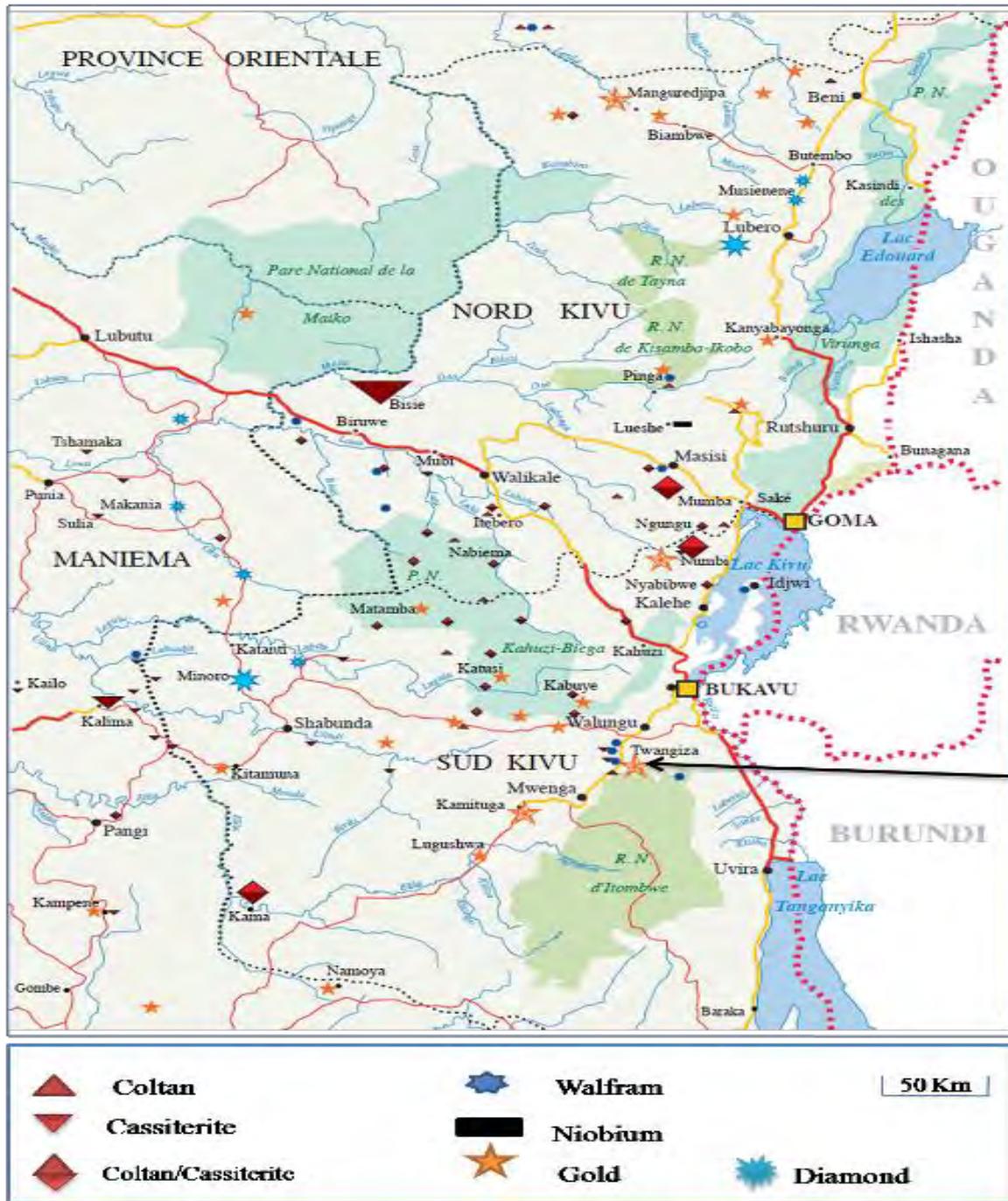


Figure 3: Mining map of the eastern provinces of the DRC (Source: adapted from the *International Alert*, 2009)

Figure 3 shows the four provinces of the eastern DRC, including the distribution of minerals and mining across the provinces. These provinces and their mining activities have been associated with the so-called “conflict minerals” (BSR, 2010:10). Two major wars started in the eastern DRC, including the first rebellion led by late President Laurent Kabila who was supported by foreign armies, mainly from Rwanda and Uganda, against late President Mobutu’s 32 year dictatorship in 1996. The second war in 1998 involved a new rebellion that

was supported by Kabila's former foreign allies against him (Mazalto, 2008). The presence of these foreign armies has partly contributed to the rise of several localized armed groups, known as Mai-Mai. The combination of these armed forces has in turn resulted in high levels of looting, murder and rape (Global Witness, 2010). While more than 5.4 million people have died since 1996 (BSR, 2010:1), 8300 females were raped in 2009 with 5000 raped in the province of Sud-Kivu alone (British Broad Cast [BBC], 2010). Many sources, including the Global Witness (2010), the Group for Research and Information on Peace and Security [GRIP] (2003) and Johnson (2009) indicate that these crimes have been perpetuated by mining activities used to fund both local and foreign militias in the eastern DRC. Armed conflicts, in this part of the country, have persisted despite the only two national democratic elections, in 2006 and 2011, since independence, which were expected to end the impasse. Both elections have retained President Joseph Kabila in power and have been widely criticized for their lack of transparency, freedom of expression and fairness. It has therefore been a huge challenge to address the political and socio-economic problems of the DRC, as weak governance and social insecurity remain some of the constraints to progress in the country (African Development Bank [ADB], 2009).

3.2.2. Demographic context

The DRC has a large, growing and predominantly young population. The population has recently been estimated at more than 70 million people (FSF, 2009:13; PAM, 2011:7) compared to about 50 million a decade ago, notwithstanding the estimated more than 5.4 million people that have been killed over the past 15 years, as a result of conflicts involving both local and foreign armies and militia, allegedly financed and perpetuated by the country's minerals (BSR, 2010:1).

According to the UN estimate for 2010-2015, the DRC has an annual population growth rate of 2.65% (FSF, 2009:1). This growth rate is due to a birth rate of 42.6 per 1000 compared to a death rate of 11.6 per 1000. The DRC's fertility rate has been estimated at 6.2 children per female (FSF, 2009:1). The median age of this population in the UN's 2010 estimate was 16.4 years, with 46.7% of the population being less than 15 years old, 21.9% is between 25 and 44 years and only 2.5% is approximately 65 years old (FSF, 2009:1). The majority of this population (over 65%) lives in rural areas with only an estimated 35.2% living in urban areas (FSF, 2009:1). This demographic feature is very interesting in the context of this research, because informal mining activities, in Africa, particularly in the DRC, are predominantly conducted in rural areas (Hentschel et al., 2003).

The number of people registered in primary and high schools, in the DRC, increased from “12 million in 2006/07 to 13 million in 2007/08”, due to initiatives by parents and religious organizations to provide school fees and other education infrastructures, which the government has failed to do for over two decades⁹ (IMF, 2010:8).

3.2.3. Social and economic context

In spite of valuable mineral riches, the DRC has been affected by alarming levels of poverty. The value of country’s mineral riches is estimated at \$24 trillion dollars, yet it ranks last, out of 187 countries on the U.N. Human Development Index for 2011 (Stearns, 2011). Likewise, the World Food Program’s (WFP) 2011 Annual Report, shows that, although the DRC is potentially one of the world’s richest countries and could export its products, including agricultural products to needy nations, it remains one of the poorest countries in the world (PAM, 2011). The current socio-economic situation, in the DRC, is now considered extremely alarming, as more than 70% of the population lives under the international line of poverty line of \$2 a day (FSF, 2009:13; PAM, 2011:7). While the rate of this poverty is higher in rural (67%) than urban areas (61%), female headed households are more affected than male headed households (IMF, 2010).

Associated with poverty in the DRC, is malnutrition due to food shortage and lack of access to clean water and slow economic growth. In the 2009 Global Hunger Index the DRC ranks last out of 84 countries (FSF, 2009). Of the estimated 70 million people in the DRC, 4.5 millions are in the phase of high nutrition crisis and 70% of the population “is considered undernourished (FSF, 2009:13; PAM, 2011:7); and one out of four children is malnourished in the DRC (PAM, 2011:7). The eastern part of the DRC has been the most negatively affected, although, in the past, it was regarded as one of the major food producers in the country. Food production in this part of the DRC has been undermined by “repeated looting of crops by armed groups” and persistent instability (FSF, 2009:13). Kinshasa, the capital city, has also been affected with what is locally known as "alimentary load-shedding", whereby many people can only afford to eat one meal a day out of every two days (PAM, 2011:7).

In the DRC, only 46% of the population has access to clean water, 31% have access to “improved sanitation facilities” (FSF, 2009:13). As a result “the probability of dying between

⁹ Since early 1990 school teachers have not been paid by the state; have been depending on stipends paid by parents, on a monthly basis, in order for their children to study.

the ages of 15 and 60” has risen to 41.7% (FSF, 2009:13). Consequently, in 2010, life expectancy in the DRC was projected at 54.7 years (FSF, 2009:13). The causes of the DRC’s alarming poverty, among others, include conflicts, less demand for agricultural products, poor infrastructure, falling employment wage, malnutrition and diseases (IMF, 2010). Agriculture, education, health and rural development have been adopted as priority sectors in the government’s attempt to fight poverty in the DRC (IMF, 2010). Development processes, such as mining, that compromise these priority sectors can increase poverty in the DRC.

Poor socio-economic conditions, in the DRC, are connected with slow economic growth. While the country’s “per capita income and human development indicators remain amongst the lowest in Africa” (IMF, 2010:6), its Gross Domestic Product (GDP) per capita collapsed from US\$380 in 1960 to US\$150 in 2008 (ADB, 2009:3). Despite earlier improvement in DRC’s real GDP, which had increased by 6.1% in 2008, it fell by 2.7% in 2009, partly due to the 2008 global financial crisis affecting the country’s mineral exports (IMF, 2010). The economy of the DRC is largely based on the exploitation of natural resources. In 2008, exports for minerals, generally produced by informal miners, accounted for 8.5% of GDP (ADB, 2008:1).

3.3. History and politics of mining in the DRC

The DRC’s mining sector has experienced a troubled long history, associated with colonial exploitation, shifts between formal and informal mining due to bad governance, geopolitical influences and internal political and social instabilities.

Mining, in the DRC, dates back to more than a century ago. The first mining policies were adopted in the early moment of the Belgium colony, in 1888 and 1893 (Kubokoso, 2012). However, gold was only discovered in 1903 in the eastern part of the country in the area that was later named as Kilo-Moto (International Alert, 2009). In 1920 and 1930, some of the first mining companies, such SOKIMO (Société Minière de Kilo-Moto), MGL (Minière des Grands Lacs), Symetain and Cobelmin, began exploiting gold and tin in the eastern DRC (International Alert, 2009). During this era, mining company profits were obtained by using by cheap labor and exploiting local people (International Alert, 2009). Gold mining was the main source of employment and the mining sector generally played an important socio-economic role in terms of infrastructure development, including transport, health and education (International Alert, 2009).

After independence in 1960, the DRC's mining sector was affected by two factors, including the depreciation of minerals, especially tin, on the world market, bad governance and corruption (International Alert, 2009:15). Formal mining was replaced by informal mining, following the adoption of nationalization policies, which eventually weakened the national economy (International Alert, 2009; Vlassenroot and Raeymaekers, 2004).

3.3.1. Emergence of informal mining in the DRC

Informal mining activities have dominated the DRC's mining sector, but the exact period of its beginning is unclear. However, bad governance (policies) and poverty have been the main causes for the expansion of informal mining to become an important economic activity in the country.

During the colonial era, informal mining was practiced on a very small scale basis because it was illegal and minerals had to be sold fraudulently (Kubokoso, 2012, International Alert, 2009). After independence, the DRC's mining sector experienced several reforms, following the ascension of late President Mobutu into power in 1965. Colonial mining policies were abrogated in 1966 and the first national Mining Code was adopted in 1967 (Kubokoso, 2012). The right to acquire a mining permit and to conduct either formal or informal mining activities was afforded everyone (Kubokoso, 2012). However, in November 5, 1982 the legal provision for informal mining permits was abolished and the informal mining sector was liberalized (Kubokoso, 2012; International Alert, 2009). This followed the adoption of nationalization policies by the Mobutu regime in 1974 (International Alert, 2009; Vlassenroot and Raeymaekers, 2004). This reform was in line with the Constitution's Article 15, "Débrouillez-vous", literally translated as "fend for yourselves", and which meant that citizens were no longer supposed expect the government to provide basic services and that they should rather use personal abilities to exploit their country's natural resources. This according to De Koning (2008) was a political strategy by the late President Mobutu to gain popularity in his authoritarian rule (De Koning 2008). Formal mining was therefore progressively replaced by informal mining. Formal mining companies, established during the colonial era, were reduced to semi-public companies and both their mining concessions and assets were dispossessed (De Koning, 2008). Consequently, the country's socio-economic conditions progressively moved from prosperity, in 1972, to the current instabilities (Mazalto, 2008). This began with an economic crisis in the 1980s which in turn not only put further stain on formal investment in the DRC, but also influenced many people to seek livelihoods in the informal mining sector (International Alert, 2009).

“With the decrease of the formal mining sector, an “artisanal” (or informal) sector started to develop, and gold (and other minerals) exploited by individual miners (“creuseurs”) was being commercialized by “comptoir” in the urban centers” (Vlassenroot and Raeymaekers, 2004:127).

Since then, informal mining became increasingly associated with significant economic opportunities leading not only to the emergence of “a new class of people” whose livelihoods depended on informal mining, but also to the expansion of an open market for unlicensed trading (smuggling) of minerals from the eastern DRC to neighboring countries (Vlassenroot and Raeymaekers, 2004:127).

“The informal local economy of gold digging and smuggling allowed many young people [...] to gain better living in the mineral-rich areas of the region. A number of youngsters reinvested their income and started to develop a migrant commerce between these mining areas” (Vlassenroot and Raeymaekers, 2004:127).

However, while informal mining has provided “an economic alternative to parts of the rural population”, the migration of young people compromised local agricultural production (Vlassenroot and Raeymaekers, 2004:127). Informal mining, therefore, has been an important part of the DRC’s local and national economies. According to International Alert (2009:16), 16% of the DRC population depends on informal mining for its livelihoods. Armstrong (2007) estimates that in the DRC’s eastern provinces of Sud-Kivu, Nord-Kivu and Maniema alone, 400000 informal miners depend on coltan, cassiterite and gold mining. Informal miners, according to recent statistics from World Bank and International Development Association (IDA), have been responsible for 90% of the total DRC mining production and exports (International Alert, 2009:16). This highlights the significance of informal mining activities in the DRC and it should therefore be handled carefully.

3.3.2. SAPs reforms and the DRC mining sector in the 1980s–1990s

In the early 1980s the DRC (then Zaire) embarked on IMF and World Bank’s Structural Adjustment Reforms (SAPs) (Mazalto, 2008). The aim of these SAPs was to reform the economy, particularly the mining sector, to improve governance and transparency, through market liberalization and privatization, and to achieve economic growth and development for the DRC to settle its debts (Mazalto, 2008). Thus, under the influence of the World Bank the state was forced to privatize some public companies in mining, including informal mining concessions (Mazalto, 2008). However, in the mid-1980s these reforms had stalled because

the state has failed to implement all the requirements of the reforms (Mazalto, 2008). Yet, by the end of 1980 the World Bank and IMF encouraged new reforms which were also unsuccessful due to two main events: 1) hyperinflation and mismanagement of the DRC state finances by the authoritarian government of Mobutu, and 2) the fall of the Berlin Wall which had negative impacts on the price of minerals on the world market (Mazalto, 2008). This resulted in the deterioration of socio-economic conditions in DRC because, as mentioned earlier, the country depends highly on commodity exports.

In the 1990s the World Bank and IMF had to refocus on development in the DRC, to design new SAPs to solve the country's development problems by ensuring less state involvement and greater privatization in all sectors of the economy, including mining (Mazalto, 2008). These new reform initiatives, however, were soon disrupted by two successive wars in 1996 and 1998, which were both launched in the eastern DRC. The failure of these preceding reforms in the mining sector meant that the DRC's mining sector remained predominantly informal and was marred by lack of governance (state control) and corruption. Consequently, the country's mining sector has been easy to exploit so it has not only been used for regime change but also to perpetuate conflicts in the eastern DRC.

3.3.3. Conflict minerals and the DRC mining sector

The DRC's mining sector has been strongly associated with social and political instabilities. In the eastern part of the country especially, informal mining has been regarded as a strategic economic activity funding both local and foreign armed groups since 1996 when the forces of late President Laurent Kabila, in partnership with his foreign allies, battled and ended a 32 year authoritarian rule by former President Mobutu (International Alert, 2009). According to Mazalto (2008) the aim of foreign armies was to take control of the DRC's mining sector.

A UN investigation conducted in 2001 by a group of experts, commissioned by the Security Council into illegal exploitation and looting of natural resources in the DRC, found that during the 1998 and 2001 wars, foreign countries¹⁰ including both Kabila's and his opponents' allies, were involved in looting the country's minerals (GRIP, 2003). The report emphasizes that by the end of the war, armed groups from these countries had changed their looting tactics and established an "economics of war" resulting in the perpetuation of micro-conflicts (GRIP, 2003). Foreign armed groups trained various militia groups in order to

¹⁰Former President Laurent Kabila allies Angola, including Namibia and Zimbabwe who came to fight against his former allies (in 1996), turned opponents (in 1998), including Rwanda and Uganda.

safeguard their interests after they themselves would have withdrawn from the country. They exchanged weapons and finances for minerals obtained through massive human right violations, hence referred to as “conflict minerals” (Global witness, 2010). In addition, the report stresses that there have been established networks of elites, including state ministers and director generals of different economic divisions in the former DRC government, who have facilitated the looting of the country’s mineral by foreign groups, for personal interests.

Even MNCs, according to the report by the UN Security Council’s group of experts, obtained mining licenses to exploit some of the richest mineral concessions in the DRC by providing financial incentives to top state officials. MNCs, including a Canadian copper mining firm and the American Mineral Fields, funded Laurent Kabila’s rebellion movement by paying cash deposit for mining contracts as he progressed in the war to become President of the DRC (Reno, 1998). While formal mining has contributed to conflicts in the DRC, informal mining has also contributed to the conflict by funding armed groups. In 2008 alone, informal gold mining, which has accounted for 95% of gold production in the country, contributed an estimated US \$50 million to fund armed groups, and therefore perpetuating conflicts and human rights abuse, particularly in the eastern DRC (BSR, 2010).

3.3.4. International concerns with conflict mineral in the DRC

The challenge of conflict minerals in the DRC has raised global concerns with various actors, including multilateral organizations, governments, and international and local civil society NGOs. The UN has conducted rounds of investigations on the relationship between mining and conflicts in the DRC. In a report by a group of experts that was commissioned by the UN Security Council to investigate corruption and looting of natural resources in the DRC in 2005 and 2006, it was proposed that sanctions be imposed on the country’s mining sector be in terms of its laws. The Secretary General of the UN, however, has been cautious that the decision could negatively impact on informal miners livelihoods, while they are not the “key players in the war economy”. He argued that banning informal mining would do “little to reduce the use of force in extracting minerals”, to reduce fraud and to “encourage responsible corporate behavior” (De Koning, 2008:14). Although there seems to be a lack of consensus on how to solve the “conflict minerals” problem, a supply chain framework (Figure 4, next page) to monitor mining and to insure a transparent trade of minerals from the eastern DRC has been proposed as a possible solution (BSR, 2010:10).

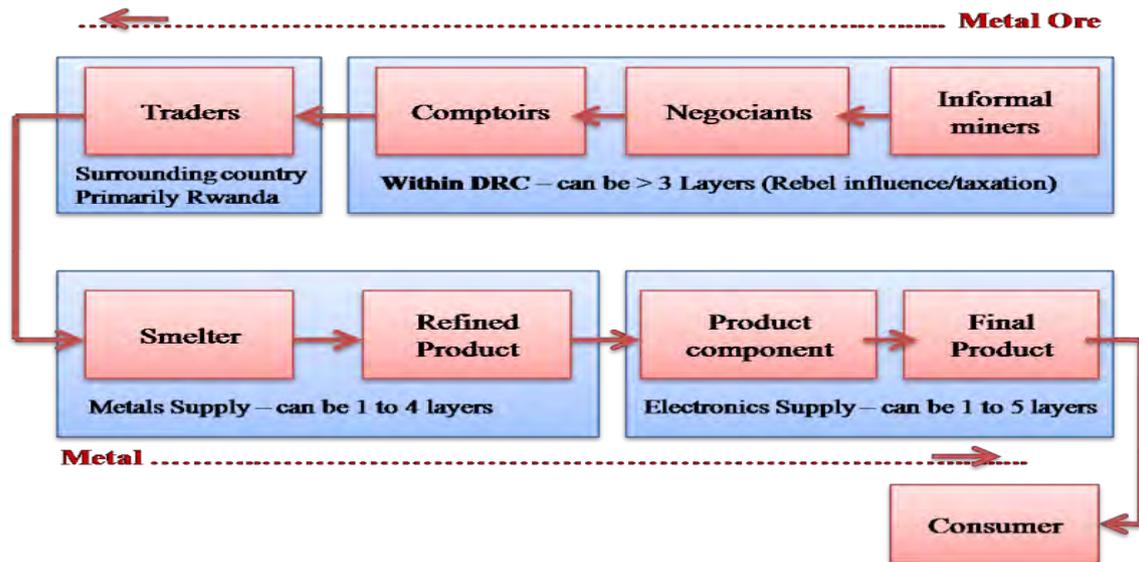


Figure 4: Supply chain of minerals from the DRC (*Source: BSR, 2010*).

This figure depicts a supply chain of informal mining products from the eastern DRC. The arrow, from the top to the bottom parts of the figure, shows that metal ores, produced in informal mines, are sold to Negotiants¹¹ (mineral entrepreneurs) who are owners or employees of local mineral buyer agencies, known as Comptoirs. These are often affiliated to major international mineral buyer networks, including mineral traders in DRC's neighboring countries, such as Rwanda and Uganda, who are connected to global marketplaces such as metal suppliers (Mazalto, 2008:56). The supply chain continues up until mineral reach major electronic suppliers where mineral products end up making consumable products such as cell phones, iPods, computer gadgets, etc. In 2008, according to BSR (2010:10), of 5122 kg of gold exported from the DRC, only 122 kg passed through legal channels as most of the gold was sold illegally (see Figure 4). The promotion of transparency in the supply chain of minerals from the eastern DRC has been proposed as one of the strategies to prevent the perpetuation of conflicts in the country.

A more radical approach to the problem of conflict minerals, however, has been to impose an economic embargo on companies involved in illegal mineral exports from the DRC (BSR, 2010:10). In 2010, the US Financial Reform Bill was amended by President Barack Obama's administration, with one of the changes being to impose an economic embargo on companies sourcing minerals from the eastern DRC and its neighboring countries (Kelly, 2010). Under

¹¹Negotiants (mineral buyers) often loan capital (tools) to informal miners to monopolize the supply of minerals and receive repayment from mineral revenues.

this law, US companies are required to certify that their minerals supplies do not come from conflict zones of the DRC (ITRI, 2010).

However, the US legal approach to conflict minerals in the DRC has been criticized for being unrealistic for two major reasons. On the one hand, electronic companies, globally, have limited options for the supply of rare minerals (Kelly, 2010). On the other hand, the approach is incoherent with local realities and legislations (Pole Institute, 2010). The participation of local actors and stakeholders has been, therefore, suggested as the way to find a sustainable solution to the DRC's mining challenges (Pole Institute, 2010).

3.3.5. New SAPs and the DRC's 2002 Mining Code

Neo-liberal reforms have been, perhaps, perceived one of the best approaches to address the challenges associated with mining in the DRC. Since 2001, According to Mazalto (2008), IFIs have revived their SAPs, which had initially failed in the country in the 1980s and 1990s. In 2002 a new mining policy (Mining Code No. 007/2002 of 11 July 2002) was adopted, by the then transitional government, to accommodate the proposed reforms as the DRC sought to regain control of its mining sector and use it to promote economic growth, needed to address the challenge of poverty in the country (Mazalto, 2008). In response, the IMF and World Bank have invested both their financial and technical expertise to help the DRC to plan for and to implement SAPs, especially in the mining sector (Mazalto, 2008). SAPs, as described in Chapter 2, are designed to privatize public enterprises in order to attract foreign direct investment (FDI) into strategic sectors, such as mining in the DRC. It is believe that this will boost economic growth, create jobs, and finance social services, including but not limited to health, education and transport (Mazalto, 2008). This belief has inspired President Joseph Kabila's response to a British member of parliament (MP) accusing him of mining fraud.

“When you talk of the riches of Congo, you talk about its natural resources. In order for those natural resources to serve the development of the country and of course of the people, you have to bring in investments. How do you create jobs? How do you create jobs? By bringing in investments” (Stearns, 2011).

It has been, therefore, expected that FDI, particularly in the mining sector, will lead to strong economic recovery in the DRC. It has been projected that over the medium term “US\$3.2 billion in investments in mining” would help achieve a strong recovery by increasing real GDP from 2.8% in 2009 to 6.8% in 2010 – 2015 and then stand at 4.4% in the long run (IMF, 2010:56).

While economic growth, through FDI, is regarded as a key factor in reducing poverty in the DRC (World Bank Group 2002; Willis, 2005), there are investment constraints, mainly due to poor governance and the question of conflict mineral. One of the solutions, as discussed earlier, has been for the DRC to obtain validation in the extractive industry transparency initiative (EITI) and develop a strategy to improve the management of its mining sector (IMF, 2010). Another strategy used by the DRC to attract foreign investment in its mining sector, has been to incentivize private mining companies through tax reductions. By 2007, approximately 98% (4246) of the 4353 mining exploration licenses issued in the DRC were given to private companies (Mazalto, 2008).

FDIs in mining, however, have not benefited the DRC as, according to IMF (2010), most companies that have invested in the DRC's mining sector are willing to take higher risks against higher returns (IMF, 2010). The companies have been exploiting the socio-political aspect of corruption, poor governance and conflicts, to make higher profits, to compensate for their higher investment risks associated with the political and social and economic climate in the DRC. Most foreign mining companies make higher profits through misuse of their mining exploration licenses, including rent and tax evasion in the DRC. According to Mazalto (2008) most of these companies claim that they are still at mining exploration phase for years while in actual fact they have been extracting minerals. By 2008, 4542 exploration licenses had been issued to 642 companies occupying 33% of the DRC's total land area. However, only 10 mining exploration licenses have been converted into actual extraction licenses by 2008 (Mazalto, 2008). A mineral exploration fee is valued at US\$2, 55 per sq. km, compared to an extraction fee valued at US\$424, 78 per sq. km per year in the DRC (Mazalto, 2008:63). In the province of Katanga alone, 80% of mineral extractions are estimated to have come illegally from areas licensed for exploration only (Mazalto, 2008). This also means that these companies have not paid tax because, legally, there are only required to do so at the official extraction phase. Both local and international actors have expressed their concerns with this corruption and form of looting by MNCs in the DRC mining sector.

In 2008, the US based Carter Centre called for a revision of mining contracts to MNCs in the DRC, to ensure that they meet international mining standards. Both the World Bank and the DRC government heeded the call and 62 mining contracts were revisited (Mazalto, 2008). The World Bank has been criticized for disregarding the problems of corruption and lack of governance in government and lack of transparency in the private sector, and repeating

similar and unsuccessful liberal reforms that were introduced in the DRC in the 1980s (Mazalto, 2008).

3.3.6. Deficiencies in the DRC's 2002 Mining Code

The 2002 Mining Code, a product of neo-liberal (SAPs) ideas in the DRC, has been criticized of being both contradictory and inefficient. Mazalto (2008) argues that mining reforms as proposed in the 2002 Mining have been dictated by IFIs, and favours mining over land policies, and gives little bargaining power to local communities or land owners (Mazalto, 2008). Another contradiction is that the policy acknowledges, but lacks clear definition for informal mining and the involvement of children in mining (Kubokoso, 2012). In contrast, Mazalto (2008) argues that the DRC's 2002 mining policy recognizes informal mining, but the state has prioritized formal mining by private and foreign investors, over informal mining which since the 1980s has become the only alternative for unskilled laborers in the DRC.

The implementation of the DRC mining policy, according to Kubokoso (2012) has proven complex due to its size being too large, comprised of 41 titles and 941 articles, given its inclusion of the diversity of minerals and mining activities, as well of actors involved in the DRC mining sector. Kubokoso argues that due to this challenge of policy implementation, an equitable share of the benefits of mining, between the state and investors, has not been achieved in the DRC. Kubokoso is concerned that private investors have expected to be compensated more than the state that was supposed to benefit more from its non-renewable mineral resources. The 2002 mining policy of the DRC has been, therefore, criticized for reducing the role of the state and privileging private investors, by favouring the profitability of mining projects at the expense of the national development and citizens (Kubokoso, 2012).

The 2002 Mining Code has also been criticized for being deprived of clearly defined standards on how private mining companies need to link with other sectors of the economy and to contribute to local development in the DRC (Mazalto, 2008; Kubokoso, 2012). The mining policy and its regulations remain silent on social challenges, such as poverty and the population that is often affected by formal mining projects (Kubokoso, 2012). Recently, private and foreign companies in the DRC's mining sectors have been associated with more negative than positive impacts. While they have contributed by employing locals, building schools and providing other social services, they have generally acted irresponsibly by dislocating families from their lands without appropriate compensations (Mazalto, 2008). In April 2008, it was admitted, at a conference attended by various stakeholders from civil

society and government, including Joseph Kabila, President of the DRC, that the 2002 Mining Code has not contributed to poverty reduction, economic growth and maximization of mining revenues, six years following its adoption in the country (RDC, 2008).

3.4. Description of the Twangiza mining area

3.4.1. Geographic and political aspects

Twangiza is located approximately 60 km from Bukavu, the main city of Sud-Kivu province in the eastern DRC (Figures 3 [see page 30] and Figure 5).

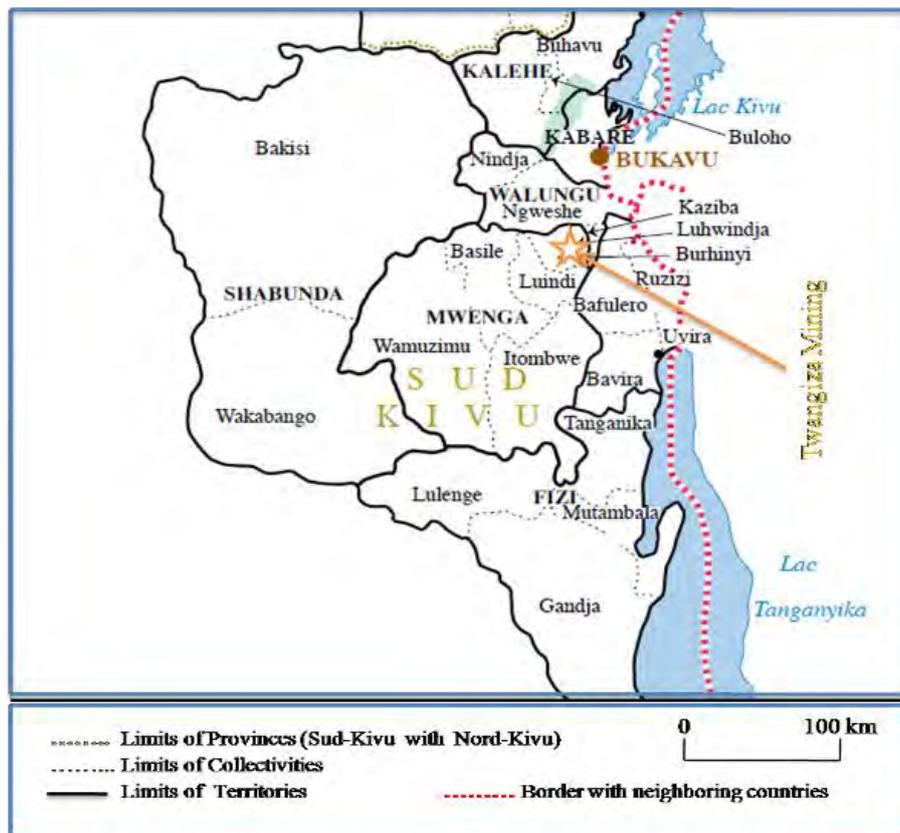


Figure 5: Map of the Sud-Kivu province showing Twangiza Mining (*Source: Adapted from International Alert, 2009*).

In Twangiza, gold is mainly mined in water streams (alluvial mining). The most prominent site is commonly known as “Mwana”, situated at an altitude of 1730 m, along the Mwana River. Gold is also mined in the mountains, of which “Mbwega”, situated at the altitude of 2270m, is the most famous (Observatoire, Gouvernance et Paix [OGP], 2008:27). A combination of mines in both the Mwana and Mbwega areas is locally referred to as “Twangiza” (OGP, 2008:27). Mainly located in the collectivity of Luhwinja, Twangiza

extends to collectivity of Burhinyi through the Mwana River, which borders the two collectivities, situated in the territory (zone) of Mwenga (see Figure 5).

Although it is beyond the scope of this study to describe what a “collectivity” is and how it works in the eastern DRC, it is important to note that a collectivity is a rural administrative structure that is led by a local King, known as Mwami, on behalf of the traditional authority and by a government representative, known as Chef de Poste. Collectivities are comprised of sub-entities, known as Groupements and Localities, led by councils of traditional leaders, each being headed by a chief (known as Murhambo). While the traditional authority used to be regarded as the main custodian of land in their entities, recent DRC constitutional changes, following the 2006 national election, stipulate that the land and everything beneath the soil belong to the state (OGP, 2008). This legal shift in land issues can have significant influences in the way mining decisions are made in the DRC.

3.4.2. Demographic and socio-economic aspect

As both a rural and mining area, Twangiza seems to be a true reflection of the demographic and socio-economic trends of the DRC. However, these characteristics are still insufficiently documented in Twangiza. A survey conducted by OGP (2008) on development challenges and mining in Luhwinja, gives a clue about the demographic and socioeconomic aspect of Twangiza.

The area is home to 10000 predominantly young people living in a total of 2300 households (OGP, 2008:8). The OGP survey shows that there is a fast growing population in the collectivity of Luhwinja. In the past 2 decades it has grown by 34% (from 34380 people in 1996 to 52148 in 2008). Groupments (sub-entities), such as Luchiga, that are located in or close to the Twangiza area have had both the fastest growing and the largest population size, mainly due to its mining activities, which attracts people into those areas (OGP, 2008).

Regarding the socio-economic condition in the collectivity of Luhwinja, including Twangiza, OGP (2008) shows that there are four main livelihood activities, including agriculture, mining, small business, based on the sale and purchase of agro-pastoral and manufactured products, and wage labour. Most households rely on agriculture but “a large part of the local economic activity is centered on the exploitation on its mineral rich soil” (Vlassenroot and Raeymaekers, 2004: 126). While more than 80% of the population, across the collectivity, depends on selling or buying agro-pastoral products, only 1% depends on wage labour, from private formal mining and some professional activities (OGP, 2008).

In Twangiza, over 5000 people¹², including diggers, traders, tax collectors, mine owners, women and children, depend on informal gold mining Mwana and Mbwega mining sites (OGP 2008:17). Those involved in informal mining activities are mostly adult males, with women making only 2% and children 8% of the total. While native account for 70% of the people involved in these activities, migrants, from nearby collectivities, such as Ngweshe and Kaziba, account for the remaining 30% (OGP, 2008:17). This shows that any policy decision or development processes that affect informal mining can have considerable impacts on livelihoods in Twangiza and possibly its surroundings.

The estimated average household expenditure per month is US\$150 (OGP, 2008). The majority of people are only able to secure 2 meals a day, although there enough food during the agricultural harvesting season. However, 65% of the population has in Luhwinja has self-reported as vulnerable (OGP, 2008). This information however, applies to the collectivity of Luhwinja, in general and therefore may not necessarily provide the correct level of poverty in Twangiza in particular.

3.4.3. History of Mining in Twangiza

Twangiza is one of the richest and most important gold mining areas in the DRC. A preliminary study commissioned by BANRO Corporation found that there is an estimated 2.034 million ounces (approximately 57 tones) of gold reserves in Twangiza (OGP, 2008). Twangiza has a long history of both formal and informal mining activities, hence regarded as the “economic lung” for the collectivity of Luhwinja (OGP, 2008:29).

In Twangiza, formal mining activities were first conducted in the 1950s, by the Minière des Grands Lacs (MGL), one of the colonial mining companies in the DRC, following the discovery of alluvial gold in the Mwana River (International Mining, 2008; Vlassenroot and Raeymaekers, 2004). Recently, formal mining is being conducted by BANRO Corporation, a Canadian MNC, which owns four mining properties, including Twangiza Mining SARL, occupying 2600 square kilometers (sq. km) of the DRC’s land area in the provinces of Sud-Kivu and Maniema (BANRO, 2008). BANRO was first introduced in the eastern DRC in 1996, following the adoption of SAPs by the Mobutu regime (Vlassenroot and Raeymaekers, 2004). In 1997 these SAPs were aborted and BANRO,s 25 year mining rights were cancelled, due to political instabilities associated with the war and the replacement of the Mobutu

¹² It is unclear whether the 5000 people represent the population size of the Twangiza area, or it could be just the number of people who were directly involved in mining in the area

regime by its opponent, the Alliance des Forces Démocratiques pour la Libération (AFDL), led by former President Laurent Kabila (Vlassenroot and Raeymaekers, 2004). BANRO had then “acquired, by way of separate transactions”, 78% of the mining shares which belonged to the Société Minière du Kivu (SOMINKI), a private mining company, one of those which failed to continue their mining activities in the eastern DRC due to the adoption nationalization policy, after independence, by the authoritarian regime of President Mobutu (Vlassenroot and Raeymaekers, 2004, BANRO Corporation, 2010; International Mining, 2008). BANRO was suddenly replaced by the Société Minière du Congo (SOMICO), a new version of SOMINKI, created by the AFDL regime as it sought to reorganize the DRC’s mining sector. This company controlled a 72% share of Twangiza mining, while the AFDL government owned the remaining 28% (Vlassenroot and Raeymaekers, 2004).

In 1998, SOMICO was replaced by the Société Minière des grands Lacs (SOMIGEL), a new company created by the Rassemblement Congolais pour la Démocratie (RCD), a rebel movement supported by late President Kabila’s former allies, as it sought to take control of the eastern DRC mining. Shortly, however, this new company became unable to pay a self-imposed monthly tax of \$1000.000, hoping to benefit from the 2001 mineral price boom. As a result, during the same year, the Twangiza mining concession was returned to SOMINKI, the original owner since the 1950s (Vlassenroot and Raeymaekers, 2004).

In 2003, Twangiza mining was given back to BANRO, following a law suit against the then DRC transitional government, led by a coalition of leaders from the central government – under President Joseph Kabila – and three main rebel governments, including RCD, in an agreement to end the war in the DRC (BANRO, 2008; Vlassenroot and Raeymaekers, 2004). BANRO has since held 100% interest in the “Twangiza property under a revived mining convention that is renewable in 2027, for another 25 years” (International Mining, 2008:10). BANRO’s property in Twangiza extends to 1160 sq. km, which is five times more than the full size of the collectivity of Luhwinja (183 sq. km) including Twangiza, in its traditional limits (OGP, 2008). It is hoped that formal mining by BANRO will, “in time, contribute significantly to local economic development and job creation” (BANRO, 2008:9).

No space has been, therefore, left for informal mining activities in Twangiza (OGP, 2008). It is not clear, however, as to when informal mining began in this area. An increase in informal mining activities occurred in the 1970s and 1980s. This was due to an economic crisis that degenerated from the nationalization of the mining sector by the Mobutu Regime. This

policy shift weakened formal mining activities and caused job losses. To cope with the crisis many people got involved in informal mining practices, looting and occupying most of the formal mining concessions which had been left by private companies (Vlassenroot and Raeymaekers, 2004). Informal mining was then unregulated and controlled by traditional leaders, who provided mining permission to informal miners in return tax collected through established artisanal mining committees and local Kings' servants, known as of "Baganda" (OGP, 2008:28). Most recently, 2008, there were approximately 600 informal or artisanal gold mines owned by about 500 people, in addition to several informal gold diggers in Twangiza (OGP, 2008). This means that informal mining still continues in the area that has been wholly conceded to by a private company. In 2010, however, all informal mining activities were stopped due to a state's decision to suspend them in the eastern DRC. This study investigates the causes of the suspension and its impacts on livelihoods in Twangiza, because is a good example of the link between informal mining and rural livelihoods in DRC.

3.5. Conclusion

An overall description of the DRC, where this study was conducted, has been presented in this chapter. The country experiences dire socio-economic conditions, although it is naturally endowed with abundant riches. DRC is one of the world's poorest nations, as its mining sector has been associated with corruption, bad governance and conflicts, since the end of Belgian colonial era, to the present. As a result the formal mining was replaced by informal, worsening the economic condition in the country and forcing many people to seek livelihoods in the informal mining sector. In the meantime, both local and foreign interests have sought by all means, including wars, SAPs and economic embargos, to ensure control of the DRC's mining sector or to benefits from it. Seeking to attract the much needed foreign investment, to achieve economic growth and development, in 2002, the DRC adopted a new mining policy. This policy has, however, been criticized for being imposed by IFIs, being unrealistic and out of touch with local realities and, therefore, it has failed to promote development. Twangiza, one of the richest mining rural areas in the DRC, is a reflection of the DRC's socio-economic aspects. Although informal mining has been a main livelihood activity for decades, no space has been reserved for it, as multinational mining company has been reintroduced in the area.

CHAPTER 4: RESEARCH METHODOLOGY

4.1. Introduction

The research design, techniques and tools used for data collection and analysis are described and justified in this chapter. The research design and selection criteria for the case study location are provided in the first two sections. The data collection procedures, including primary data collection, sampling size and sampling techniques, interviews; and secondary data collection are described in the next sections. Finally, the method used for data analysis procedures as well as ethical considerations and study limitations are presented in the last sections of this chapter.

4.2. Research design

The research design is a framework involving the general plan of how the researcher will go about answering the research question (Straunders et al., 2009). This study is designed as a qualitative case study. The importance of a qualitative study is to understand the “the social phenomena” or causes of changes in social facts from the participants’ perspectives (Firestone 1987:16). According to Gillham (2000) a case study is used to answer specific research questions by investigating a specific individual, institution or community under specific contexts. This methodology is therefore used in present study to analyze the cause of the suspension of informal mining, as a socioeconomic phenomenon in the eastern DRC and its impacts in altering rural livelihoods in Twangiza.

4.3. Selection criteria for the case study area

The Twangiza area was purposively selected as the case study for data collection, primarily due to its relevance to the aim of the study. The aim of the present study was to understand the reasons why informal mining was suspended in the eastern DRC and to investigate the impacts of that suspension on livelihoods in the Twangiza area. In this area there is a relationship between informal mining, formal mining and livelihoods which makes it even more interesting and relevant to the aim of the study as it brings a different perspective in understanding the politics of mining in the eastern DRC. The area was also chosen due to its better accessibility and safety than many other rural and mining areas in the eastern DRC which have been associated with the so called “conflict minerals” since the late 1990s (BSR, 2010:10; Global Witness, 2010). Twangiza is accessible despite the challenges associated with transport from the city this rural mining area. It often requires a truck or a 4x4 vehicle to

access the area. The lack of a 4x4 vehicle meant that the researcher had to board a truck for a seven hour travel period from the city of Bukavu. The researcher was not a complete stranger in the area because he was familiar with the three languages, including Mashi, Swahili and French, which are spoken locally in the Twangiza area which is located near his native village. The collection procedure in this area involved both primary and secondary data.

4.4. Data collection procedures

This research was conducted in the second quarter of the year 2011 and lasted for approximately two weeks. Both primary and secondary data were collected.

4.4.1. Primary data collection

The primary data was collected partly through observations and mainly through in-depth semi-structured one-on-one and group interviews with different stakeholders, including local government, traditional authority and civil society officials and heads of households. The aim was to obtain information on both the macro-and micro-level aspects of mining activities in the eastern DRC and the Twangiza area, respectively.

4.4.1.1. Respondents selection criteria

Respondents included both community leaders and ordinary local people. Leaders, including government, traditional authority and civil society leaders were selected as one of the most relevant sources of information because of their involvement in the social and economic development in the Twangiza mining area. Their decision may have a strong influence on people's lives and their activities, including mining in the community. Leaders are therefore in a better position than ordinary community members to understand the macro-level and micro-level factors (both the geopolitics and internal politics) in relation to mining. Leaders, however differ in terms of their positions, powers, and relationship with the local community. Consequently, their perceptions about and experiences of the impacts of mining in Twangiza may differ. This explains the reason why leaders representing different stakeholders were selected and included in the sample design of this study.

Ordinary citizens such as heads of households, unlike their leaders, are more likely to provide empirical micro-level and in-depth experiences of the impacts of mining in their daily lives. Also, households are not the same in the Twangiza area. They differ in terms of their main livelihood strategies, and therefore they have different experiences with mining in the area. For this reason, and in accordance with the research question, the selection procedure for heads of households was based but not limited to their livelihood activities in the Twangiza

area. However, a particular focus was put on households with direct dependence on informal and formal mining related livelihoods. Other types of livelihood dependent households were interviewed in order to understand the impact of the informal mining suspension on non-mining dependent households.

4.4.1.2. Sampling size

A sample is a “subset of the population used to gather information about the entire population” (Momo, 2009:35). With reference to Table 3 below, a total of 21 male adults participated in this study, including 14 participants in one-on-one interviews and 7 in a group interview. The lack of female participants in this sample is not a deliberate making of the researcher. It rather reflects the patriarchal nature of the Twangiza community, just like many other rural areas in the DRC and Africa in general. Table 3 below describes the composition of the respondents¹³ in terms of their numbers, gender, age, affiliation and the date when each interview was conducted.

Table 3: Description of respondents

<i>Respondent</i>	<i>Gender</i>	<i>Age</i>	<i>Affiliation</i>	<i>Date of interview</i>
Respondent 1	Male	60–69	Government /Provincial Division of Mining	13/07/2011
Respondent 2	Male	20–29	Civil society/non-governmental organization	14/07/2011
Respondent 3	Male	50–59	Civil society/Faith based organization	18/07/2011
Respondent 4	Male	20–29	Civil society/Education institution	15/07/2011
Respondent 5	Male	50–59	Civil society/ (Mineral traders union)	23/07/2011
Respondent 6	Male	20–29	Small trader head of household (HoHH)	15/07/2011
Respondent 7	Male	20–29	Informal miner HoHH	16/07/2011
Respondent 8	Male	20–29	Informal miner HoHH	16/07/1011
Respondent 9	Male	30–39	Informal miner HoHH	16/07/2011
Respondent 10	Male	30–39	Informal miner HoHH	16/07/2011
Respondent 11	Male	50–59	Informal miner HoHH	16/07/2011
Respondent 12	Male	50–59	Technician HoHH (Formal mining company)	17/07/2011
Respondent 13	Male	63–69	Technician HoHH (Formal mining company)	18/07/2011
Participant 14	Male	20–29	Diaspora based youth Association	19/08/2012
Group interview	7 Males	Between 40 & 69	Traditional Authority (Local council)	17/07/2011

4.4.1.3. Sampling techniques

Both a purposive and a snowball non-probability sampling technique were used to select and reach the participants. Purposive sampling according to Oliver (2006:245) is a non-

¹³For ethical reasons, to insure both confidentiality and anonymity, details regarding the names, the specific roles and the precise birthdates played by participants in their respective affiliations in relation to mining and development in the Twangiza area have been withheld

probability sampling which allows the researcher to decide, based upon specific criteria in relation to the purpose of the study “about the individual participants who would be most likely to contribute appropriate data, both in terms of relevance and depth”. Recognizing that this type of sampling can be a “potential source of bias” (Oliver, 2006:245), the researcher ensured that the selection criteria are consistent with the aim and objectives of the study in order to preserve its validity. The approach in this study was to collect relevant data by interviewing individuals from different social layers of the community. For example, local government, traditional leaders, civil society leaders and ordinary people who are head of households from the community and involved in mining, are more likely to have both the knowledgeable and experience of the history, politics and impacts associated with mining in Twangiza, not only locally, but also both nationally and internationally.

Known as chain letter sampling, the snowball sampling is also a non-probability sampling which allows the researcher to identify and locate the relevant respondents through. An initial respondent, selected through a purposive sampling, helps to identify the next (Oliver, 2006). The problem with snowball sampling is that it can also result in bias because the initial respondent may identify others respondents who may not be able to provide relevant information to the study (Oliver, 2006). Yet, the snowball sampling approach was useful in this study because the researcher was a stranger in the areas he did not know the people and their different locations within the community, although he came from a similar cultural background and spoke the local dialect, which enabled him to easily connect and create rapport with people in the area. The first respondent, who was familiar to the researcher, played a significant role in identifying and locating other potential and relevant respondents.

4.4.1.4. Interview tools and techniques

Interviews, including both individuals and group interviews were conducted, using a semi-structured interview guide (see Appendix 2), designed with two different sections containing slightly different sets of questions. The first section was designed to collect community level data from community leaders, including government, traditional authority and civil society officials. The other section was used to collect household level data from various heads of households, especially informal miners.

Interviews were conducted in three different languages. French was used to interview most government and civil society officials because it is the official language in the DRC and most of respondents could not speak English. While Mashi is the local dialects in Twangiza,

Swahili is the most spoken vernacular language in the eastern DRC. Both of them were used to interview most heads of households, depending on their preferences. While the use of many languages in interviews and their translation to English could have compromised the outcome of the study, the problem was solved through the researcher's multi-language skills.

Probing techniques were used, during interviews, to keep respondents focused on the research question and to follow up on their responses. While the researcher's Smart Windows Phone was used as a sound recorder, depending on the respondent's consent, his personal diary was also used to record interview and other fieldwork related activities, such as appointments. The duration of each interview was between 30 and 45 minutes.

4.4.1.4.1. Individual interviews

A total of fourteen individual interviews (see Table 3, page 49) were conducted with various respondents, including one provincial government official, five civil society leaders and eight heads of households in Twangiza. Civil society leaders came from different affiliations, including a mineral traders' union (Negociants), a non-governmental organization (NGO), a faith-based organization (FBO), an educational institution and a Diaspora based youth association. Of the eight heads of households, five were directly involved in informal mining, two employed in a formal mining company and one involved in a small business. Most of household heads were also involved in subsistence farming, as a secondary livelihood activity, often conducted by at least one household member, being the wife in most cases.

Interviews were conducted at the participant's work or residential place. While most of the community leader interviewees were residing in or near Twangiza, three of them live in the city of Bukavu but are directly involved in mining and development Twangiza. All the participant heads of households, in contrast, live and work in the Twangiza area. Households in this area are generally situated long distances apart. Therefore, interviews were conducted at their places of work or residence, depending on their accessibility and transport availability. The easiest available mode of transport was motorcycle but most places are situated in high or low laying areas with no road access.

By conducting interviews at respondents' work places, especially at the mines, the researcher was able to observe informal mining activities in their natural context which was useful in adding various perspectives to the study on how miners experienced the suspension of informal mining. This environment, however, was associated with challenges related to the fear of the unknown among miners and the selection of the relevant respondents from them,

notwithstanding the dirty, muddy, stony, steep and sliding environment where part of the fieldwork was done (see Figure 9, Chapter 5).

At the mines, some of the informal miners were suspicious that the researcher was a government official sent to spy on them. This is because during the suspension period, miners who were found working in the mines were often prosecuted. In addition, informal mining was not yet allowed in Twangiza, even after its suspension had been lifted in other parts of the eastern DRC. Nevertheless, they were persuaded to be interviewed after the researcher identified himself as a student and explained the aim of the research. They had, therefore, no problem interrupting their work, but in case they found themselves too busy, they requested that the researcher come back later.

Informal miners, in most cases, were working in groups, scattered along a small river where they were conducting their activities long distances apart. The group sizes ranged from a couple to dozens of miners, predominantly young male and a small number of minors (see Figures 6 and 9). It was, therefore, difficult to identify and select the relevant respondents from the groups. The study's approach was to interview informal miners who are heads of households only. This was ensured by the researcher introducing informal conversations with miners prior to the actual interviews. In the process, it was possible to determine whether the miner was head of household or not. In case the miners indicated that they were not heads of households, the researcher kindly informed them that only heads of households could be interviewed. Once the relevant respondent was identified as a head of household, the actual interview followed. Only one informal miner head of household was interviewed from each group in order to avoid incidences whereby participants seek answers from others.

4.4.1.4.2. Group interview

A group interview can be treated as a focus group, which is a "group of four to 8 people who are interviewed together" (Momo, 2009:37). The importance of a group interview is that it allows "participants to discuss issues with each other", which may provide an in-depth understanding of the issues that are being discussed (Momo, 2009:37). In this study, one group interview was conducted with a local council of 7 traditional leaders whose meeting coincided with the interview appointment. The initial plan was to interview the senior leader (chief) of the council, but he suggested that his 6 council elder, participate in the meeting and assist him in answering some of the interview questions. Although the researcher had not

planned for a group interview, this was a unique opportunity to obtain an in-depth account of both the political and socio-economic aspects of mining in Twangiza.

Using the same interview guide as used in the individual interviews with other community leaders, the group interview followed a unique and contextual procedure, whereby the researcher's role was to directly ask questions to the chief. After answering the question, most of the time the chief asked his council elders whether they wanted to rectify or add something to his response. The researcher however, probed whenever there was a need to do so in order to get clarity or further information on the traditional council elders' inputs.

4.4.1.4.3. Observations

Observations were carried out during the researcher's stay in Twangiza and consisted of objectively observing activities and behaviours, by respondent and other people in the community, in relation to livelihoods and mining. A diary was used to record relevant observation contents on a daily basis. A photo camera was also used to take pictures in certain areas, depending on participants' consent.

4.4.2. Secondary data collection

The primary data alone could not efficiently help answer the research questions, particularly those concerned with the history of informal mining and the causes of its suspension. Secondary data was therefore collected and used to complement the primary data. The secondary data was collected from various sources, including social media (Facebook), other internet sources and some printed materials. The secondary data was particularly useful and played an important role where it was impossible to access primary data. For example the researcher, tried but could not interview highly ranked government and BANRO officials, such as in the "Service d'Assistance et d'Encadrement du Small Scale Mining" (SAESSCAM) who have a better understanding of government policy related to the informal mining sector. Access to their May 2010 Bulletin release was useful in that regard. Secondary data was also obtained from other printed sources including books, meeting reports, pamphlets, and booklets were collected from the provincial division of mining and one local NGO archive. Relevant electronic materials were also obtained from the internet by consulting various social media and company websites.

4.5. Data analysis

Data analysis is a process of interpretation and explaining the findings, "giving importance to results, and putting patterns and themes into an analytical framework" in order to answer the

research questions (Momo, 2009:38). Analyzing large volume of qualitative data can be both a daunting and time consuming task. To alleviate this problem, a qualitative content analysis approach was used in this study. The advantage of content analysis lies in its flexibility in analyzing qualitative data (Hsieh and Shannon, 2005). This allows the researcher to analyze the data according to the theory and the problem being studied thereby allowing “new insights to emerge” from the data (Hsieh and Shannon, 2005:1279). Content analysis, generally “starts with reading all data repeatedly to achieve immersion and obtain a sense of the whole [...]. Then, data [is] read word by word to derive codes” (Hsieh and Shannon, 2005:1279).

NVIVO software was used to read and derive codes from the raw data. As opposed to manual coding, NVIVO coding is quicker and less frustrating. To use NVIVO, all the interview transcripts were uploaded into a “source” folder, and then coding nodes were created and named according to the recurring themes and patterns from the data. The coding process then involved selecting data from the “source” folder and sorting them into the relevant nodes. In this process NVIVO automatically provides a reference to associate every sorted piece of information (into the coding nodes) to their original files (contained in the “source” folder). Once the coding process was done, the analyzed data was copied and pasted onto a word file so that the researcher was able to use it, outside the NVIVO software, in drafting the research findings chapter.

4.6. Ethical considerations

For ethical purposes, an ethical clearance letter was issued by ethical committee of the University of KwaZulu-Natal. In addition, a permission letter (See Appendix 3) from the researcher’s supervisor was issued to the local traditional authority early 2011 when an initial pilot research¹⁴ was conducted. A recommendation letter (See Appendix 4) was in turn obtained, from a local King which made it easier to gain access to respondents in Twangiza. Before the start of interviews, the researcher identified himself; explained the reason why the research was being conducted, then read and requested participants to sign an informed consent form to ensure anonymity and confidentiality (See Appendix 1). Voice recordings were only done in cases where the participant consented to it. This ethical process was

¹⁴ Some of the information, particularly the secondary data, that was obtained from the pilot study has been used and referenced in this study. However, most of it could not be used because after the pilot study changes were made to the topic, aim and objectives of the study, following the approval of the proposal by the ethical committee of the University of KwaZulu-Natal.

particularly important because mining appeared to be a politicized and sensitive issue in the Twangiza area. For this reason many respondents did not permit their voices to be recorded but allowed the researcher to write down their responses. In the final report of this research, no respondent's names or any other form of their identifications has been revealed.

4.7. Study limitations

The limitations of this study were associated with the sample size, language, the researcher's background and the environmental conditions in which the primary data was collected. The study only consisted of a limited number of stakeholders involved in the DRC's mining sector. While the issue of informal mining suspension required the participation of stakeholders at the national level as well, interviews were only conducted at the provincial and local levels. However, the most senior local government official (Chef de Poste) declined to be interviewed. He preferred a questionnaire to be submitted to him in advance so that he could apply his mind before responding. Unfortunately, further attempts to get hold of him were fruitless until the researcher could not wait any longer due to time and other resource constraints. This however, has not compromised the outcome of the study, firstly because other community leaders participated and secondly the primary data was supplemented by secondary data which provided a good understanding of the local, national and international issues in relation to mining and development in the eastern DRC.

The other limitation of this study was associated with language. As mentioned earlier, interviews were conducted in three different languages and translated to English by the researcher. The translation process can somehow compromise the meaning of the words intended in their original language. However, the researcher, due to his multilingual skills, tried to preserve the content of the data as original as possible. In addition, the researcher's background in terms of his previous involvement in informal mining was another limitation because it can be a source of bias. To minimize this, the data collection and analysis procedures were strictly focused onto the aim and objectives of the study.

4.8. Conclusion

This chapter has provided a detailed description and justification of the methods and procedures used for data collection and analysis in this study. It was conducted as a qualitative case study of the implication of informal mining suspension in the eastern DRC. Primary data was purposively collected through in-depth semi-structured interviews with a total of 21 participants, including community leaders and household heads in the Twangiza

mining area. The study was conducted ethically despite some limitations in terms of time and money constraints, the researcher's background and the declining of interview by one potential respondent. These limitations, however, did not affect the outcome of the study given that appropriate mechanism and skills were applied by the researcher to solve the problems.

CHAPTER 5: RESEARCH FINDINGS

5.1. Introduction

The purpose of the present research was to investigate the causes of the suspension of informal mining in the eastern DRC and its impacts on rural livelihoods in the Twangiza mining area. The first two objectives were to describe the living conditions and the history of informal mining in the area. This was needed to understand the socio-economic and political context in which mining affects livelihoods in Twangiza. The third objective of the study was to analyze the reasons why informal mining was temporarily suspended in the eastern DRC. The fourth was to analyze the impacts of the suspension on livelihoods in Twangiza, as well as the people's reactions and coping mechanisms adopted in the community. The last objective was to discuss, based on suggestions made by respondents, how mining should be used to promote sustainable livelihoods and development in the eastern DRC, particularly in Twangiza. The results of this study are presented and discussed in this chapter. They are provided under the following sections: 1) living conditions, 2) history of informal mining, 3) suspension of informal mining, 4) coping mechanisms and responses to the impacts of the suspension, and 5) suggestions on mining use in Twangiza. These sections represent the key themes emerging from data analysis done in relation to the aim and objectives of this study.

5.2. Living conditions in Twangiza

A description of living conditions, including livelihood activities and socio-economic challenges, was needed to understand the context in which the suspension of informal mining occurred in Twangiza and the factors that could have made households and the whole community more vulnerable to the suspension. Heads of households were asked to provide the demographic and socio-economic profiles of their households. Their responses are summarized in Table 5 (see next page), describing their households' living conditions, including size, employment, income, sources of income, assets, sources of assets and education levels.

5.2.1. Livelihoods strategies

Shown in Table 5, most households, in Twangiza, tend to depend on diversified livelihood strategies, combining more than one activity. Informal mining and subsistence farming emerge as the main livelihood activities in most households. This however, does not conclude

that most people depend on informal mining, since the sample for this study was purposively selected and does not represent all the households in Twangiza. That conclusion can only be made based on a survey, such as OGP (2008), in which it was found that agriculture and informal mining were the main livelihood activities, while professional activities and wage labour accounted for 1% of employment in Luhwinja, where Twangiza is located. Being qualitative, this study only uses Table 5 to describe household level livelihood conditions.

Table 4: Profiles of participant households

<i>Household (HH)</i>	<i>HH1</i>	<i>HH2</i>	<i>HH3</i>	<i>HH4</i>	<i>HH5</i>	<i>HH6</i>	<i>HH7</i>	<i>HH8</i>
<i>Size</i>	6	2	3	4	11	12	7	8
<i>Occupation (head of)</i>	Small business	Informal mining	Informal mining	Informal mining	Informal mining	Informal mining	Formal mining	Formal mining
<i>Income per month</i>	US\$ 50	\$ 400	\$400	\$200	\$450	\$300	\$160	\$140
<i>Primary income source</i>	Business (\$40),	Informal mining	Informal mining (\$300),	Informal mining	Informal mining	Informal mining	Salary (\$140),	Salary
<i>Secondary income source</i>	Community work (\$10)	None	farming (\$100)	None	Cloth designing	Farming	Farming & other (\$20)	None
<i>Secondary school completion</i>	2	None	None	None	2	1	None	None
<i>Number of employed</i>	2	1	2	1	2	3	2	2
<i>Assets</i>	House in durable materials, small plot of farming land, shop, goat, TV & radio sets	Banana farms & house in durable materials	5 small plots of farming land, house in durable materials, 4 goats, pig & rabbits	House in non-durable materials & cow used to pay dowry	5 Cows, house in semi-durable materials in an urban area	Cow, 3 goats, house in durable materials & cell phone	Motorbike taxi, house in durable materials under construction, pig & goat	House in durable materials, pig, 6 small plots of farming land
<i>Primary asset source</i>	Small business & previous job	Informal mining	Informal mining	Informal mining	Informal mining	Informal mining,	Salary	salary & farming for others
<i>Secondary asset source</i>	Community work	Inheritance	Farming	None	None	Inheritance	Farming & other	Farming

While acknowledging that incomes are often underreported in research, Table 5 shows that most households depend on a diversified livelihood strategy with those involved in informal

mining earning the highest income, compared to those involved in other activities, including formal mining and small business. In many cases mining constitutes the only source of household income.

Farming, in contrast, is a secondary source of income wherever it is involved in a household. This means that farming is mostly practiced for subsistence rather than income generation. However, considering most households' income levels in relation to their sizes, as described in Table 5, they can be considered as poor, should the international poverty line- US\$2 per day per individual – be used to measure their levels of income poverty.

In the rural context, however income alone cannot be a good measure of poverty. Diga (2007) therefore argues that assets provide a good measure for poverty in rural areas. Looking at their assets accumulation, most households, regardless of the type of their source of income tend to invest their income in some form of fixed assets, such as houses in durable materials, plot of land for farming, livestock, business etc. Asset acquisition, however, depends on income levels, which means that informal miner households with higher incomes should be able to acquire and accumulate more valuable and productive assets than non-informal miner households with lower incomes. There is a need for further research to establish the extent to which informal miners invest their income in assets, as compared to non-informal miners.

Education, as an intangible asset, is very critical in most households presented in Table 5. Their levels of education are very low as there are no members who completed secondary school, regardless of their sizes and whether they are involved in informal mining or not. Larger households should be expected to have more adult members and, therefore, more members with higher levels of education than smaller households. The causes for low levels of education or lack thereof, in Twangiza, are discussed under sub-section 1.2.5.

In Twangiza, the strategy of livelihood diversification at the household level, mainly based on informal mining and farming, is constant with the main livelihood opportunities available, at the community level, in Twangiza. Informal or artisanal mining was mentioned by all the respondents as one of the major and most important livelihood activities in the area. It is often regarded as a male, especially young male, oriented activity. Informal miners however, often devote part of their time to help their wives in farming activities.

“People in Twangiza can’t survive without digging gold, it is very difficult ...Men do artisanal mining but most of them also have fields where their wives and daughters spend

the day cultivating. But there are some men who usually go to help their wives when they did not go to the river and some can even go to the field early in the morning and thereafter they go to the river to dig gold”(Respondent 14, Diaspora, 19/08/2012).

Farming or agriculture, as pointed out in the above interview, was as another major and important livelihood activity in Twangiza. In general terms, it includes crops such as cassava, potatoes, bananas, maize, beans and sorghum which not only constitute the main staple food in the area but also used to be “exported to neighbouring rural communities” (Group Interview, Traditional Authority, 17/07/2011; Respondent 14, Diaspora, 19/08/2012). Farming also includes livestock such as cattle, pigs, goats, sheep, chicken, and rabbits, hamsters. Cows are considered the most important livestock due to its milk and meat production (Group interview, Traditional Authority, 17/07/2011; Respondent14, 19/08/2012).

Other livelihood activities, but which are not as important as informal mining and agriculture, include small businesses and labour wage or professional activities, which according to Respondent 2 (NGO, 14/07/2011) are only conducted by “a small number of people”. Small businesses are based on selling farming and manufactured products at mining sites, small shops; taverns and restaurants on the roadsides and small local markets, most of which only operate once or twice a week, except for those located in main centers that open every day (Respondent 6, Trader, 15/07/2011). Wage labour and professional duties, in contrast mostly found in terms jobs in BANRO – a formal mining company – school teaching and hospital related employments (Group interview, Traditional Authority, 17/07/2011).

The strategy of livelihood diversification, based on more than one activity, is not specific to Twangiza. It is a common phenomenon in poor communities. according to Hentschel et al. (2003) informal mining is often poverty driven especially in many African rural areas, where the poor tend to depend on a number of livelihood activities based on a portfolio of assets (Datta and Iqbal, 2003 and Duncombe, 2007). This is also consistent with the SLF’s asset-based approach which recognizes that income alone, especially in rural areas where it is generally lower than in urban areas, cannot enable people to improve their living conditions.

5.2.2. Socio-economic challenges

Poverty, decrease in agricultural productivity, lack of social infrastructures and basic services, and low levels of education were perceived by most respondents as the major socio-economic problems experienced in Twangiza. Other challenges included political and social instability, unfair relocations, environmental pollution, prostitution and child labour.

5.2.2.1. Poverty and unemployment

Poverty was perceived by most respondents as being caused by a lack of money, food (hunger) and clothing, mainly due to unemployment and decreasing agricultural productivity. Poverty was also associated with lack of access to basic social infrastructures and services, such as clean water, electricity and education.

“The population continues to complain, the population is still poor, and the population has to rejoice from its riches underground. [...] When I say that the community is poor, it means that people are not getting enough food to eat, there is a lack of water, many parents are not able to pay for the education of their children because they don’t have money due to unemployment”(Government officer, 13-07-2011).

Unemployment was partly blamed on formal mining by BANRO. Prior to the suspension of informal mining in the eastern DRC, BANRO had occupied most mining sites formerly used by informal miners in Twangiza (Respondent, Government officer, 13-07-2011). They left in less productive mining sites or unemployed, which had compromised their ability to earn money and afford food products. Asked to mention the three things he would most like to change about living in Twangiza, one informal miner, for example, responded: “Hunger, no money, BANRO has taken all the money” (Respondent 8, Informal miner, 16-07-2011).

The lack of money meant that there was limited access to food, clothing, and other living necessities, which can render them poorer. According to Lok-Dessallien (2001) people can be poor due to lack of income because they do not have money to buy food and other basic needs. However, while poverty, in terms of lack of income, was due to unemployment, it was also associated with decreasing agricultural productivity in Twangiza.

5.2.2.2. Decreasing agricultural productivity

Farming is generally done for subsistence purposes, which mean that a threat to it can lead to food insecurity in Twangiza. Four main factors, including plant disease, farming methods, informal mining and formal mining were mentioned by different respondents as the causes for decreasing agricultural productivity. Respondent 10 (Informal miner, 16/07/2011), for instance, argued that “fields are not productive anymore because of the mozaique disease which is destroying our plants”. The mozaique disease is a locally known type of disease that weakens crops, especially cassava, weathering their leaves to become yellowish, and therefore, restricting them from growing effectively. Another respondent, in contrast, thought that the farming methods have not allowed the land to replenish. In his words: “Agriculture is

no more productive, I think the land is now tired because it has been used for too many years” (Respondent 11, Informal miner, 16/07/2011). Another respondent, (from government) however, mentioned informal mining as a threat to farming in Twangiza. He stated that “artisanal mining is impoverishing people because people ignore agriculture” (Respondent 1, Government officer, 13-07-2011).

This negative perception of informal mining by government may have been one of the reasons why it was suspended. In the literature however, the story is told differently about the relationship between informal mining and agriculture. In Tanzania for example, Kitula (2005) found due to poor agricultural productivity there were increases in informal mining activities as people needed alternative livelihoods.

5.2.2.3. Unfair land relocation practices

Unfair land relocation was mentioned as another socio-economic challenge experienced in Twangiza. Most respondents, community leaders and heads of households alike, mentioned that people were obliged to sell and relocate from their land in the process of formal mining expansion by BANRO in the area. Although many land owners were compensated, the process was often compulsory and unfair. Respondent 8 (Informal miner, 16-07-2011) for example, complained that his land was taken without compensation and was helpless because “to take muzungu (white man) to court is like taking Jesus to God¹⁵”. The life story below, published on the Luhwinja Chinyabuguma¹⁶ Diaspora (LCD¹⁷) Facebook page, is one case the unfair land relocation process in Twangiza.

“CIRUME KAJOCHO married and father of two children, he is the owner of a plot of land of more or less 40/30 m where he built two houses and practices agriculture alternating cassava, sweet potatoes, green vegetables, etc. in the course of the year. In this land he also planted trees already reaching 5 to 6 m in height. N.B.: for this land, the company offered him US \$120” (<http://www.facebook.com/luhwindja.diaspora>).

Unfair land relocations have been a threat to livelihoods (see Figure 6, next page) in Twangiza where most households depend on both farming and informal mining. The livelihood impacts of the land relocations were described in the group interview as follows:

¹⁵ By this, he meant that BANRO and the State are one just like Jesus and God.

¹⁶ “Chinyabuguma” means “unity” in Mashi, the local dialect.

¹⁷ LCD is an association of members of the community, mostly youth, living abroad. Created in South Africa, LCD has expanded to other countries such as America, Australia and Europe, and aims to defend the rights of the community and to promote unity in Luhwinja, where Twangiza is located.

“BANRO has destroyed our land because the place where people used to cultivate their crops and feed their livestock has been taken by BANRO. Many people have sold their land plots not because they wanted to but BANRO forced them to do so. If you refuse to sell your land they tell you that whether you like it or not they will take the land because the government has sold the whole place to the company (Group discussion, Traditional Authority, 17/07/2011).



Figure 6: Photos showing the hills of Twangiza with rural dwellings (left) and the Chinjira relocation settlements (right) (Source: <http://www.banro.com/s/Twangiza.asp>).

Traditionally, as the above photo shows on the left, households are scattered across hills on their own land. Houses are surrounded with yards in the back and front where different crops, including bananas, cassava, potatoes etc. are cultivated. However, the photo on the right shows that relocated households no longer have yard spaces for such activities, which means that they now need to entirely depend on wage labour in order to survive. This contrast with the BANRO’s website (<http://www.banro.com/s/Photos.asp>) statement that 238 “families relocated from the mining and processing areas at Twangiza” have been provided with social services and infrastructure, including a school, piped water, two churches, medical clinic and market, and accommodation comprised of 3 and 4 bedroom houses with outdoor sanitary facilities. One respondent however, complained that “the houses that BANRO built in Chinjira for compensation are bad houses; they used raw bricks to build them, [and] even the road BANRO built to go there is not usable for small cars, only BANRO’s trucks can use that road because Chinjira is on a mountain” (Respondent 6, Trader, 15-07-2011).

Unless mitigation efforts are taken to promote fair relocation and sustainable alternative livelihoods, the living conditions can worsen in both the short and long terms. However, land

relocations, in favor of formal mining, are not specific to Twangiza. In Ghana for example, as a result of land relocation, there was loss of agricultural productivity and food shortage (Adjei 2007). These practices are often the result of neo-liberal mining approach where developing countries, under SAPs, have been requested to privatize land in order to attract mining investment by MNCs, which according scholars such as Dummett (1985:381) and Lokongo (2009) are often associated with economic imperialism and neocolonialism. This is can be supported by the Twangiza case, where people feel that “muzungu” (white man), referring to BANRO Corporation, cannot be challenged, even in a court of law.

5.2.2.4. Lack of infrastructures and access to basic services

Lack of infrastructure and access to basic services, including, electricity and clean water and tarred roads were mentioned by many respondents, as some of the major challenges in Twangiza. The main reason for the lack of access to these services is that “nothing is done by government” (Respondent 2, NGO, 14/07/2011). While firewood constitutes the main source of energy, it is difficult for most households to access clean water in and around Twangiza. “There is no tap water, and people have to walk many kilometers to search for water to drink” (Respondent 2, NGO, 14/07/2011). Figure 7 below depict people’s struggle with drinking water in Twangiza.



Figure 7: Photo showing a woman fetching water in one of the Twangiza mining sites
(Source: Taken during the research fieldwork).

The mining site where this photo was taken was being used for both formal mining by BANRO and informal mining by local people who were now working illegally. The dirty (yellowish) water on the lower right corner of the photo was coming from informal mining

operations in a small river and on top of a mountain (See Figure 9, page 70). A survey conducted by OGP (2008) found that close to half of the population, and in certain places 95% has no access to potable water so that women and girls sometimes walk long distances, about 7 km on high altitude slopes, to reach the nearest water source. The nearest water source in some cases like the one shown in Figure 7 above is often a river of which the water has been polluted by mining activities.

Roads were also frequently mentioned by many respondents as one of the things they wanted to change about living in Twangiza. The area is connected to the city of Bukavu, via neighboring villages, through one unpaved main road. It used to be in bad condition so that a truck has to spend more than 8 hours to travel a distance of 80km. Today the road is being upgraded by BANRO so that it now takes 4 hours to reach Twangiza from the city of Bukavu. However, it remains too dusty during the dry season and muddy during rainy season to a point that only tracks and 4x4 vehicles can actually use it during the rainy season.

5.2.2.5. Low levels of education

Education was also mentioned as one of the biggest challenges in and around Twangiza. As shown in Table 5 earlier, the levels of education are very low in most households. The reasons provided for the low levels of education in Twangiza, included lack of money, lack of government or parents' support for the education of their children and children preferring informal mining over education, or they are just unwilling or mentally unable to go to school. As a result many children have been forced to drop out of school and get involved in premature marriage. Respondent 13 (Technician, 17/07/2011) for instance, said that all his six children "failed to finish their secondary school" because he "did not have money to pay for them". In order to afford school fees, parents have often encouraged their children to do informal mining. Other respondents described the problem of education as follow:

"Those children go to mines because of poverty. If parents have means, would they allow their children to go to mines instead of studying?...the state does not pay public servants; even during vacation there are children who go to mines in order to survive" (Respondent 1 Government officer, 14/07/2011).

"Illiteracy is high because people prefer doing artisanal mining instead of going to school; and education problems because unemployed parents are unable to pay school fees, there is no help from government" (Respondent 2, NGO, 14/07/2011).

However, it has often been difficult, if not impossible, for children to mix informal mining with education. Respondent 7 (Informal miner, 16/07/2011) for example, said that “I was not able to continue my studies because I did not have money to pay. First I was working in the mines after school but it was impossible to do both in grade 9”. The relation between mining and education is, therefore, complicated in Twangiza. In the literature, the exploitation of natural resources has been associated with negative impacts on education (Papyrakis and Gerlagh, 2003). In the Twangiza case, however, it is more poverty and lack of government support, than mining, which have caused low levels of education.

5.2.2.6. Political and social conflicts

The community in the Twangiza area is politically and socially divided over both the traditional leadership and mining issues. The local traditional leadership in the collectivity of Luhwinja, where Twangiza mining is located, is disputed between the brother of the late local King (Mwami) and his wife. The Mwami died when his heir was still too young to takeover. Many people in the community had expected the late King’s brother to take over the leadership. However, the wife (Mwamikazi) decided to rule on behalf of their son, which displeased the community, according to Respondent 14 (Civil society/Diaspora, 19/08/2012).

“In Luhwinja, they are not ruled by a woman, according to the custom if the King dies one of his sons must replace him, if his son is still young the brother of the King is the one who must take over until the young King grows up. But that woman came with influence from Kinshasa; she bribed some people to be on her side” (Respondent 14, 19/08/2012).

This political struggle has not only led to social conflicts in the village of Luhwinja but has also affected mining development in Twangiza as it may have been used to settle political scores since Kings have the power to make decisions in the granting of mining concessions in their traditional entities. While, the political leadership of Luhwinja was disputed between two leaders, the Twangiza mining concession was disputed between two private companies.

“BANRO and SOMICO were in dispute over the Twangiza mining. It seems like [Laurent] Kabila owned shares in SOMICO but when Kabila died BANRO won the contract. Justin, the bother of the late Mwami was in favor of SOMICO and the Mwamikazi was supporting BANRO; that is why even today the people who are linked to

Justin are against BANRO and the people who are linked to the Mwamikazi are supporting BANRO”(Respondent 2, NGO, 14/07/2011).

The defeat of the late King’s brother by the Mwamikazi (late King’s wife) to take over, the chieftainship on behalf of the young heir for the throne, and the subsequent death of President Laurent Kabila, who were in favour of SOMICO, enabled BANRO to retain the contract for Twangiza mining concession. Consequently, community members suspected of supporting the King’s brother have often been excluded from the benefits of directly associated with BANRO, such as jobs. Many of them, according to Respondent 14 (Diaspora, 19/08/2012) have been prosecuted for denouncing the impacts of BANRO in the community and people are, therefore, not free to claim their rights. Social media, especially Facebook has, therefore, been used as one of the safest ways to mobilize community member, particularly those who live in the Diaspora, to oppose the impacts of formal mining by BANRO in Twangiza. One of the Facebook updates (<http://www.facebook.com/luhwindja.diaspora>) reads as follows:

“... on the 25 and 26 July 2012 six people [...] were arrested in Luhwinja [...] for a case which opposes them to BANRO, who according to reliable sources would have been opposed to a relocation by the company, for a compensation or not, which is the shame of several stakeholders. The Chieftainship instead of pleading for the cause of the people, it has placed itself on the side of the company against their [the people’s] interests”.

The relationship between politics and mining in Twangiza is consistent with the resource curse approach (Dunning, 2005; Papyrakis and Gerlagh, 2003), whereby there is evidence that politicians tend to abuse their power and use the exploitation of natural resources for political and personal interests, at the expense of the general public, in order to prevent their powers from being challenged by opposition parties.

5.2.2.7. Environmental problems

Pollution was mentioned as one of the challenges facing the community in Twangiza. It was perceived as a result of both informal and formal mining. In relation to this Respondent 1 (Government official, 13/07/2012) complained that “artisanal mining is polluting our waters”. In contrast, other respondents said that formal mining by BANRO was polluting the environment. “Two doctors have confirmed...that people are getting lung diseases due to the power generators which BANRO is using because there is no electricity in Twangiza”. (Respondent 2, NGO, 14/07/2011). In more details, another respondent explained said that

“BANRO affected biodiversity during their mining exploration phase, sources of water have disappeared; surface and underground water has been polluted, dust pollution due to the tracks of BANRO. Noise pollution and harmful insects have been introduced through BANRO’S trucks, they are now biting people” (Respondent 3, civil society, 18/07/2011).

Mining has been always associated with environmental problems across the world. Informal mining has often been associated with more negative impacts than formal mining (Hentschel et al., 2003; Maconachie and Binns, 2007 and Adjei, 2007). In Twangiza, while formal mining was perceived as leading to pollution, nothing was said about informal mining. This, however, does not conclude that informal mining is pollution free in the area.

5.2.2.8. Child labour and prostitution

Child labour (see Figure 8 below) was mentioned also one of the challenges experienced in and around Twangiza. However, they also justified that while children “need to help their parent to pay for their own education” by doing informal mining, others were “abandoning school because they know they will get money quickly from mining” and as a result they “were also getting married [at a] very young age” (Respondent 2, NGO, 14/07/2011).

In the group interview, traditional leaders agreed that that the majority of children were involved in mining in order to help their parent to pay their school fees. However, they argued that “Generally, artisanal mining doesn’t cause children to stop going to school, may be only 10%” can do so due to informal mining (Group interview, Traditional Authority 17/07/2011).



Figure 8: Child miners (right) and vendors (left) in Twangiza (Source: Pictures taken during research field work).

Prostitution in contrast, was blamed on formal mining. “Prostitution has also increased due to [BANRO’s] expatriates from South Africa, Canada, Tanzania, Ghana and elsewhere. Women love people with money, women leave even the city in order to do prostitution in Twangiza” (Respondent 2, NGO, 14/07/2011).

Despite all the above mentioned challenges, respondents said they prefer to live in Twangiza for various reasons, including livelihood opportunities based on mining, agriculture, business, ancestral and native land, and due to lack of better alternatives. Respondent 7 for instance (Informal miner, 16/07/2011) argued that

“This is the land of my ancestors; it is rich in minerals and it is a good place for business because we can dig gold in the river and feed our children ... I have a family of 12 people, my father died and I am the only one in charge of the family. I can’t leave them and I am not able to take them somewhere else. All my ancestors and parents lived here”.

The socio-economic challenges experienced in Twangiza, including poverty, lack of basic services, low levels of education, low farming productivity, land relocations, political and social conflicts, environmental pollution, as well as child labour and prostitution, show the vulnerability context in which rural livelihoods have been constrained by external shocks. These shocks, as described in the SLF (see Figure 1, page 20), are often associated with various political, economic and natural changes (World Bank, 2001; Osmani, 2003). A community or household that has gone through these external shocks, can be further affected by new events or development decisions, which may help reduce poverty or make it worse (De Satge, 2002; Diga, 2007). This study investigates the impacts of the suspension of informal mining, as a development decision in the eastern DRC, on the already compromised livelihoods, by the aforementioned external shocks in Twangiza.

5.3. History of informal mining in Twangiza

Aged between 20 and 40 years old, most respondents were uncertain about when exactly informal mining began in Twangiza. Some of them said that by the time they were born their fathers had already been practicing informal mining. Others, particularly community leaders, mentioned that informal mining probably began illegally in the 1970s but was allowed in the 1980s (Respondent 2, NGO, 14/07/2011; Respondent 10, Informal miner, 16/07/2011).

“Artisanal mining [...] began, maybe, in 1973-74. It was discovered by cultivators, when a woman was cultivating a field, she can find stones with gold. Even shepherds, when

herding their flocks, they were discovering gold after it has rained and water had washed the land ... But that time artisanal extraction of mineral was illegal” (Respondent 1, Government, 13/07/2011).

*“Since independence MGL started mining [in Twangiza]. People were not allowed to dig gold but they were extracting minerals and selling them illegally. After MGL, in 1980 people started doing mining when Mobutu introduced the law of *Debrouillez-vous*” (Group discussion, Traditional Authority, 17/07/2011).*

The history of informal mining in Twangiza is consistent with that of mining in the DRC where, as mentioned in Chapter 3, MGL is one of the colonial companies that were involved in formal mining and which were affected by Mobutu’s policy shifts, causing economic problems and informal mining emerging as the only copying alternative in the country.

5.3.1. Discovery of minerals and beginning informal mining activities

Informal mining in Twangiza, as reflected in the above quote (see Respondent 1), was made possible due to a spontaneous discovery of gold minerals without sophisticated mechanical efforts, despite the legal constraints that were imposed on it.

“One person can just wake up in the morning; go to a mining site with his spade, a metal bar and a basin looking for a place where he can find gold. He can keep moving from place to places until he finds a place where there is a string of gold” (Respondent 14, Diaspora, 19/08/2011).

In Twangiza, informal mining, as shown in Figure 9, generally depends on the use of handy tools, including metal bars and spades, respectively used to dig and remove sand containing gold from the ground. Then, plastic bowls or basins (see Figure 8, page 68 and Figure 9) are used to wash and separate gold from the sand through water. But, sometimes gold sticks onto little stones or sand particles, making the separation process difficult. In that case, and in the absence of a mortar, a grinding stone and a mill (See Figure 9) are first used to grind stones or sand particles before the washing process begins.

The tools used for informal mining activities, in Twangiza, consistence with the definition of informal mining by Chupenzi et al. (2009), as a form of mining associated with lack or limited mechanization, lack of high technology and low productivity.



Figure 9: Informal miners using handy mining tools at work in Twangiza (*Source: Pictures taken during research field work*).

5.3.2. Informal mining regulation and actors

As mentioned earlier, in Twangiza, informal mining began as an illegal activity in the 1970s. Although it was later allowed by the regime of President Mobutu, in the 1980s, it remained largely unregulated. As a result, informal mining was self-regulated for years and ordinary community members needed permission from traditional leaders to conduct informal mining activities. In return, traditional leaders were offered financial incentives, depending on the productivity of the mine as well as their personal relationship with the miners. The traditional authority is “responsible for looking after the population and [their] wealth in the groupement [or traditional entity] and ... solving conflicts over land” (Group Interview, Traditional Authority, 17/07/2011).

Informal miners, especially in well-established mines, are often organized in hierarchies. On top of the hierarchy there are mine leaders (Lunangas¹⁸), followed by their deputies (Sous-Lunangas) and ordinary diggers (Bisokoma¹⁹) at the bottom. A mine leader is often regarded as the most important and highly respected person and leader because he is the creator of the mine. Respondent 14 (19/08/2012), a former miner and member of Luhwinja Chinyabuguma Diaspora, explain the process as follows:

“After discovering gold and if he finds it difficult to continue digging alone, he names his pit (mine); usually according to his name. Then he calls 3 people, he gives them titles as „SousLunangas”, then he tells them that there are a lot of gold and they need

¹⁸ In the local mining jargon, “Lunanga” means that more gold is found as someone digs deeper.

¹⁹ In the local language a “Bisokoma” are people who migrate and stay in an informal mining camp for a while. The singular form of “Bisokoma” is “Chisokoma”.

more people. Then the „Sous-Lunangas“ employ other people and inform them that they have found a „Lukanba“ [gold deposit]. They need strong men who can lift heavy stones”.

As a highly respected person, the “Lunanga” often stop working as an ordinary miner when his mine has become productive. “It is believed that if he goes underground the mine can collapse upon him as the gold was discovered through his hand” (Respondent 14). The mine leader therefore becomes the main decision maker in terms of employment provisions, and mediator between miners and local authorities (Respondent 14, Diaspora, 19/08/2012).

Although the power for decision making is often centralized and restricted to the mine leader, informal miners have a set of unwritten rules (see Table 6, below) of which they often remind one others to exercise most of the time in their meeting before the starting their mining activities. The mine leader, however, is not bound by the rules (Respondent 14).

Table 5: Rules among informal miners in Twangiza

<i>Rule</i>	<i>Rules in the local dialect (Mashi)</i>	<i>Translation and interpretation in English language</i>
No.1	<i>“Chisokoma arhahama owabontogo”</i>	“A digger must not take more portions than others”. This is a principle of equal sharing but which is not applicable to the mine leader (Lunanga)
No. 2	<i>“Okenge irhegeko lya Lunanga”</i>	“Respect the rule of the leader”. This rule is about ordinary informal miners paying their tribute to the leader twice a week, with a gift such as a chicken or beer
No.3	<i>“Okenge okuvurha ikoli”</i>	“Respect to pay tax”. Tax revenues are often collected from other miners and paid to local authorities by the mine leader
No. 4	<i>“Ngasi chisokoma n’olwage lupaho”</i>	“Every digger with own spade”. A spade is the most important and basic instrument; it is often referred to by informal miners, as “pen”. Just like a student can’t go to class without a pen, an informal miner can’t come to work without a spade. Other instruments are usually provided at the mine
No. 5	<i>“Orhalerhaga mukawe aha nshimo ya Lunanga”</i>	“Never bring your wife to the leader’s mine”. Informal miners used to believe that gold will disappear if a woman arrives at the mining site.

Informal mining in Twangiza has, therefore, been regulated by a set of culturally established norms, which obviously, can promote the exploitation of miners by their leaders.

From a modernization approach, Informal mining can, therefore, be defined as a traditional practice, which, as already mentioned, is often associated with lower productivity and more economic stagnation than modern economic practices (Gelderblom and Kok 1994; Willis, 2005). This can partly explain why neo-liberal inspired mining reforms were adopted in the DRC's 2002 Mining Code. This policy sets out rules for informal mining, including: 1) the acquisition of a permit to dig or buy minerals; 2) the interdiction of a certain category of persons, including those under the age of 18, military and police, public servants, etc. from practicing informal mining, 3) respect of mining norms, including safety, hygiene, water use and environmental protection, compensation of farmers affected by informal mining activities; 4) prerequisites for informal mining practices in certain mining, including if the areas is technically and economically only suited for informal but not formal mining.

In 2003, the Service d'Assistance et d'Encadrement du Small-Scale Mining (SAESSCAM) was established, as a government body, to implement the regulation of informal mining as stipulated in the 2002 Mining Code. The aim of SAESSCAM is to ensure transparency and government control over informal mining activities. It is also tasked with the provision of assistance and technical support, including training, relevant information and resources to informal miners (SAESSCAM, 2010).

In Twangiza, as a result of the 2002 mining reform, the power of traditional leaders to make mining decision has been taken by new actors, including government and private investors. According one traditional leader, "the right to mine was provided by government, kings and chiefs, but now the king has no authority" (Group interview, 17/07/2011). Through, SAESSCAM, the state has conducted awareness and mobilization campaigns to promote formal mining by encouraging informal miners "to invest their income in other sectors of the national economy, in order to ensure the after mines, and to support BANRO's dislocation programs (SAESSCAM, 2010).

Meanwhile, civil society, including faith-based organizations (FBOs) and NGOs, has sought to "accompany the community in order for it to find its account in the company of BANRO" (Respondent 2, NGO, 14/07/2011). Thus, the roles of these organizations, in Twangiza, has been to "denounce what is wrong" and [to] encourage informal miners to use their mining revenues to improve their livelihoods (Respondent 4, FBO, 17/07/2011).

Therefore, there has been a significant shift on how informal mining used to operate, since a new Mining Code (2002) was adopted in the DRC. While the Code was partly aimed at

improving informal mining activities in the DRC, those activities were suspended in the eastern part of the country. The aim of this study is to understand the causes the suspension and its impacts on rural livelihoods in Twangiza.

5.4. Causes of the suspension of informal mining in the eastern DRC

Between 2010 and 2011, informal mining activities were suspended across the eastern DRC. This eventually resulted in a complete stoppage of informal mining, which had already been compromised by BANRO's private formal mining in Twangiza. One of the objectives of this study was to understand the causes of the suspension of informal mining in the eastern DRC, including Twangiza. Based on most respondents' perceptions in this study, three causes were identified: 1) fraud, corruption, loss of state revenues and conflicts, 2) geopolitical influences, and 3) BANRO Corporation.

5.4.1. Corruption, fraud, loss of state revenues and conflicts

In the eastern DRC, informal mining activities were suspended, because they were associated with corruption and fraud, due lack of government control. Corruption and fraud were not only constraining the state to obtain revenues from mining, but were also promoting conflicts in the eastern DRC. As a result, informal mining was benefiting neighbouring countries were at the expense of the DRC (Respondent 14, civil society/Diaspora, 19/08/2012). In relation to this, Respondent 1 (Government official, 13/07/2011), complain as follows:

“If there wasn't fraud the country would have advanced with its minerals. The artisanal exploitation bring insecurity, if there was not artisanal we would not have all these conflicts. If there were factories for artisanal exploitations which are known by the state and which employ people we would not have all these problems”.

A more detailed account of corruption and fraud allegations were explained by Respondent 5 (Mineral Trader, 23/07/2011) who mentioned that

“The President said there was too much fraud. On the world market our neighbouring countries like Burundi, Rwanda and Uganda are the one who are exporting more minerals such as cassiterite, coltan and gold than our country. The President said that here in the east – we don't know what brought that to him..., that here in the east we are bordering with those countries. Then they said they must stop them but we don't know what their [the government's] plan was”.

Informal mining was, therefore, suspended partly because the state needed to effectively control informal mining activities, across the eastern DRC, in order to eradicate fraud, corruption and conflicts, and to maximize state revenues (SEASSCAM, 2010).

The suspension however, seems to have been influenced by modernization and neo-liberal approaches, where traditional practices, such as informal mining due to its reliance on less advanced technologically and lack of privatization, lead to economic stagnation (Gelderblom and Kok 1994; Willis, 2005). In the DRC it was therefore thought that closing informal mining would prevent the loss of state revenues. However, the eastern DRC case aligns with the natural resource curse approach, a critic of neo-liberal theory, where the exploitation of natural resources, not just informal mining, has often been associated with conflicts and weak state governance (Cone, 2007; Englebert and Ron, 2004; Papyrakis and Gerlagh, 2003).

While Corruption, fraud, loss of state revenues and conflicts were widely perceived as one of the causes for the suspension of informal mining in the eastern DRC, some respondents said they were not clear about the real causes of the closure of informal mining. This shows that the public was not involved in the decision to suspend informal mining.

5.4.2. Geopolitical influences

In contrast to concerns of fraud, corruption and conflicts, many respondents indicated that informal mining was suspended in the eastern DRC due to international influences. The US Dodd-Frank law, also known as US Financial Reform Bill, was mentioned as one of the geopolitical influences behind the suspension of informal mining in the eastern DRC. This law was amended in 2010 to impose a financial embargo on companies sourcing uncertified minerals from the eastern DRC. The ultimate purpose of the law was to prevent mining related fraud and the perpetuation conflicts (Kelly, 2010). Respondent 2 (NGO, 14/07/2011) explained the geopolitical aspect of the suspension of informal mining as follows:

“The reasons were purely political, under the international pressure. The suspension of artisanal mining came in response to the US Dodd-Frank law that wanted to impose transparency in the export of mineral from the east of Congo to prevent conflicts in the east of Congo. The government of the DRC, through the President of the Republic wanted to show that it wants to put an end to illegal exploitation of mineral resources by local and foreign armed groups, FDLR [Force Démocratique pour la Liberation du Rwanda], for example, and the uncontrolled [armed] bands which are mentioned in the reports of the United Nations that qualifies minerals from the east... as being blood minerals etc.”

Similarly, Respondent 1 (Government official, 13/07/2011) responded that informal mining was suspended in the eastern DRC,

“Due to insecurity, you must read the US legislation on Conflict minerals....The President decided to close artisanal mining in order to identify the traceability and commercialization of minerals [and to] block the route of fraudsters and armed bands to sell minerals”.

Geopolitical influences in mining activities and conflicts are not new, neither are they specific to the eastern DRC. Since World War II the flow of the minerals which were used to manufacture wartime metals, was controlled by the US and Britain to prevent their opponents, Germany and Japan from using those minerals (Dummett, 1985).

5.4.3. BANRO Corporation

Many respondents suspected that informal mining was suspended in Twangiza due to BANRO. As mentioned earlier, this Canadian mining company was introduced to develop formal mining in the eastern DRC, following the country's 2002 mining policy reform. Legally, informal mining was no longer allowed in Twangiza, as “the Mining Code stipulates that a site which has been ceded for industrial [or formal mining] can no longer be submitted to artisanal exploitation” (Respondent 2, NGO, 14/07/2011). However, the 2002 Mining Code also recognizes informal mining activities and provides for specific zones to be set apart for them (Respondent 2, NGO, 14-07-2011). Unfortunately such entities were never created in Twangiza, which means that full ownership of the area was given to BANRO. In relation to this one participant (Group interview, Traditional Authority, 17/07/2011) said:

“We heard that the president does not want people to dig minerals anymore, but in Twangiza, BANRO had already forbidden people to dig gold because they said [that] they bought this area”.

The prohibition of informal mining activities, in favour of BANRO, was seen as a threat to community because, as revealed earlier, informal mining constitutes a major livelihood activity in Twangiza. Therefore, BANRO had reduced, but was unable to fully prohibit informal mining activities in the area. They ceased completely, only as a result of their suspension, by the state, across the eastern DRC. Although, the introduction of BANRO, in 2003, in the village of Twangiza, and the suspension of informal mining across the eastern DRC, in 2010, are two separate events, BANRO was perceived as a cause of the suspension

of informal mining. There were also concerned that BANRO had not lived up to local expectations.

“I don’t know the reason why it [informal mining] was suspended ... I was digging gold in the river but when BANRO came they said we are not allowed to work in the river anymore. Then we asked them how are we going to live now, they said BANRO will give us jobs” (Respondent 7, Informal miner, 16/07/2011).

“Artisanal mining was closed because it was thought that people’s income could increase as they get employed and get salary. But this has not happened; it can happen if BANRO wants to” (Respondent 3, civil society, 18/07/2011).

“We think it was a strategy to give the space to muzungu [BANRO] that is why the government said they don’t want people to continue digging minerals. What astonishes us is that only our people were forbidden to dig minerals but muzungu continues to dig ... They said BANRO will bring development and give people jobs” (Group interview, Traditional Authority, 17/07/2011).

The case of Twangiza exposes the weakness of the DRC’s 2002 Mining Code that has been criticized for ignoring the poverty context of the country and the impacts of mining projects, such as BANRO, by prioritizing foreign investors over local communities (Mazalto, 2008; Kubokoso, 2012). The DRC’s approach to mining also reflects neo-liberal and modernization theories, whereby, as mentioned by Szablowski (2002) and Haselip and Hilson (2005), the promotion of FDI, through deregulation and limited state role the economy or privatizing key economic sectors, such as mining, is regarded as prerequisite to the achievement of economic growth and poverty reduction, therefore.

5.5. Impacts of informal mining suspension

The suspension of informal mining in the DRC has had severe economic impacts, not just in Twangiza, but in the Sud-Kivu province at large. Those impacts were briefly summarized by Respondent 2 (NGO, 14/07/2011) follows:

“You know here it is minerals that sustain the entire economy of the province and so [it is] the lungs of the whole economy of the country. Enterprises, banks, transport agencies, microfinance institutions [...] small merchants, all were no more selling because the first clients are none other than the people who go into the mining sites”.

Based on most respondents' accounts of their experiences in Twangiza, the impacts of the suspension of informal mining in the eastern DRC included exacerbation of unemployment, lack of income, hunger and poverty, and school dropouts.

5.5.1. Exacerbation of unemployment

As mentioned earlier, informal mining and agriculture were the main sources of employment in Twangiza. While jobs in these activities had already been compromised by the introduction of BANRO's formal mining, the situation became worse due to the suspension of informal mining activities across the eastern DRC.

"Since artisanal mining was supporting the local economy, in Twangiza many people became unemployed ...artisanal mining occupies a good number of young people and you know that employment is a serious problem in our country" (Respondent 2, NGO, 14-07-2011).

"About 3000 to 5000 people were digging gold from the water, BANRO only employed 500 people, those who are working on the road are getting between [US] \$3 and \$5" (Respondent 4, School Principal, 15-07-2011).

In addition, informal mining was not just a source of employment and income in Twangiza, but also worked in favour of agriculture related employment as it supported both the human and financial capitals needed for the promotion of agricultural activities.

"Even the men who have [own] land for cultivation were digging gold while their wives go to the field, because by digging gold they were being able to pay other women, who do not own land to cultivate for them" (Group interview, Traditional Authority, 17/07/2011).

"Since mining was closed agriculture has collapsed, people used to cultivate for others to get paid from [informal] mining" (Respondent 12, Technician, 17/07/2011).

In addition to informal mining and agriculture related employment, small businesses were also jeopardized due to the suspension of informal mining. In Twangiza, there had been a strong connection between informal mining and small businesses. According to Respondent 2 (NGO, 14/07/2011) informal mining was seen as "the lungs of the whole economy ... small merchants, were no more selling because the first clients are none other than the people who go into the mining sites". The suspension of informal mining, therefore, negatively affected local traders. Narrating his personal experience, Respondent 6 (Trader, 15/07/2011) said:

“Since informal mining was suspended, we have seen a serious loss of customers. We are spending weeks without selling. With informal miners we used to sell every day because informal miners were buying abundantly from our shop anytime they wanted to because their families live here. Other was coming from neighboring villages and when they want to go back to their families they buy from us” Now with BANRO employees, they only buy from us at the end of the month. The problem with BANRO is that many of the workers there are not from this community. Their families do not live here, and many are from other countries such as South Africa, Tanzania. They come with their own things and food; they don’t buy from us If you sell a few products, you spend all the money on food before you collect the amount that can allow you to acquire more items from the wholesaler.[As result,] the stock of merchandises in the shop decreases progressively”.

As it appear from the above quote, a combination of impacts on informal mining, agriculture and small business related unemployment meant that there was further income loss, lack of food and poverty, and school abandonment.

5.5.2. Further income loss and hunger

Before the suspension of informal mining in the eastern DRC, informal miners, as revealed earlier, had experienced reduction in their income earnings since the most productive mines had been occupied by BANRO in Twangiza. The complete stoppage of informal mining, due to the suspension further compromised the ability of many people to earn an income and to feed their families. For example, a young orphan heading a household, including more than 10 members, mentioned that it is the money he was getting from digging minerals which used to sustain them(Respondent 7, Informal miner, 16/07/2011).

“With informal mining people were getting a lot of money; a person could get like \$500 to \$1000 per month. With this money he can buy a cow, goat, pig and use the rest to eat” (Respondent 5, Mineral Trader, 23/07/2011).

The further loss of income led to famine in Twangiza where the living conditions were already characterized by food shortage due to low agricultural productivity.

“There is nothing else [people] can do, many people used to cultivate their fields but the majority of the fields are no longer productive, and the only way many people are able to eat is by going to [dig gold at] Mwana and Mbwenga. Those who have their

strength to dig gold were getting money in order to buy flour from the city” (Group interview, Traditional Authority, 17/07/2011).

Faced with food shortage, households and individuals whose incomes depended on informal mining became unable to afford the cost of food, not only because they had experienced further income losses and but also food competition between members of the community and migrant workers whose income from BANRO was not affected. Food supplies in Twangiza, as mentioned in the quote above, were now being imported from the city.

Telling his experience of famine, Respondent 7 (Informal miner, 16/07/2011) said: “I was no longer able get enough money to feed my family and pay school from my younger brother”. Similar experiences were describes by other respondents as follows:

“When it [informal mining] was closed, we could not afford to eat, even me as an adult I was about to die with hunger” (Respondent 10, Informal miner, 16/07/2011).

“Even children started suffering from malnutrition. Many charity organizations came and started giving food to families, we did not have many charity organizations here before artisanal mining was closed it was hard to feed my child” (Respondent 9, Informal miner, 16/07/2011).

Eventually, “life became difficult” (Respondent 10, Informal miner; 16/07/2011) and “an exaggerated poverty was remarkable” in Twangiza (Respondent 2, NGO, 14/07/2011), due exacerbated unemployment, further loss of income and hunger as the result of the suspension of informal mining in the eastern DRC. From sustainable livelihood approach, livelihoods among the rural poor depend on their ability to accumulate assets (Diga, 2007; Gamble and Prabhakar, 2005). While unemployment and loss of income compromised financial capital or asset, hunger negatively affected children’s health, which can constrain the community’s or households’ ability to accumulate the needed human capital to ensure the production of livelihoods in the future.

5.5.3. School abandonment

The suspension of informal mining in Twangiza also resulted in school abandonment by both pupils and teachers. This happened because many parents were only able to get money to pay school fees by practicing informal mining. As some respondents explained it,

“Mining is very important; you know in this country since the government of Mobutu, the government does not pay salaries. If people survived in this community it because of artisanal mining, if schools were still able to find teachers it is because artisanal mining was helping parents to pay school fees for their children. If they do not pay teachers cannot be paid and children cannot study. Artisanal mining was favorable for education because parents who are willing were able to pay fees anytime; they need not to wait for salary at the end of the month. They managed themselves with their mines. With artisanal mining, students were helping parents to pay school fees but since it closed they can’t help their parents anymore” (Respondent4, School principal, 15/07/2011).

“...many students stopped going to school, 2 of my 4 young brothers stopped going to school. I hope next year they will go back to school because we have just started working again” (Respondent 9, Informal miner, 16/07/2011).

However, schools were abandoned not only by pupils but also by teachers. Many respondents mentioned that experienced teacher abandoned schools for employment in the private sector, since their monthly stipends were affected by parents’ inability to pay school fees.

“Since artisanal mining closed, many people are no longer able to pay and some of those who are working in BANRO often pay fees very late. Some teachers like me and students had no other alternative but to give up school in search for work. Some teachers are now working as security guards at BANRO. Schools were left with new matric finalists; most of them are mal performing in schools but principals cannot fire them because there is no one else to teach learners” (Respondent 4, School principal, 15/07/2011).

School dropouts can be serious problem in Twangiza where many households have already been characterized by low levels of education. Education is important for the accumulation of household’s livelihood assets, in terms of human capital, which are required to fight poverty (Diga, 2007, Duncombe, 2007, Temeng and Abew, 2009). Inadequate human capital means that there is a lack of the necessary skills required to cope with both the present and future socio-economic challenges, especially in the increasingly market-driven economy of today.

5.6. Coping mechanisms and reactions to the suspension of informal mining

Different adaptive mechanisms were adopted by different people to cope with the impacts of the suspension of informal mining. How individuals, in Twangiza, reacted to the impacts of the suspension of informal mining often depended on their levels of vulnerability.

While some people had no other alternatives but to stay home, others liquidated their assets and/or sought alternative employment, including through migration. The most vulnerable, mostly children and women become involved in theft and prostitution. The situation finally degenerated into wide community protests and forced resumption of informal mining in BANRO's private mining concessions.

5.6.1. Staying at home and asset liquidation

There were limited alternative livelihood strategies to minimize the impacts of the suspension of informal mining in Twangiza. As a result, many people had no other options but to stay at home. Responding to the question about whether informal miners resorted to alternative activities one respondent asked:

“What else can people do? There is nothing they can do because the government does not care about people. Men started spending the day at home; others were looking for jobs there at BANRO but BANRO not many of them were employed” (Group interview, Traditional Authority, 17/07/2011).

In order to survive at home, some people decided to liquidate their properties which they had accumulated before informal mining was suspended. “People started selling their wealth such as cows, land, etc. in order to survive” (Respondent 12, Technician, 14/07/2011). However, assets liquidation can undermine rural household's ability to accumulate key natural capitals such as land, which are needed for the production of livelihoods, such as food and income, through agriculture. As a result, the living conditions can become worse in the community. According to Gamble and Prabhakar (2005), assets are important to achieve economic and social development. In Twangiza, while some people used revenues their asset revenues for household consumption, others used them to find alternative employment.

5.6.2. Alternative employment and migration

The other strategy adopted to cope with the suspension of informal mining was to find alternative employment. While some people managed to obtain some form of employment from BANRO, others embarked on self-employment or migrated away from the community. In relation to whether informal miners had resorted to alternative activities in Twangiza, Respondent 1 (Government official, 13/07/2011) said:

“I don't think so, but some of those who were digging in Twangiza were being trained for alternative activities and others have been employed by BANRO. The problem is that

some artisanal miners refused to register with BANRO, only those who were registered were trained and some of them were employed in the company. The people who were compensated also, some of them bought cars, others moved to town.....but the majority of men were sitting at home every day” (Group interview, Traditional leader, 18/07/2011)”.

However, “BANRO only employed a small number of artisanal miners, the rest were doing nothing that is why people were revolting against BANRO most of the time” (Respondent 2, NGO, 14-07-2011). A total of 1500 informal miners were registered²⁰ by SAESSSCAM in Twangiza, but only 800 of them were employed in BANRO (Respondent 3, civil society/Faith based, 18-07-2011). The other problem is that most of those who were employed did not retain their positions. According to Respondent 5 (Mineral Trader, 23-07-2011), “BANRO promised that they will employ those diggers but this year they fired 700 people at once”. Speaking from personal experience, Respondent 7 (Informal miner, 16-07-2011) mentioned that he was employed by BANRO for “\$104 per month” but after three months he “was fired with many other people for unknown reasons”. In addition, even those who retained their positions in BANRO still experience lower incomes than before. This was explained by Respondent 5 (Mineral Trader, 23/07/2011) as follows:

“With informal mining people were getting a lot of money; a person could get like \$500 to \$1000 per month. With this money he can buy a cow, goat, pig and use the rest of to eat. Now if you give him \$100 or \$120 what can he do with it? But now the muzungu cannot allow people to dig gold in Twangiza anymore”.

While some people worked for BANRO as a coping and adaptive mechanism to minimize the negative impacts of the suspension of informal mining, others, especially those who had valuable assets to liquidate, reinvested the money in other activities for self-employment.

“... Cars and motorbikes have increased [in the area] because artisanal miners who had saved their monies decided to buy cars in order to find alternative occupation”.
(Respondent 3, civil society, FBO, 18/07/2011)

“Besides digging minerals, I’m telling you there nothing people can do in here in our village. There are some people; I think four or five, some of whom were mine owners and

²⁰ It was estimated that there were between 3000 and 5000 informal miners, but only 1500 of them accepted to participate in a registration campaign by SAESSSCAM which was aimed at recording the number of informal miners and providing support and training for them to engage in alternative activities to ensure a smooth transition from informal to formal mining in Twangiza.

other sold their farming land to BANRO who have bought truck; they are now transporting people and goods to and from the city” (Group interview, Traditional Authority, 17/07/2011).

In contrast, people who were unable to sell their assets, or just did not have valuable ones, decided to focus on their farming activities or to migrate away in search for employment. However, as mentioned earlier (See Table 5), farming is mostly practiced for subsistence and had been associated with decreasing productivity and low income return in Twangiza. People, according to Respondent 2 (NGO, 14/07/2011) “who were not relocated continued cultivating their fields but agriculture alone is not enough”. In the meantime, those who could not find jobs with the highly competitive BANRO or elsewhere in the community decided to migrate away in search of employment.

“Also some youth went to look for jobs outside the community when they saw that it is difficult to find a job in BANRO if you don’t have someone who knows you among the top official in BANRO” (Group interview, Traditional Authority, 18/07/2011).

As a result, some grand-parents were left to carry the burden associated with the need of their grand-children whose young parents had migrated. This was the case of Respondent 13, a more than 60 year old technician (18-07-2011), who complained that

“My grandchildren needs fell on me because my sons were not digging gold anymore ...Things are still tough because in order for my children and grandchildren to get money, they need to travel far away to find money by digging gold. In their first trip they spent 4 days walking to Kamituga²¹”

While some people were able to find alternative employment or migrated to cope with the impact associated with the suspension of informal mining, some of the most vulnerable resorted to theft and prostitution.

5.6.3. Theft and prostitution

Theft and prostitution were the only way for some of the most vulnerable, including children and women, to cope with the impacts of the suspension of informal mining in Twangiza. “People started stealing from one another, life became worse” (Respondent 11, Informal miner, 16/07/2011). In more clear terms, participants in the group interview submitted that

²¹Kamituga is one of the mining towns in the eastern DRC (see Figures 3 and 5 in Chapter 3)

“Since the men stopped going to the river, things have become terrible in this area, as we said earlier, [...] some of those children who stopped going to school started stealing people’s goods in the community. Now if you wash your shirt and leave it outside and no one is at home you will not find it when you come back” (Group interview, Traditional Authority, 17/07/2011).

While mostly children were now involved in petty theft, some women, including girls resorted to prostitution. This however, as mentioned earlier, was also due to the presence of foreign migrants working for BANRO. According to Respondent 3 (Civil society/Faith based, 18/07/2011), “some women even started prostituting to BANRO workers because their husbands were no longer getting money from artisanal mining” (Respondent 3, Civil society/Faith based, 18/07/2011).

Theft and prostitution can hurt social capital, not only in the community, but also within households. Social capital (see Table 2, page 22) depends on social trust and the ability of people to assist others, usually the most vulnerable. Theft can cause suspicion, discomfort and loss trust among people in the community. Prostitution likewise, can damage marriage relations and compromise children’s welfare.

5.6.5. Protests and forced resumption of informal mining activities

Faced with deepening livelihood challenges, due to the suspension of informal mining in the eastern DRC, accompanied by limited coping mechanisms in Twangiza, the community mobilized and embarked in mass protests against BANRO, and eventually resumed informal mining activities, forcefully and illegally.

“When people got hungry they decided that whatever happens must happen, whether it is death or life. We started barricading the road, and then a meeting was done between the community and the governor of the province. After that we started digging by force and no one chased us again, before people were getting arrested” (Respondent 9, Informal miner, 16/07/2011)

“They [people] barricaded roads to prevent the cars of muzungu from passing in the road; they said that even if they shoot them they will accept to die instead of dying with hunger. That is when the people finally decided to return into artisanal mining by force” (Group interview, Authority, 18/07/2011)

The protest was directed against BANRO for different reasons. As discussed previously, This Canadian mining company was perceived as a cause for the suspension of informal mining in Twangiza. In addition, it was accused of employing more migrants and putting them in better positions than locals. The community was also complaining that BANRO was practicing an unfair land eviction or relocation program and dismissal of former informal miners who had been employed in the company (Respondent 6, Trader, 15/07/2011).

These were enough reasons for the community to embark on mass protests to claim their right to practice informal mining. The other reason why the community decided to claim informal mining by force is that had already been reinstated in other parts of the eastern DRC for more than two months. In Twangiza however, informal mining became illegal since the area, as discussed earlier, had been privatized for formal mining by BANRO since 2003, although it both the state and the company had been unable to fully prohibit informal mining activities in Twangiza before they were suspended in other regions across the eastern DRC.

5.7. Reinstatement of informal mining in the eastern DRC

The main reason why informal mining was reinstated, less than one year after its suspension in the eastern DRC, there were widespread socio-economic hardships, throughout the eastern DRC and not just in Twangiza. In relation to why informal mining was reinstated just within less than one year of its suspension in the eastern DRC, one respondent said that

“There was no other alternative but to lift the measure because it was really inevitable. In certain areas the populations were already saying that they are going to enter in the sites by force even if they get shot because they are not going to die with hunger whilst there are minerals in their areas”(Respondent 2, NGO, 14/07/2011).

Based on the above quotes, it is to be argued that the suspension of informal did not achieve the adjective it was intended for, which was to discard the mining sector from corruption, fraud, loss of state revenues and conflicts in the eastern DRC. The failure came from the fact that livelihoods were compromised and, therefore, the good intention of government became a threat to people. As a result there a threat of public revolt against both the state and the private sector in mining, as it emerges in the following quote:

“Yoooooh, people made a lot of noise. People were sending messages to Kinshasa; to the President that there is nothing else they can do besides mining which they started doing since their ancestors. People were saying, „now we want to divide the country, we all

want to become rebels, you don't want anybody from there [in Kinshasa] to come here anymore. Then the President said ... they were saying they will try to close informal mining for 6 months but if the trial does not finish they will close forever. People said if he closes forever, it means he has sold this part of the country. Because, what is BANRO doing here? People then went to attack BANRO – they destroyed [BANRO's] houses in Mukungwe [near Twangiza] and threatened to buy arms to shoot BANRO. Government officials were encouraging people because they also benefit from minerals” (Respondent 5, Minerals Trader, 23/07/2011).

In addition to a threat of public revolt, the suspension measure was not only disrespected due to its unpopularity, but also not adequately implemented.

“When they closed informal mining that is when people did it ... that is when they opened [it] to government soldiers. They took over the mining sites and started using people to extract minerals for them; that is how they proved us wrong... As Negotiants we were buying minerals in our homes and sell them to one local Comptoir. These Comptoir are the only one who knows where they were going to sell them too. But sometimes those who buy minerals fraudulently were crossing directly to Rwanda without passing through comptoirs” (Respondent 5, Minerals Trader, 23/07/2011).

In response to the implications of the suspension of informal mining in the eastern DRC, the civil society embarked on a lobbying campaign both national and internationally to get the suspension lifted.

“... the NGOs of the civil society such as OGP have pleaded with the USA, RSA, in Europe, [and] everywhere, in order to request that the [suspension] measure be immediately lifted because that would plunge populations in terrible chaos” (Respondent 2, NGO, 14/07/2011).

Thus, suspension of informal mining in the eastern DRC was lifted because it was associated serious socio-economic problems, which had degenerated into popular discomfort and protests, which prompted civil society lobbying to get the suspension lifted. Protest and civil society participation in relation mining development, however, is not specific to the DRC. Similar events have happened in other parts of the world such as in Peru (see Bury, 2004), North America (see Garrington and Rumpler, 2010) in response to the impacts of neo-liberal driven mining development.

5.8. How should mining be used to promote sustainable livelihoods and development

One of the objectives of this research was to develop a community perspective of how mining should be used to promote sustainable livelihoods and development in the eastern DRC, particularly in Twangiza. In relation to this, three main suggestions were made, including the promotion of both formal and informal mining, need for good governance and transparency and support for local development initiatives.

5.8.1. Formal and informal mining

It was most respondents' views that both formal and informal mining development should be equally considered as "win-win principle" not only for the state, but also for investors and to "make the population comfortable" in Twangiza (Respondent 1, Government, 13/07/2011).

"The state and investors [should] support artisanal mining to accompany industrial mining. The state, through SAESSCAM should practically, not only theoretically support artisanal mining ... [but also] provide an exclusive zone for artisanal exploitation in order to promote social peace in the Collectivity of Luhwinja" (Respondent 2, NGO, 14/07/2011).

"When the state wants to exploit minerals it must leave a separate place for people to do artisanal mining, because it was one of the most important activities for our survival. Now we are afraid, we are going to die from hunger" (Group interview, Traditional Authority, 18/07/2011).

A similar suggestion was made by informal miner respondents who demanded that "BANRO should stay on their side and leave us on our side because they can't give jobs and if they give you a job they fire you after month" (Respondent 7, Informal miner, 16/07/2011). Likewise Respondent 11 (Informal miner, 16/07/2011) said: "leave people alone to dig their gold because muzungu [BANRO] cannot take us all, he is not God".

A win-win situation, according to Respondent 7 (Informal miner, 16/07/2011) could be achieved by "creating small-scale mining industries where artisanal miners can orientate their production" and organize around cooperatives. This would provide them with fair markets and platforms to save and reinvest their mineral revenues, unlike before when they were being "tricked" by mineral traders. It would also enable the state to benefit through tax collection. He re-emphasized that the "the population must win, the miners must win, the state must win, investors must win, farmers, and everybody must win, the principle of win-

win” (Respondent 1, Government official, 13/07/2011). However, a win-win solution may not be achieved if a participatory approach is not adapted to fully involving informal miners in the development process of the suggested small-scale industries and cooperatives.

5.8.2. Good governance, transparency and peace

It was also suggested that in order to disassociate mining with fraud, corruption, conflicts and loss of state revenues there is a need for good governance and transparency in the DRC.

“The problem we have in DRC, it is those government officials are the one who loot the country. Let us say if they can charge even a small tax at the border post, when a person comes from Dubai for example, he can pay a tax for \$10.000 but those officials will only record about \$2000 in government coffers and share the rest of the money. But if they can put all the money in the coffers, everything can be okay ... Now we are buying a “Carte de Négoce” [permit for local minerals traders], for \$570, an amount which includes all the taxes required by the city and the territory. Today those who collect fraudulent taxes are still coming but if you have a valid „Carte de Négoce”, you can turn them away but they can still beg you to give them something, they can’t return empty handed” (Respondent 5, Mineral Trader, 23/07/2011).

“We need the state to introduce a tax that will prevent soldiers and police [from] asking money because we are paying too much to unknown soldiers” (Respondent 7, 16/07/2011).

To overcome the above mentioned challenges, Respondent 2 (NGO, 14/07/2011) referred to two international frameworks on how to control mining and the trade of mineral for the eastern DRC as follows:

“ITRI’s[International Tin Research Institute] system of traceability which consists of checking the whole chain from mine provisions to final consumers, ... should be put into practice with all its rigor in order to allow miners to sell legally and Comptoirs to export [minerals] legally in order for everyone to find their way, and the gain obtained may benefit the development projects for the communities surrounding mining sites, as in the law it is requested to artisanal miners to organize themselves in cooperatives so that they can participate in the development of their areas” (Respondent 2, NGO, 14/07/2011).

While it was suggested that authorities should “lead people in a simple and right way, [and] BANRO should not relocate people” (Respondent 10, Informal miner, 16/07/2011), there

were concerns about transparency in relation to informal mining activities. “Today artisanal mining is not controlled” (Respondent 1, Government, 13/07/2011). The creation of small-scale industries and cooperative, discussed earlier, were suggested as on the strategy to ensure state control of and transparence in the informal mining sector.

Finally, there was an appeal for peace in Twangiza,

“People should stop fighting even though they are vulnerable – they should wait for government decision. All the authorities, including the governor have promised that they will take the complaints to superior authorities” (Group interview, Traditional Authority, 17/07/2011).

The appeal for good governance, transparency and peace is an indication that the challenges faced in the eastern DRC, particularly in Twangiza, are rooted in structural socio-economic and political problems beyond informal mining. In the literature (see Papyrakis and Gerlagh, 2003) the exploitation of natural resources is strongly associated with weak governance and conflicts in many resource-rich developing countries.

5.8.3. Support for local development initiatives

Another suggestion made with regard to mining and sustainable livelihoods and development in the eastern DRC, particularly in Twangiza, was that local development initiatives need to be supported by all stakeholders, including government, private mining companies and the community. Among other things, infrastructure, employment, education and agriculture were mentioned as local development initiatives in Twangiza. It was suggested that private mining companies, such as BANRO “has already built two schools and upgraded three [others]”, have a major role to play in promoting local development initiatives. According to Respondent 2 (NGO, 14/07/2011), “mineral exploitation can benefit the community if the company contributes in the development of infrastructure such as roads, schools, water etc.” Similar suggestions were made as follows:

“Bring indigenous development, we do not want imported development, we need local initiatives to be supported. One person in the community has initiated a small electricity project; he should be supported ... the society should work with BANRO... the community should be employed in the company at all levels –most members of the community are employed as unskilled labour; most people in high positions are Ghanaians, Tanzanian,

South Africans, Kenyans and from other places where BANRO worked before”
(Respondent 3, civil society/FBO, 18/07/2011).

“In order to develop, since BANRO has come here, [they] should provide jobs to all of us. There are jobs for people who have high levels of education and for those who do not have. The government also needs to support agriculture and help us to pay school fees”
(Respondent 13, Technician, 18/07/2011).

Education, as a local development initiative also needs to be supported. The government, according to Respondent 7 (Informal miner 16-07-2011) needs to provide support for education in order to prevent children from working in the miners and smoking drugs. Children should not just stay at home because “they can steal from people” since “they are now used to getting money” from informal mining” (Respondent 7, Informal miner 16/07/2011). A similar suggestion is made in the following quote:

“We have children going to school, but parent are unable to pay for them – we want our children to get bursaries to study and the state should relieve parents from paying school teachers” (Group interview, Traditional Authority, 17/07/2011).

Agriculture was also pointed out as an important local development initiative,

“Our complaint to the problem of the community of Twangiza is to encourage agriculture and livestock” (Respondent 2, NGO, 14-07-2011)

“...here artisanal mining is impoverishing people because people ignore agriculture. If they pay you \$100 in industrial mining you know what to do with it, you have a plan to do with the money; an intelligent person can even indebt himself to the company in order to buy a cow and repay the company by installments from their salaries”(Respondent 1, Government, 13-07-2011).

The suggestions made by respondents, in this study, reveal the complexity of achieving sustainable livelihoods and development in the eastern DRC, particularly in Twangiza, where there has been a mix of political and socio-economic challenges. An inclusive approach, as suggested by respondents, requires all stakeholders to play their role more responsibly. A win-win solution, in terms of the success of private formal mining project, meeting the state’s need for mining revenues and the local need for sustainable livelihoods, can be achieved, at

least in the case of Twangiza, without a participatory approach, in terms of a tri-sector partnership, actively involving the state, the private sector and the local community.

5.9. Conclusion

This chapter has revealed that the suspension of informal mining in the eastern DRC has had significant negative impacts on rural livelihoods in Twangiza. The living conditions in this area were initially affected by the introduction of formal mining years before the suspension of informal mining.

The suspension was caused by both internal and geopolitical concerns about relationship mining and corruption, fraud, conflicts and loss of state revenues in the in the eastern DRC's mining sector

Due to the suspension the situation became worse during the suspension of informal mining because the main sources livelihoods, including both informal mining and farming activities were compromised in many households in Twangiza. There was unemployment exacerbation, lack of income, hunger and school dropouts. In addition, there were no adequate alternative livelihoods for many households, especially informal miners, to cope with the impacts of the suspension. Many people were left without options but to sit at home, seek for jobs in the community or migrated away. While, those who had acquired valuable assets liquidated them to self-employ, the most vulnerable resorted to theft or prostitution. The deteriorating social-economic situation shortly resulted in mass protests and eventually led to a forced and illegal resumption of informal mining in the already privately owned Twangiza mining concession. Therefore, most respondents, in this study, suggested that both formal and informal mining as well as local development initiatives should be promoted in order to achieve sustainable livelihoods and development.

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1. Introduction

This study set to investigate the causes of the suspension of informal mining in the eastern DRC and its impacts on rural livelihoods in Twangiza. The study started by describing the conditions and the history informal mining in order to understand the socio-economic and political factors defining the relationship between mining and livelihoods in the area. The second aspect of the study was to investigate the politics, in terms of the reasons why informal mining was temporarily suspended in the eastern DRC and the impacts of the suspension on rural livelihoods in Twangiza. The other aspect was to describe household coping mechanism and people's reactions to the suspension of informal mining. The last aspect of the study was to discuss, based respondents' views, how mining can be used to achieve sustainable livelihoods and development in Twangiza and in the eastern DRC in general. The study was conducted using semi-structured interviews with a total of 21 participants, including both community leaders and ordinary heads of households. A content analysis, through NVIVO, was used to analyze the data. The findings of the study are summarized and discussed in this chapter.

6.2. Summary of the research findings

6.2.1. Living conditions and the history of informal mining in Twangiza

The community of Twangiza has mainly depended on the exploitation of natural resources, including both informal mining and agricultural activities for livelihoods, for approximately four decade. Other activities include small business and labour related wage, which have been mainly driven by mining but remain insignificant part of the local livelihoods. Most households involved in this study tend to use their income, regardless of its source, to accumulate assets including but not limited to plots of farming land, houses in durable materials and livestock.

However, living conditions in Twangiza are generally characterized by low education, poor infrastructure, including clean water, electrify and paved roads facilities, child labour and prostitution, environmental pollution, decreasing agricultural productivity and food shortage. These challenges are mainly rooted in the DRC's long history of political and socio-economic instabilities and most recently, in the introduction of formal mining which has led

to loss of farming and mining land in Twangiza, as the county endorsed neo-liberal reforms in its 2002 Mining Code.

In Twangiza, informal mining activities emerged during the late President Mobutu's regime, between the 1970s and 1980s, when there was a shift in mining policy which forced established colonial companies to discontinue their formal operations. Informal mining is not mechanized; miners only rely on handy tools such as spades, metal bars, grinding stone, etc. to extract gold. Until the 2002 Mining Code was adopted, informal mining was self-regulated and run by local people under the protection of traditional leaders. Although SAESSCAM has been established as a government body to provide technical support to informal miners, under the 2002 Mining Code, informal mining was suspended across the eastern DRC between 2010 and 2011.

6.2.2. Causes of the suspension of informal mining in the eastern DRC

The present study has identified three main reasons why informal mining was suspended in the eastern DRC. Firstly there were internal concerns about the links between corruption, fraud and conflicts and informal mining activities in the eastern DRC. Secondly, there were geopolitical pressures on the DRC to manage its mining sector in a transparent and conflict free manner. Thirdly, according to many respondents' suspicions, the state wanted to promote the expansion of BANRO's formal mining in the eastern DRC.

Figure 10 below depicts a system of a dual mining sector, comprising of both informal and formal mining in the eastern DRC. Having both informal and formal mining activities, Twangiza is a rural case that provides a true reflection of the politics of mining reforms in the eastern DRC.

Whereas the pink colour shows informal mining and its actors, the blue colour represents formal mining and its actors. Supporters of informal include mostly local traditional leaders, civil society and local people, are generally concerned with livelihoods promotion in the area. They see informal mining as an important livelihood strategy to supplement the lack of better alternatives in the area. Pro-informal mining actors generally believe that formal mining only provides limited economic opportunities, firstly because mining companies, such as BANRO cannot employ everybody. Secondly, mining companies do not provide considerable social benefits, as the state, due to weak governance, does not often ensure that they exercise their corporate social responsibility.

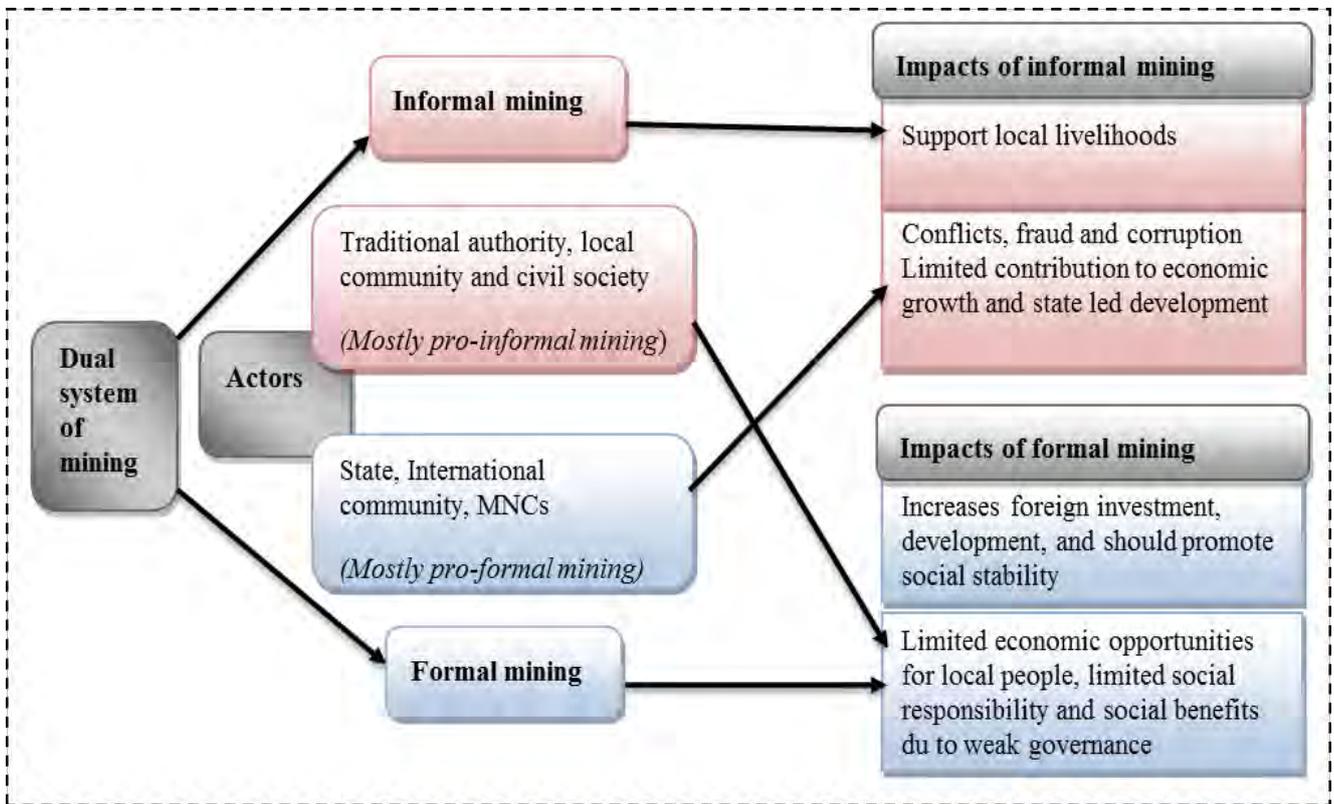


Figure 10: Politics of mining reforms in the eastern DRC (Source: Designed by the author)

In contrast, opponents of informal mining, including the state, MNCs and some members of the international community such as the US, generally have can be described as modernists and neo-liberal approaches to the DRC mining sector. For them, informal mining promotes corruption, conflicts and the loss of state revenues because the state has been unable to effectively control informal mining activities, preventing the state to maximize mining tax collection. Instead, minerals from informal mining are being sold fraudulently to neighbouring countries and used to fund armed forces and to perpetuate conflicts in the eastern DRC. The international community has been concerned with the perpetuation of conflicts in the eastern DRC due to informal mining activities. In 2010 the US particularly, adopted a policy threatening to enforce an embargo on US companies exporting uncertified²² minerals (conflict-minerals) from the eastern DRC.

This study has, therefore, found that while the state was concerned with fraud, corruption and loss revenues in connection with informal mining, it is geopolitical influences that eventually led to the suspension of informal mining in 2010 as the DRC government sought to appease the US and other western players. However, in Twangiza, BANRO was also perceived as one of the causes of the suspension of informal mining, perhaps, because many respondents did not understand why informal mining, but not formal mining, was suspended. They believed that the suspension was a strategy to facilitate the expansion the eastern DRC.

²² Figure 4, in Chapter 3, depicts a mineral supply chain procedure to be followed for certification

6.2.3. Impacts of the suspension and coping mechanisms in Twangiza

The present study has found that the suspension of informal mining in the eastern DRC negatively affected the already vulnerable community, especially informal miner households in Twangiza. Informal mining has been an important source of employment and income, which supports other household livelihood activities in Twangiza. The suspension of informal mining has, therefore, exacerbated unemployment and lack of income, food shortage and school dropouts. The lack of income was not only because miners were no longer digging gold, but also because informal mining was a driving force behind small businesses and the local economy in general terms. Income from informal mining was used to buy food from outside the community because agriculture, historically the main source of subsistence was decreasing in productivity. Some respondents mentioned that the lack of food affected their personal and children's health negatively. Income from informal mining was also used to pay school fees to the extent that children worked in the mines to support their parent in this endeavor. However, the support of informal mining for education is critical since many children were often unable to continue both mining and schooling after they completed primary school. More often than not school was foregone because parents alone could not afford to feed the family and pay for schooling. The suspension of informal mining has a serious impact on education as many children dropped out from school as they could no longer afford to pay. Consequently, many teachers abandoned schools because they were no longer being paid by parents. The government has been unable to pay teachers for decades and hence education relies on income generated by parents. Income from informal mining was also used for asset accumulation in most households. The present study has found that the suspension of informal mining undermined household asset accumulation in Twangiza as a result of some of the coping mechanisms adopted in reaction to the impacts of the suspension of informal mining.

To cope with the impact of the suspension various strategies were adopted, including people searching for alternative activities, doing nothing at home, theft and prostitution, and protests which eventually led to a forced resumption of informal mining. Following the closure of informal mining in Twangiza not only informal miners but also those who were employed in other informal mining dependent activities such as education and mineral trading embarked on a search for alternative livelihoods. While some of them got employed in BANRO, mostly on a part-time basis, the majority used other strategies. One of the strategies used was the liquidation of assets, such as livestock and land, generally acquired from informal mining

activities. The money obtained was then used to create other occupations, to migrate in remote areas to seek employment, or for household consumption. While those who did not have valuable assets and could not find alternative occupation were just spending the day at home doing nothing and the most vulnerable such as children and women resorted to petty theft and prostitution.

6.2.4. Community reactions and participants' opinions on mining and development

The socio-economic impacts of the suspension of informal mining were not just felt in Twangiza, but throughout the eastern DRC. This prompted a generalized lobbying campaign by civil society on both national and international levels to get the suspension lifted. While informal mining had been reinstated by March 2010 in the eastern DRC, in Twangiza it was not allowed because the area has been privatized to a MNC (BANRO). In reaction, the community embarked on a mass protest against the company in May 2011 and illegally resumed informal mining activities.

This study has documented participants' opinions about how mining should be used in Twangiza and in the eastern DRC in general. Three main suggestions were made, including the promotion of both formal and informal mining, good governance, peace and transparency, and support for local development initiatives. It was believed that the promotion of both formal and informal mining would lead to win-win solution for the state, investors and the community, since the private-led formal mining cannot bring development alone. For this to happen effectively there is a need for good governance, peace and transparency on all sides. The last suggestion was for a concerted effort between the state, the private sector and the local community to support local development initiatives, including employment and infrastructures development.

6.3. Discussion

It has been argued in this dissertation that the suspension of informal mining in the eastern DRC was influenced by modernization and neo-liberal ideas. From a modernization perspective, informal mining can be regarded a more traditional than modern economic practice due to its lack of high technology use and adequate state regulation as has been controlled by traditional leaders. Modernization theory associates these traditional practices with tribalism (tribal conflicts) and low productivity and hence the lack of economic progress.

Blaming and banning informal mining by local people on the premises that it promotes fraud, corruption and loss of state revenues as well as conflicts in the eastern DRC, implies formal mining by multinational companies (MNCs), such as BANRO, would solve the problems and increase tax collection, promote social stability and development through FDI in the mining sector. This however, not only contradicts the predominantly neo-liberal DRC's 2002 Mining Code in which informal mining is recognised as an important livelihood activity for poor rural communities but can be shortsighted as well. This because fraud, corruption, loss of state revenues and conflicts in the DRC may be more rooted in country's long history of political instability, bad governance and the resulting high levels of poverty rather than informal mining per se. This argument is consistent with the literature where the exploitation of natural resources often leads to conflicts only if there is bad governance and political uncertainties (Cone, 2007; Englebert and Ron, 2004). Although the links between conflicts and informal mining in the eastern DRC cannot therefore be denied, the contribution of informal mining in supporting livelihoods in poor rural communities that have been deprived of better options due political instabilities should not be ignored.

Like modernization approach, neo-liberal thinking supports private investment in formal mining as the best way to achieve development. Like the DRC state, neoliberals see industrial (formal) mining as a source of the much needed technological capacity to increase mineral productivity, which is not only crucial for state revenue (through tax) and mineral export increases but also for employment and infrastructure development which would eventually lead to economic growth and reduce poverty through trickle down effects.

Critics however, argue that neo-liberal practices have exacerbated poverty in developing countries (Lavaus, 2007). MNCs, particularly in the mining sector, have been associated with "multinational economic imperialism" (Thomas, 2008). Both Lavaus and Thomas have been vindicated by the findings in the present study. In Twangiza, some respondents felt that nothing can be done about BANRO, locally referred to as "Muzungu" (white man) and taking the company to court for its negative impacts is like "taking Jesus to God". This study therefore join previous research in challenging modernization and neo-liberal assumptions that private-led formal mining would necessarily help reduce poverty in developing countries.

Regardless of the nature of its causes, the suspension of informal mining in the eastern DRC was associated with more negative than positive impacts in Twangiza. Using a sustainable livelihood framework (SLF) analysis, the present study has found that while the community

was already vulnerable to external shocks, including political instability, the introduction of a MNC and the decreasing agricultural yield, the suspension of informal mining made people more vulnerable because it negatively affected their livelihoods asset base (capital). Financial capital was compromised because many people not only lost their incomes but also were unable to earn further income due to the suspension of informal mining. Consequently, their ability to accumulate human capital was compromised because some household members (children) not only suffered from health deterioration due to hunger and lack of food, but also stopped going to school. In addition, social capital was affected because some people were no longer able to look after their families since they migrated away. Theft was one of the coping mechanisms within the community which can diminish the extent to which people trust each another. Social capital depends on trust among people in the community (Fu, 2004). Moreover, the natural capital in Twangiza was compromised due to the suspension of informal mining because not only people lost access to their mineral resources, but also others sold their plots of land in an attempt to cope with the impacts of the suspension.

However, there were some positive impacts in terms of physical and human capitals as some people were able to buy other assets, including trucks for transport businesses, while others received skills training, some of whom were also employed to work for BANRO. However, the sustainability of these coping mechanisms is questionable because without proper roads transport business between the city of Bukavu and Twangiza may not be a viable alternative in the medium to long-term. In addition, skills training can lose its value if those trained are not employed permanently. In Twangiza, the majority of those who were employed in the company were dismissed which led to protests against the company (BANRO).

The loss of assets can be disastrous to the production of sustainable livelihoods and can make it difficult for people to get out of poverty. The acquisition and accumulation of various assets, according to Gamble and Prabhakar (2005:4), is an important “way of promoting economic and social development”. This is similar to Diga’s (2007:12) emphasis that “assets can better explain how and why certain families move in and out of asset poverty over”. In Twangiza, the suspension of informal mining in the eastern DRC has had more negative than positive livelihood impacts, which can hold the community and many households in poverty.

Based on the findings of this study, while acknowledging the need for further and rigorous research, specifically on the impacts of both formal and informal mining, comparatively, a

number of policy issues require consideration in order to align DRC mining practices with the promotion of sustainable rural livelihoods in the eastern part of the DRC.

Firstly, there is need for active community participation in the decision making process about mining as it can have direct impacts on their livelihoods. Both the manner in which the community of Twangiza reacted to the impacts of the suspension of informal mining and the suggestions made by respondents on how mining should be handled in the eastern DRC, indicate that local people are not ignorant of development related issues in their communities.

Secondly, there is a need for a policy review of the DRC 2002 Mining Code, specifically to redefine the relationship between formal (industrial) and informal (small scale and artisanal) mining, remove the contradictions and align the mining policy with socio-economic and political realities in the eastern DRC. As most respondents have suggested, both types of mining should be considered equally, as long as both the state and MNCs are unable to deal with the local socio-economic challenges. It may sound investor unfriendly, but informal mining should not only be allowed in areas that do not qualify for formal mining. Areas that have abundant mineral reserves are attractive to both formal mining investments and local residents for whom the area is the best and may be the only livelihood alternative. The mining policy should therefore be accommodative of both needs (private investment and local livelihoods) equally.

Thirdly, the state should, in line with the 2002 Mining Code, support informal miners to achieve their full potential through both legal and technological provisions. This will allow the state to collect tax and maximize revenues, which has been one of the major concerns that led to the suspension of informal mining in the eastern DRC.

Fourthly, in order to achieve the production of sustainable livelihoods through mining in the eastern, informal mining should not be solely blamed for all the socio-economic and political challenges facing the eastern DRC. The state needs to speed up the promotion of inclusive democracy and the improvement governance in the country. This can make space for public freedom and government responsibility where a tri-sector initiative, including the state, the private sector and local communities to actively support local development initiatives.

6.4. Conclusion

The suspension of informal mining in the eastern DRC and the politics around it highlights the complexity of the politics of mining reforms and poverty in developing countries. While

informal mining has been blamed for promoting economic, political and social instabilities in the eastern DRC, its suspension caused more harm than help to poor households in the community of Twangiza. Formal mining, in contrast, despite being believed as an engine for economic growth and development by neo-liberals, has been unable to help the community to cope with the effects of the suspension of informal mining. In fact, formal mining was perceived as the main cause for the suspension so that mass protests were organized against a MNC mining in Twangiza. The mass protest eventually led to illegal resumption of informal mining in the area as local people sought to reclaim their livelihoods. The present study suggests that the DRC mining laws should be reviewed to include both formal and informal mining but also to promote good governance in order to achieve sustainable livelihoods through a more inclusive development process in the eastern DRC, particularly in Twangiza.

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APPENDICES

Appendix 1: Informed consent

Informed consent

My Name is Bisimwa Timothee Makanishe, a Masters student in the School of Development Studies, University of KwaZulu-Natal. This research project is part of my university program. I want to thank you for agreeing to participate in this study. Please note that your participation is voluntary, you are free to refuse to answer any questions and to withdraw at any stage of the interview. I will write and where needed record the content of this interviews which will be kept strictly, except that some of your responses will be included in the final report without revealing your name, organization, position or physical address.

I am personally managing this research project, under the supervision of Ms Catherine Sutherland. Should you have any questions, concerns or wish to receive a copy of the research report, please do not hesitate to contact me at the following address:

School of Development Studies, University of KwaZulu-Natal, Durban 4041, South Africa
Cell Phones: +243991781252 (DRC), +27833407088 (South Africa), Email: timotheebismak@gmail.com

Please sign this form to show that I have read the contents to you.

Name -----, Signature -----, Date -----

Appendix 2: Interview guide

Interview Guide

A. Questions for community leaders (government, traditional authority & civil society)

1. What three things do people like most about living in Twangiza?
2. What are the main activities most people do for a living in Twangiza?
3. What are the most pressing challenges the community of Twangiza is currently experiencing?
4. What is your role in relation to mining in the community of Twangiza?
5. Tell me about the history of informal mining in Twangiza
6. How important is mining in people's lives in the eastern DRC and in Twangiza in particular?

7. Are you aware that informal mining was suspended in the eastern DRC? If yes what was said to be the reasons for the suspension, especially in Twangiza?
8. How has the suspension affected people's lives in the local community?
9. How have the community in Twangiza, especially informal miners reacted to the suspension of informal mining?
10. Have informal miners resorted to alternative activities for a living? Please explain
11. Why was informal mining allowed to resume in the eastern DRC in general and in Twangiza in particular?
12. How do you think mining should be used to benefit the community of Twangiza?

B. Questions for heads of households (Informal miners and others)

1. HH demographic and socioeconomic information

Gender of HH head	
Age of HH head	
Marriage status	
Education level of HH head	
Employment status and type of employment if applicable	
Partner's employment status and type of employment if applicable	
Duration of residence in Twangiza	
Size of HH	
Age of older and younger HH member	
No. of schooling HH members	
No. of HH members who completed primary education	
No. of HH members who completed secondary education	
No. of HH members who completed tertiary education	
No. of working HH members and their type of employment	
HH Monthly income	
sources of income	
Amount and types of assets	

Sources of assets	
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- a. If someone, in your household has not gone to or did not complete school why do you think that happened?
- b. If you are not employed, what do you think is the reason for that?

A. Livelihoods

- 2. What three things do you like the most about living in the Twangiza area?
- 3. What three things would you most like to change about living in this area?
- 4. Have you or any member of your household worked or is still working in mining? If yes, please describe your mining activities
 - a. If you have worked in mining, for how long and what challenges have you experienced in this activity?
 - b. What do you like about working in mining?
- 5. Are you aware that informal mining was suspended across the eastern DRC? If yes what was said to be the reasons for the suspension, especially in Twangiza?
- 6. How did the suspension of informal mining affect your household and the community in general?
- 7. What other activities have you been doing to support your household during the suspension period of informal mining?
- 8. Was your alternative activity helpful? Please explain
- 9. Why do you think the government has decided to allow artisanal mining to run again?
- 10. What changes have you experienced since artisanal mining was reopened?
- 11. What do you suggest should be done in order for you and the people of Twangiza to live a better life?

Appendix 3: Recommendation letter from the School of Development Studies (UKZN)



12 December 2010

To whom it may concern,

This is to confirm that Bisimwa Timothee Mkanishe is a full time Master's student in the School of Development Studies at UKZN. He is doing research for his Master's thesis on mining and sustainability. He and I would be very grateful if you would agree to be interviewed for this study. Your inputs will be treated confidentially and all respondents will remain anonymous in the study.

Thank you,

A handwritten signature in black ink that reads "C Sutherland".

Catherine Sutherland
Academic Co-ordinator: Development Studies Programme

School of Development Studies

University of KwaZulu-Natal, Howard College Campus, Durban 4041, South Africa

Telephone: +27 31 260 3274 Facsimile: +27 31 260 2359 Website: sds.ukzn.ac.za Email: sutherlandc@ukzn.ac.za

Appendix 4: Recommendation letter from a local traditional authority (King)

" REPUBLIQUE DEMOCRATIQUE DU CONGO "

PROVENCE DU SUD-KIVU
TERRITOIRE DE MWENGA
CHEFFERIE DE BURMINYI .-

Birhala, le 08/01/2011 .-

Monsieur le Responsable de
TWANGIZA Maming
à
TWANGIZA .-

" Objet "
Recherche scientifique de
l'Etudiant BISIMWA Timothée
MAKANISHE a TWANGIZA .-

Monsieur ,

J'ai l'honneur de venir auprès de votre bienveillance afin de vous présenter l'objet ci-haut émarginé .

Monsieur BISIMWA Timothé étudiant à l'Université de KWAZULU NATAL en Afrique du Sud, est un fils de la Chefferie de Burhinyi qui voudrait effectuer des recherches scientifique dans l'entre-prise dont la responsabilité vous est confier et ce pendant 4 ou 5 jours.

Etant donné l'importance du sujet de son travail de maîtrise, qu'il vous plaise de lui faciliter libre accès au logement et à toutes les informations dont il a besoin pour toutes fins utiles.

Nos remerciements anticipés .



LE CHEF DE CHEFFERIE DE BURMINYI ,

CHIRNULWIRE II BULALA BAsENGEZI R.
MWAMI DE BURMINYI .-